

The Unconventional Chinese Monetary Policy in the Global Context

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The Chinese economy, being the second largest in the world, has its definitely unique features. It is not completely a market economy, and yet it has been undergoing transition during the past three decades. The rapid growth of the Chinese economy has been supported by China's unconventional monetary policies. During the past five years since the outbreak of the global financial crisis, the unconventional nature of the Chinese monetary policy has been accentuated in many respects.

In the following, I will first explain the unique characteristics of the Chinese economy that call for those special, unconventional monetary policies. Second, I will go through the key elements of Chinese monetary policy. Finally, I will explore the challenges facing China's monetary policy makers in the coming decade.

I. The Uniqueness of the Chinese Economy from a Monetary Perspective

In comparison with most economies in the world, the Chinese economy has at least five unique features that have important implications for its monetary policy.

High Savings, High Investment and Rapid Growth

The average GDP growth rate for the Chinese economy between 1978 and 2002 was 9.8 percent, and from 2003-12 the average growth rate accelerated to 10.5 percent, despite the global financial crisis. This rapid growth obviously has been driven by a very high national savings rate, which consists of the savings of households, enterprises and governments. The national savings rate in the past few decades has been around 50 percent of GDP. In other words, half of the nation's products and services are placed aside for future consumption in the form of investment. Of course, not all of the savings go into domestic investment. In fact, over the past decade, about 5 percent of the national savings has gone to foreign countries in the form of current account surplus, financing other countries' trade deficits. And this number has been reduced to below 2 percent in recent years, a sign of economic structural change.

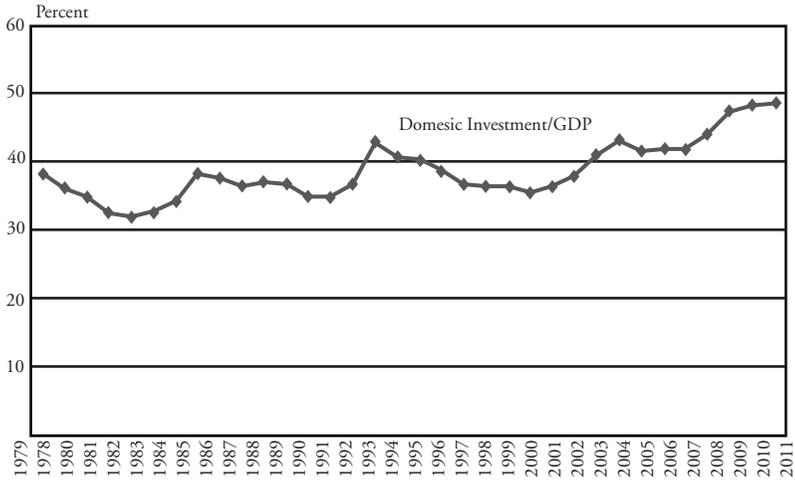
The direct implication of high savings and high investment is that it is very easy to be inflicted with mismatches between savings and investments, meaning that oftentimes savings go into low-quality investment projects, which later turn into nonperforming debt, or negative rates of return to equity. Therefore, monetary policy has to be extremely prudent, guarding against both overzealous investment and an excessively cold environment for enterprises seeking financing.

The other implication is that the most important concern of Chinese monetary policy must be controlling the ratio of investment to GDP in the economy. Indeed, the central bankers and other central government policymakers watch quite carefully the rate of investment and credit growth in the Chinese economy. The ratio of domestic investment to GDP and China's total savings as a share of GDP are shown in Charts 1 and 2.

Bank Dominated Financial Sector

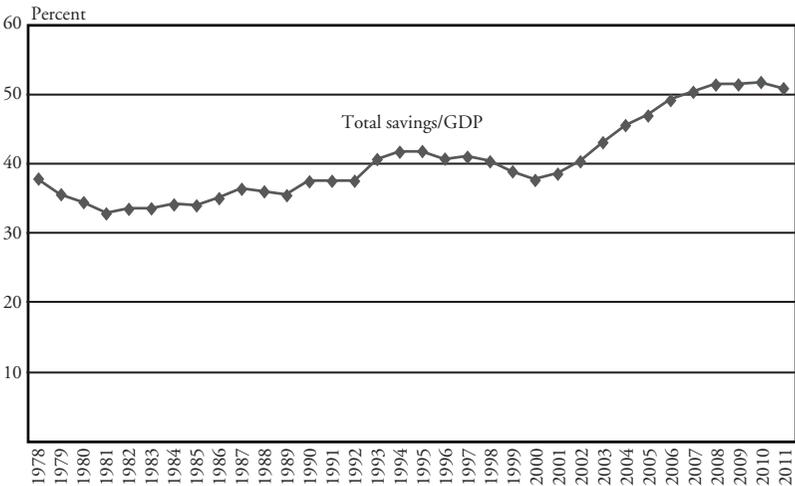
The Chinese financial system is unique, as it is dominated by commercial banks. The ratio of total assets of commercial banks to GDP is 258 percent, one of the highest in the world. In contrast, the bond market, including government bonds, stands at only about 50 percent of GDP in its capitalization. Meanwhile, the stock markets

Chart 1
China's Domestic Investment as a Share of GDP



Source: China Statistical Yearbook 2012.

Chart 2
China's Total Savings as a Share of GDP



Source: China Statistical Yearbook 2012.

fluctuate drastically. The current capitalization of the stock markets is about 45 percent of GDP, and this ratio reached as high as 120 percent in 2007 before the Beijing Olympics. The huge fluctuation in China's equity market, and its overall tiny amounts of IPOs and SPOs relative to the annual fixed asset investment in the economy, render the stock markets irrelevant to the Chinese economy. This is because the stock markets are the least important channels of corporate financing in the Chinese economy, and they are not providing important instruments for households and enterprises to manage their wealth. The joke in China is that the two most disappointing things for Chinese nationals are the Chinese national soccer team and the stock markets.

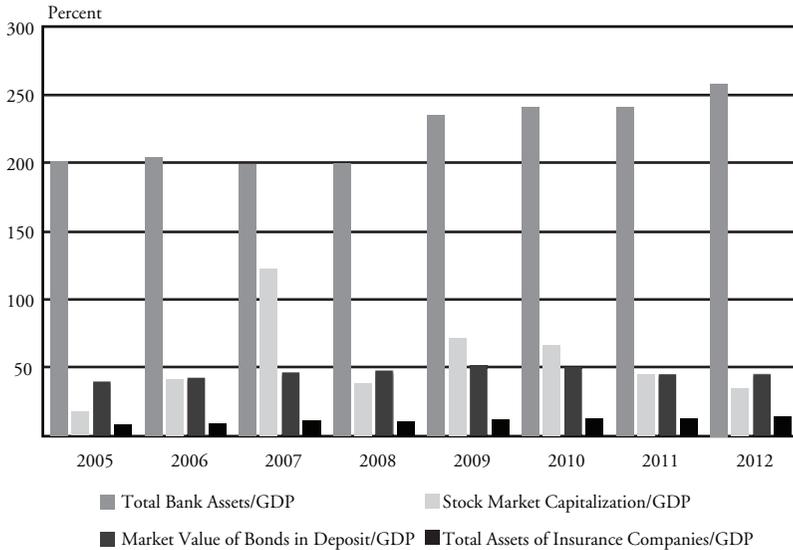
The implication for monetary policy in relation to the bank-dominated financial sector is that monetary policy must focus on the behavior of commercial banks. In fact, we can almost claim that China's monetary policy is a policy about commercial banks. The relative size of Chinese bank assets, stock market capitalization and bond market capitalization is shown in Chart 3.

A Huge Money Stock

There is a strong correlation between the high national savings and the bank-dominated financial sector and the fact that the Chinese money stock is very high. In fact, it is the highest amount in the world.¹ M2, consisting of cash and bank deposits, has been as high as \$15.5 trillion. The ratio of M2 to GDP has been as high as 188 percent. For the euro area, the total amount of M2 is \$12 trillion, followed by the U.S. at \$10.4 trillion and Japan at \$9.5 trillion.

The high savings rates imply that Chinese banks are able to attract huge amounts of deposits from households, enterprises and government agencies, and the dominance of commercial banks in China explains the high amount of new issuance of bank loans year after year, and the money multiplying effect kicks in. That is, bank loans go into new deposits, and then new deposits translate into new loans; that has clearly been a phenomenon in the Chinese economy. One consequence of the rapid increase in bank assets is that Chinese

Chart 3
Financial Market Size



Sources: China Statistical Yearbook 2012, PBOC, Chinabond.com.cn, CBRC.

commercial banks are under perennial pressure to recapitalize in order to maintain an adequate capital-to-asset ratio.

The implications for the Chinese economy in regard to the huge money stock are straightforward: Chinese goods and asset prices are constantly under pressure to rise, even though the pressure may not always translate into reality due to stable expectations of inflation. There are many episodes in the Chinese economy in which certain groups of products suddenly face a rapid price increase because of speculative attacks. There are waves of price increases in garlic, ginger and green beans. The same can be said about asset prices, except that the cycle of the asset price increase is much longer than the cycle for goods and groups of commodities. Housing prices are going up rapidly, with the main driver being the huge money stock. The property market is one of the few avenues to invest in, given that bank interest rates are low and the stock markets are extremely volatile.

As for monetary policy, the high monetary stock implies that monetary policy needs to be very careful in controlling banks' liquidity, making sure that the banks do not lend excessively. The monetary

policy also has to control price expectations or price increases. A high money stock can easily turn any expectations of price increase of goods and assets into a reality.

In the Chinese economist community, it is widely said that China's money stock is a huge tiger, and the tiger is now caged by the commercial banks, and there is a perennial danger of the tiger escaping from the cage and attacking prices of goods and assets.

The amount of stock of Chinese M2 compared to other countries and the amount of M2 locked by the central bank are shown in Table 1 and Chart 4.

Semieconomic Agents

There are many economic agents, including enterprises and households, which do not behave similarly to their counterparts in a mature market economy. The agents behave politically and socially, rather than economically and this is contrary to basic principles in economic textbooks. For example, many enterprises, including even private enterprises, face the so-called "soft budget constraint," which means that they expect to get bailouts from government agencies when they are suffering losses, or that they expect to get refinancing with the help of government agencies when they are facing delayed completion of their projects.

The Chinese financial intermediaries, including commercial banks and many others such as insurance companies, are not necessarily acting according to the principle of making long-term profit. The CEOs of these financial agencies are mostly appointed by government agencies, and they themselves are not professional managers. Instead, they treat the job as political appointments. Therefore, their behavior is focused on short-term performance. They are not very concerned with long-term profitability or the value of their agency.

Depositors and households also behave believing in the paternalism of the government; they expect the government, central or local, to come to their assistance when they face significant loss in their investments. They behave like children dealing with benevolent parents, and as a consequence, government agencies, including the

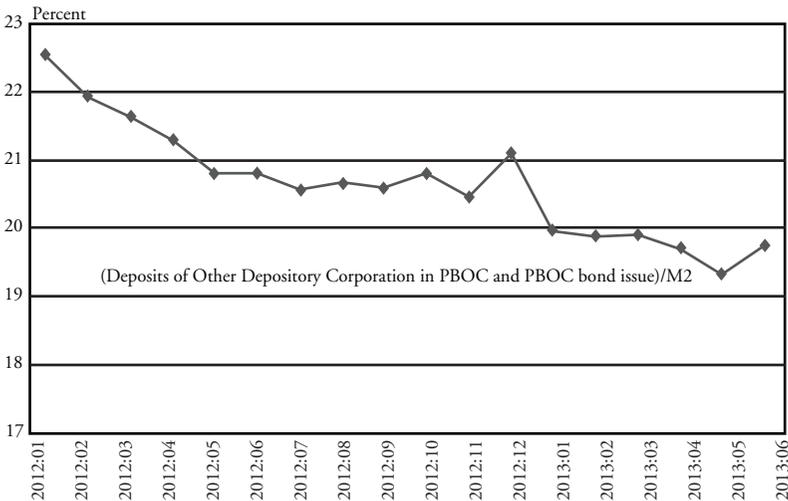
Table 1
International Comparison on M2

	M2/GDP (percent)	M2 (trillion \$)
China	188	15.5
United States	66	10.4
Euro area	95	12.0
Japan	174	9.5

Notes: M2 is based on statistics from central banks at year-end 2012; GDP is based on nominal GDP of 2012; exchange rates are at the end of 2012.

Sources: PBOC, ECB, Eurostat, BoJ, Fed, author's calculations.

Chart 4
Money Locked by PBOC



Source: PBOC.

central bank, also regard themselves as parents, showing paternalism. This explains the wide array of institutional behaviors in the Chinese economy. Accordingly, governments need to step in and prevent investors from taking on excessively risky investment projects. Governments must also intercede in the banking sector to prevent overly risky financial projects from being issued by financial agencies, and to regulate the bank deposit interest rates in order to guard against the commercial banks' excessive competitive behavior in raising interest rates that could result in a long-term loss.

The implication for China's monetary policy as it pertains to the existence of semieconomic agents is that the central bank has to behave like parents of financial institutions and investors. The central bank has to step in from time to time to forcefully reduce the risk in the financial system. For example, the central bank regulates interest rates to prevent the commercial banks from competing with each other too fiercely. The central bank also regulates the total amount of credits the commercial banks can issue to enterprises. As a result, compared to other central banks, China's central bank tends to rely more on direct quantity instruments rather than on price instruments such as interest rates, and it often acts using brutal administrative force.

Home Bias in Capital Flow

There is a huge home bias in China's capital flow across border. Meanwhile, the Chinese capital account is semiopen; for example, each Chinese ID holder is allowed to transfer as much as \$50,000 each year from renminbi (RMB). If you multiply \$50,000 by the number of Chinese adults who hold a Chinese ID, we can easily reach a figure of around \$30 trillion that can possibly flee the country. In reality, however, very few people in China consider the option of investing overseas. Most Chinese investors believe investing in foreign countries implies big loss, which indeed was the case since the implementation in the past decade of the Qualified Domestic Institutional Investor (QDII) program. The QDII regime imposes restrictions on the portfolio an investment fund can hold on behalf of Chinese investors. For example, it may require a minimum percentage of funds be held in bonds or bank deposits. Coupled with the RMB appreciation, the QDII in China has not been doing very well. And this has reinforced people's perception that going abroad in investments is not worthwhile.

This perception of overseas investment is quite regrettable. Think of the fact that most of multinationals today have the Chinese market as one of their largest sources of profit; for example, Apple, which is not only producing in China, but also selling in China. China is Apple's largest production base and third-largest market, and therefore China should easily be Apple's largest source of profit. Likewise,

German companies such as VW and BMW have long known that their largest source of profit is the Chinese market, where they not only have the largest amount of sales compared to other countries, but also can get a better price for their product due to various factors. Therefore, a rational household in China should buy shares of Apple, BMW and Audi before buying the products of Apple, BMW and Audi.

As an economist who is often invited to give talks to investors in China, I keep telling Chinese investors to invest abroad. Unfortunately, I have not been successful in changing their minds. The implication for monetary policy in relation to home-biased capital flow is intriguing. You may think that one might propose that RMB appreciation should be able to change the nature of home bias. However, it actually accentuates the bias because the rising exchange rate of the RMB reinforces the belief among investors that keeping money in RMB in China is good, even though the rapid increase in the RMB makes investments overseas increasingly inexpensive. That is, from a monetary policy perspective, a too-rapid increase in the RMB exchange rate is not a cure for home bias.

The other implication for capital flow in relation to home bias is that the central bank has become a reluctant holder of U.S. dollars, and has invested on behalf of households of other economic agents and has become a manager of foreign currency funds on the behalf of other economic agents. This explains in my mind the huge amount of foreign currency reserves in the hands of the central bank. It is not a consequence of a lack of flexibility of exchange rates. Rather, it is the direct outcome of the home bias of capital flow in China. The balance of payments in the China's economy, and the small size of China's overseas investment position, are shown in Charts 5 and 6, respectively.

II. China's Unconventional Monetary Policy

The aforementioned discussion about the uniqueness of the Chinese economy leads us to easily understand China's unconventional monetary policy. The objective of the Chinese monetary policy is three-fold: to maintain sustainable growth rather than short-term economic performance; to maintain price stability; and to maintain

Chart 5
The Balance of Payment of China

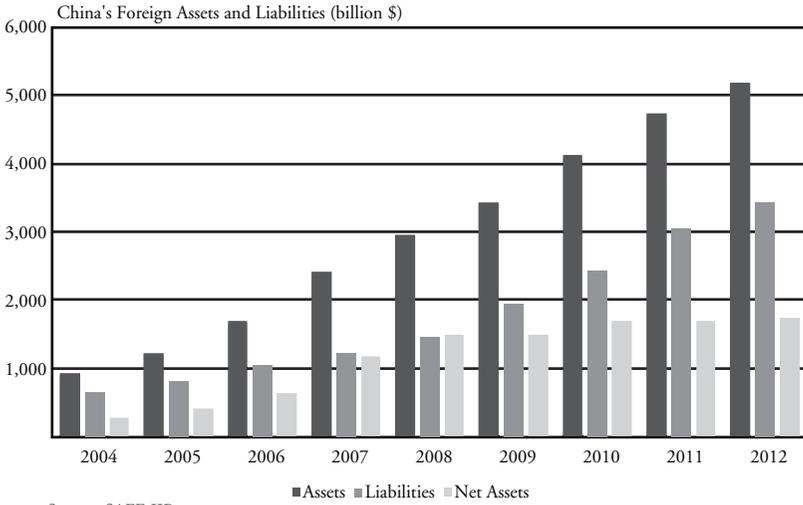
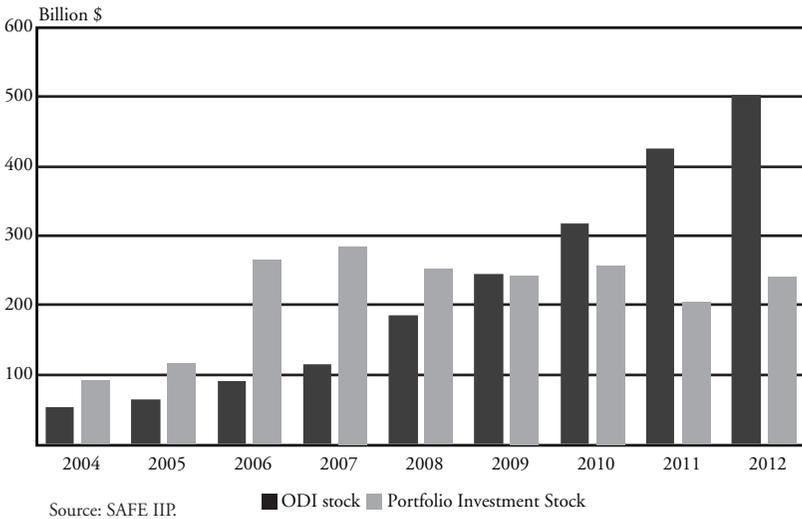


Chart 6
China's Oversea Investment Position



the stability of the financial system. There are four unique features of China's monetary policy.

Careful Control Over the Growth of Credit

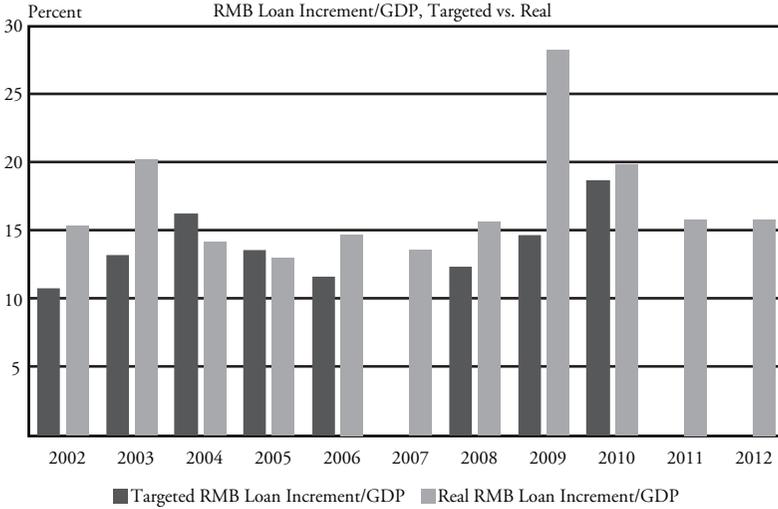
Commercial banks are the center of the financial system, and bank loans serve as the largest source of financing. Therefore, the central bank in China has been carefully controlling and monitoring credit growth. In recent years, there have been implicit targets of new bank loans, although these targets may or may not be openly announced. Many observers of the Chinese economy, including analysts of investment banks, conduct an annual exercise of trying to forecast and gauge the implicit targets of the central bank's new credit issuance. In recent years, the Chinese central bank realized that in addition to new bank loans, there are other avenues of external financing for enterprises. As a result, they created a new concept of Total Social Financing (TSF), which includes new bank issuance, new bond issuance, equity IPO, and new financing through trusts and wealth management products. These amounts of TFS have become the most-watched variable of Chinese commercial banks. The recent target of new bank loans as a share of GDP and its realized volume is shown in Chart 7.

After the global financial crisis in 2008, the Chinese government aggressively increased the amount of total social financing, and that explains the rapid growth and recovery of the Chinese economy in 2009, as Chart 8 illustrates. In 2009, total bank loans shot as high as 28 percent of GDP.

Liquidity Control

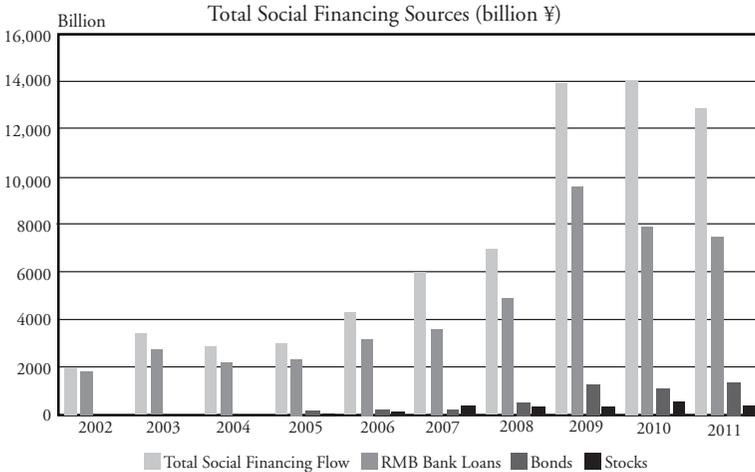
As discussed in the first section, there is a tremendous money stock in the Chinese economy; therefore, the central bank has to carefully control the amount of cash in the hands of commercial banks. There are two basic instruments for this: first is deposit reserve ratio. Chinese banks face one of the world's highest deposit reserve ratios, as high as 20 percent. It used to be the case that the central bank paid interest on the reserves kept in the hands of the central bank. In recent years the central bank has basically eliminated the interest rate payment on these reserves. The other instrument for the central

Chart 7
The Target of New Bank Loans as a Share of GDP and Its Realized Volume



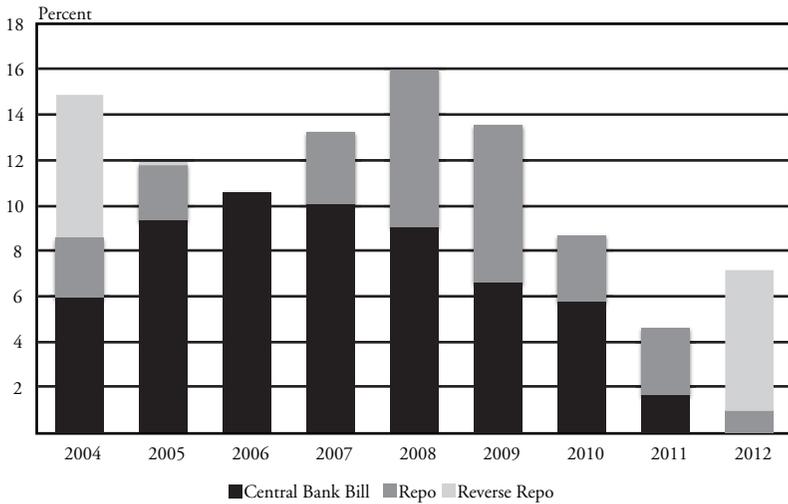
Note: Data for targeted bank loans are not available for 2007, 2011 and 2012.
 Source: PBOC Monetary Policy Execution Reports.

Chart 8
Total Social Financing 2002-11



Source: PBOC.

Chart 9
PBOC Open Market Operation Relative to M2



Source: PBOC Monetary Policy Execution Reports.

bank’s control of liquidity in the marketplace is to conduct operations similar to the open market operations of other central banks. The difference is that in the Chinese economy there are not enough treasury bonds or bonds of the Ministry of Finance for the central bank to do this. Instead, the central bank has been issuing its own bond called the central bank bill. Central bank bills are purchased by commercial banks and therefore act as an instrument to lock excessive liquidity of the central bank. The size of the amount of the central bank open market operations relative to M2 is shown in Chart 9.

One variable the central policymakers watch very carefully in controlling liquidity is interbank lending, and the overnight lending rates of the interbank market in Shanghai (SHIBOR). When the SHIBOR is high, the central bank tends to release more liquidity to the market through open market operations. Otherwise, the central bank would soak up liquidity. At the end of this past June, the interbank market almost seized up because the central bank refused to inject much-needed liquidity in order for the commercial banks to complete their end-of-half-year transactions. This created a scare in the financial sector. Many people speculate that this scare was engineered by the Chinese central bank in order to give a warning to

commercial banks that liquidity is not always plentiful, and therefore the commercial banks have to be careful in managing their funds.

Regulating Interest Rates

Until very recently, interest rates were regulated by China's central bank. The rationale is to prevent commercial banks from competing too fiercely against each other and to maintain their long-term profitability. Commercial banks in China make most of their profits from the interest spread, which has been set by administrative means at around 3 percent. The other objective of controlling interest rates, of course, is to send signals to the marketplace about inflation control.

Interest-rate regulation by the central bank is being gradually phased out. The general belief among policymakers and academics in China is that interest rates should eventually be set by the marketplace, and that commercial banks should be allowed to compete with each other in the area of interest rates. And this process is gradual. First, the central bank slowly but surely abolished interest rate floors on bank loans. Recently, the central bank eliminated all restrictions on lending rates. However, regarding the deposit rate, which is the more sensitive issue because it relates to the behavior of banks in competition for households, rates for deposits are now being gradually liberalized. The gradual and growing flexibility in setting interest rates is shown in Table 2.

Exchange Rate Liberalization and the Management of Capital Flows

Capital flows are carefully monitored by the Chinese central bank. The main concern so far has been in regard to excessive capital inflow, which causes the exchange rate to appreciate rapidly. Basically the central bank is passive in managing the amount of currency reserves, and is accommodating the excessive capital inflow by escalating the increase in foreign capital reserves. The RMB exchange rate has been at the center of policy disputes and discussion in the international community and also within China. One line of thinking among scholars is that the exchange rate should be totally liberalized, and therefore appreciate quickly in order to adjust China's balance of payment. The other line of argument is that a rapid appreciation

Table 2
The Evolution of China's Interest Rate Regulations

Time	Rate	Floor	Ceiling
Jan. 1, 2004	Deposit	Benchmark	Benchmark
	Loan	0.9x Benchmark	1.7x Benchmark
Oct. 29, 2004	Deposit	0	Benchmark
	Loan	0.9x Benchmark	Canceled
June 7, 2012	Deposit	0	1.1x Benchmark
	Loan	0.8x Benchmark	No limit
July 6, 2012	Deposit	0	1.1x Benchmark
	Loan	0.7x Benchmark	No limit
July 20, 2013	Deposit	0	1.1x Benchmark
	Loan	Canceled	No limit

Source: PBOC.

of the exchange rate is counterproductive because it cannot quickly change the pattern of global production. That is, it cannot quickly reduce China's trade surplus with the rest of the world due to the relative sluggish nature of relocating production plants from China to other emerging market economies. Meanwhile, the change in the RMB exchange rate without the immediate impact of reducing the trade surplus would lead the market to speculate that there would be further runs of appreciation, thereby creating a self-fulfilling prophecy of exchange rate appreciation. As a consequence, hot money will flow into the Chinese economy.

The central bank has obviously been following the second line of thinking in setting its policy. Fortunately, in recent years, due to many factors in the Chinese economy, the trade surplus has gradually and steadily declined and capital inflows have eased. The RMB nominal and real exchange rate against the dollar is shown in Chart 10.

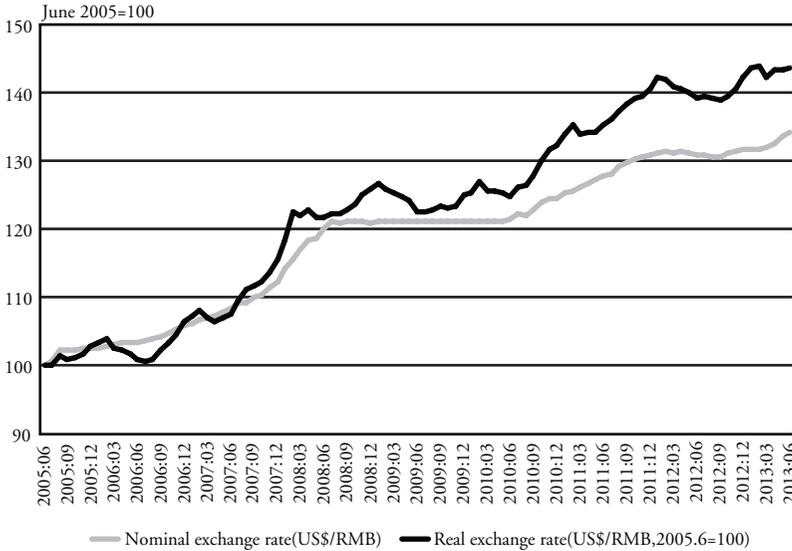
III. Challenges Ahead

There are several challenges facing Chinese monetary policy in the coming decade. In my view, there are five important challenges.

Nonperforming Loans in the Banking Sector

As a consequence of the stimulus package following the financial crisis, the Chinese banking sector has expanded very quickly. So have

Chart 10
RMB Nominal and Real Exchange Rate Against U.S. Dollar



Sources: PBOC, NBSC, BLS, author's calculations.

the other financial intermediaries, such as trusts and bond markets. The ratio of total credit to the Chinese GDP has doubled from 100 percent to 200 percent. The quality of the bank loans and credit products is worrisome. The root of the problem, of course, is local public finance; local governments borrow huge amounts of money from enterprises, and they rely upon future land sales to pay off these loans. However, the volume of future land sales is uncertain, depending on future economic growth. As a result, the Chinese economy has become like a bicycle, which topples when its speed decreases.

According to the national audit office, the total amount of local government debt is an estimated 22-25 percent of bank loans, and about 26-30 percent of GDP. On paper, the ratio of nonperforming loans is still very low, under 2 percent. The capital adequacy ratio is now around 12 percent. The concern is that when the economy slows, all of the dirty laundry will emerge and worsen the entire picture.

I would argue that, inevitably, the Chinese central bank would have to work with other regulatory agencies and the Ministry of Finance to implement a procedure to encourage commercial banks and local

governments to work out their debt. Furthermore, all signs indicate that the commercial banks are unlikely to bear the lion's share of the cost, and neither will local governments. The central government would be the party issuing public debt, and therefore would facilitate the resolution of the debt. The rationale is that the commercial banks are now mostly publicly listed companies in the stock markets, many of them issuing shares in foreign stock exchanges. A substantial loss to commercial banks would create a huge shockwave in the Chinese economy. Meanwhile, local governments have been operating under the mandates of the central government and, therefore, undertaking many projects that result in nonperforming loans, and the central government has not been able to provide enough transfer payment to local governments. So the problem of nonperforming loans is essentially the central government's problem. Fortunately, the central government's public finances are in good shape, with only about 18 percent of outstanding debt to GDP. The capacity for issuing public debt remains huge.

Financial Reforms

There are three urgent items on the financial reform agenda. First is the liberalization of interest rates; the second is capital account convertibility; and the third is securitization of bank assets. Each item is necessary and important; however, they are all also challenging. Interest rate liberalization may cause commercial banks to compete excessively and fiercely for short-term deposits, forgoing long-term profitability. Relevant regulation would have to be implemented to prevent them from following this path. Capital account convertibility is good for the long-term health of the economy, but it can also create potential and sudden capital outflows. An emergency valve should be in place to prevent this from happening and to deal with this emergency.

Bank asset securitization, which allows banks to sell some of their high-quality assets to the bond market and thereby recapitalize themselves, is an essential step in reducing China's money stock and the high concentration of commercial banks in the financial sector. However, the financial crisis of 2008 has taught us the important

lesson of the potential pitfalls of bad asset securitization. Careful implementation of this reform is imperative.

Tapering of the Fed's Unconventional Monetary Policy

China is perhaps in the best position among all emerging market economies to endure the tapering of the quantitative easing of the U.S. Fed. Not only is this because China holds a huge amount of foreign capital reserves, about \$3.3 trillion, to deal with a potential reversal of capital flow into mature market economies, but also because China is the second-largest economy, which dwarfs most volatility in international capital outflows. However, China's monetary policymakers should still be concerned about potential tapering of U.S. monetary policy, because the impact of a second round may be substantial. That is, when countries such as India and Brazil face tremendous challenges, their economies will slow down, causing lower demand for Chinese goods. In addition, the financial and economic problems in these countries may also ignite new waves of trade protectionism against Chinese exports. Therefore, China's policymakers are still worried about the potential tapering of the unconventional U.S. monetary policy.

Inflation Due to Structural Change

In the past few years inflation in China has not been a threat due to China's excess production capacity in most manufacturing sectors. However, in the coming decade inflation will become a major problem. The simple reason is that China's labor market is undergoing a fundamental change. There is essentially no surplus labor in the Chinese countryside, and as a result, Chinese factories are offering higher and higher wages to compete for the labor force. Wages among blue collar workers have been increasing 15 percent a year. The consequences are positive in many respects, including the fact that there is higher disposable income in households as a ratio of GDP, so households are willing to consume more. As a result, the consumption-to-GDP ratio has been rising since 2007, and the trade surplus has been declining as demand for foreign goods increases, and many exporting firms are becoming less competitive. The trade surplus is now below

2 percent, and most likely will hover under 1 percent or essentially at zero during the next decade.

The negative impact of this restructuring is that inflation is rising because manufacturing firms cannot always absorb the higher wages by eroding their profitability or increasing the productivity of their labor. So, manufactured goods will see higher and higher prices. The other, perhaps more significant, channel of inflation is food prices. When fewer farmers are willing to work in agriculture as they are being lured away by higher wages in factories, there is a demand for higher prices for agricultural goods. Otherwise without price increases, farmers would not be able to supply the market place. This is a challenge, and I would argue that a new round of global inflation will have its roots in the Chinese economy.

Internationalization of RMB

In the wake of the financial crisis, a worldwide fad emerged pertaining to the internationalization of the RMB. Many people argue that the financial crisis was caused by the near monopoly of the dollar as the international currency. In recent years, the temperature of the enthusiasm permeating this discussion has cooled. Policymakers in China have gradually realized that the internationalization of the RMB implies not only potential benefits for the Chinese economy but also threats to China and the rest of the world. One risk is sudden capital outflow. Today's home bias in capital flow is no guarantee that tomorrow's investors will still keep money at home. If a relatively small proportion of Chinese money stock exits due to capital account convertibility (which is essential for RMB internationalization), then China's financial system will face tremendous pressure.

The other problem for the Chinese economy is that RMB internationalization implies that global demand for the RMB will increase, so that in the foreign exchange rate market there will be larger flows from other currencies into the RMB market, pushing up the nominal exchange rate of the RMB. Coupled with the ensuing inflation, the real exchange rate of the RMB will rise. The excessive appreciation of the real exchange rate of the RMB will undermine China's manufacturing firms and many other related sectors. In addition, the

process, if not the outcome of RMB internationalization, is a threat to the stability of the global financial system. Specifically, if the RMB quickly becomes international currency, then much of the demand for U.S. Treasury bonds will be diverted to China. Ironically, China is the largest single investor in the Treasury bond market, so for its own self-interests, China does not want to see too rapid a pace of RMB internationalization, as it would undermine the stability of its own holdings in international currencies.

Summary

In summary, China's monetary policy is anything but conventional. The rationale for this unconventional monetary policy is the unique nature of China's rapid economic growth. Looking ahead, China's monetary policy will face tremendous challenges, and these challenges will not only confront China's policymakers, but also those around the world. Therefore, it is essential to establish close communication and collaboration among monetary policymakers all across the globe.

Endnotes

¹I am aware of a technical dispute over the M2 statistics; in the Chinese M2, certificates of deposit of long maturity are counted as M2, whereas in other economies such as Japan this may not be the case. However, despite this dispute, the general claim that China's M2 is one of the highest in the world still holds water.

