China's Government Bond Market

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I. Introduction: the significance of CGBs to China's recent economic policy

China has arrived at the critical juncture of trying to move away from its traditional mode of economic development. The government led by President Hu Jintao has been attempting to change the approach to economic development over the past several years, and a focus on scientific development underpins the new approach. China's 17th Communist Party Congress (held 15-21 October 2007) proposed placing a priority on scientific development in all facets, and this is expected to encourage change in China's approach to economic development.

The new proposal addresses the growing harm resulting from China's emphasis on achieving uniform nationwide economic development, i.e., the negatives of an economic development approach favoring GDP expansion, which include rising income disparity and damage to the environment. It does so by (1) placing a greater priority on protecting the environment and farmland by distinguishing between those regions where development should be promoted and those regions where development should be restricted or prohibited[1], and, in parallel with this, (2) attempting to achieve greater equality among citizens in the level of public services (including drinking water, compulsory education, and health care) that they receive. In fact, the criteria for evaluating government officials were changed in 2006 to include protection of the environment, thereby reducing the bias toward GDP growth.

President Hu Jintao's report to the 17th CCP Congress, in referring to fiscal and financial reforms, proposed raising the level, both in absolute and percentage terms, of transfer payments from the central government to local governments, and also proposed improvements to the financing systems of provincial and lower-level local governments, as a way to achieve greater equality in the public services received. The basic plan, in other words, is to rely on income transfers from the central government to raise the standard of living in those regions where unfavorable conditions or environmental considerations preclude economic development. Even amid attempts to increase government revenue and streamline government spending by improving fiscal systems and strengthening tax collection[2], there is likely to be an increase in

1 Under the 11th 5-year plan (2006-2010), national land at the municipality and county level is classified into the following types of regions: priority development, moderate development, restricted development, and prohibited development.

2 Jingu and Ri (2007)

demand for government spending in light of the large potential demand for public services in those rural areas that have lagged thus far in economic development. Although this differs from the traditional approach in which regional economies relied on projects funded by CGBs, we expect CGBs to play an important role as a source of funding to create greater equality in public services.

Meanwhile, one problem currently plaguing China's economy is excess liquidity. The management of monetary policy is becoming increasingly difficult for the PBC, which has constantly had to absorb liquidity from the market in order to keep it from growing excessively. One reason for this difficulty is a shortage of treasury bills available for use in open market operations[3].

The fundamental cause of this excess liquidity is China's currency regime, and we expect to see a widening of the trading band of the yuan's exchange rate. With demand for forward currency contracts and other tools for hedging risk expected to increase further, market participants are regularly pointing out the need for China to have a stable domestic yield curve. In addition, for open market operations to flexibly respond to capital inflows, it is essential that financial markets have depth. The need for further development of the CGB market is evident from this perspective, as well.

II. The history of the CGB market's development

1. From 1981 to 1997

In this section, we take a brief look back at the development of China's government bond market that began in the 1980s, concentrating on those aspects relevant to the current problems facing the CGB market[4]. In 1981, China resumed issuance of government bonds after roughly a 20-year hiatus, primarily to address a shortfall in funding for national construction projects. Issuance was done through administrative allotment, and trading CGBs on the secondary market was not allowed. There was no secondary market for CGBs in the beginning because of this, although the trading of CGBs was tried on a trial basis in Shanghai and six other cities in 1988, after which trading was allowed nationwide in the early 1990s. Stock exchanges were opened in both Shanghai and Shenzhen in 1990, when CGB trading was also allowed, causing the nexus of CGB trading to move to the stock exchanges. Subsequently, sparked by a major scandal involving illegal short selling of CGBs in 1995[5], off-exchange bond trading was ended, and in 1997 the banks were pulled out of the exchanges, and began conducting their bond trading in the interbank market, where they have done so since then.

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3 Jingu (2007)

4 This section is based on data from Cao (2006), He and Gao (2007), and various editions of the "Zhongguo Guozhai Shichang Nianbao" (Annual Report on China National Debt Markets) (in Chinese).

5 Trading in CGB futures was suspended in May 1995. In August 1995, restrictions were placed on off-exchange bond trading, including a prohibition of off-exchange repo trading.

China experimented with an underwriting system for CGB issuance in 1991, and then created a primary dealer system in 1993. Since 1996, all tradable CGBs have been issued through an auction system. Although initially there were a number of different types of CGBs issued, in 1994 issuance began for certificate bonds (also called savings bonds or voucher form T-bills: non-tradable securities sold to individuals and corporations through bank and post office branches) and book-entry bonds (primarily sold to institutional investors; tradable on the interbank market and on stock exchanges), and those two forms have comprised the bulk of issuance since then[6]. As will be explained later in this report, 1994 was the year that CGB issuance began to grow. Within the interbank government bond market, interest rates were deregulated for the secondary market (cash bonds and repos) in 1997 and for the issuance market in 1999.

2. From 1998

As the volume of CGB issuance increases, and as the number of market participants grows, the negative ramifications of the CGB market being split among stock exchanges, the interbank market, and the over-the-counter (OTC) market (for certificate bonds) are starting to become more apparent. Although the authorities were initially cautious because of the market turmoil in the mid-1990s, from 1998 until 2001 they authorized interbank market participation for insurance companies, agricultural credit institutions, fund management (mutual fund) companies, securities firms, finance companies, and leasing companies. In addition, a market maker system was established in April 2001 to increase liquidity, and in April 2002 participation in the interbank market was changed from a system requiring approval to one requiring only registration[7].

Investors were thus allowed to participate in multiple markets, while in 2002 book-entry CGBs were introduced to the over-the-counter market, allowing the same name book-entry CGB to be issued on three different markets at the same time. Since 2005, all book-entry CGBs have been issued simultaneously in either two (stock exchanges and the interbank market) or all three markets. In December 2003, the government published rules on managing the transfer of CGB holdings between markets by institutions participating in the three markets. In 2006, approximately 87% (in value terms) of cash bond and repo trades were made on the interbank market.

On the issuance side, the government began announcing its CGB issuance plans in 2000, and gradually began increasing the regularity of issuance around 2003. The maturity profile of CGB issuance ranges from 3-month bills on the short end of the curve to 30-year bonds on the long end. In 2003, the government imposed a greater obligation on underwriting syndicate members by establishing minimum bid amounts. In the area of financial innovations, several new trading methods have been

6 For more on the diverse types of CGBs issued in the past, see Nomura Institute for Capital Markets Research (2007). Book-entry CGBs were later made eligible for OTC sales by the banks (explained later).

7 As of end-2006, 6,439 institutions (including 4,450 corporations) participated in the interbank market.

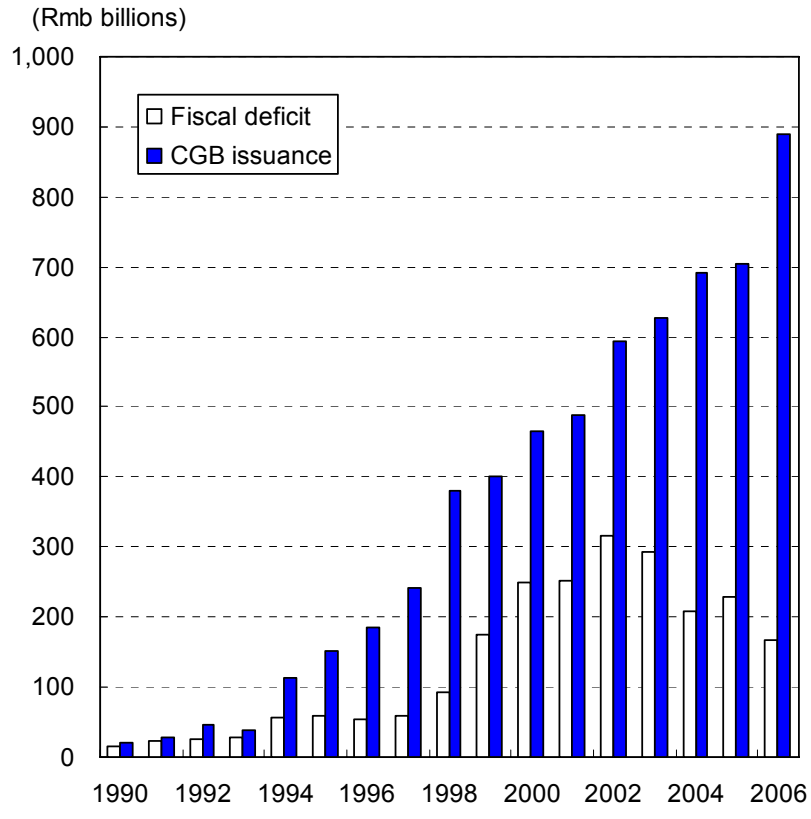
introduced, including buy-sell (or buyout) repos in 2004, bond forward trading in 2005, and bond borrowing and lending in 2006.

3. Fiscal policy and CGB issuance

We look next at fiscal policy and CGB issuance from the macroeconomic perspective.

Following the introduction of the open-door policy in 1978, the Chinese government did not explicitly use fiscal policy as a primary means of macroeconomic control until 1993[8]. Macroeconomic control policies were instituted in June 1993 in response to the economic overheating that occurred in the early 1990s. These policies included strict controls on government deficits, along with the reduction of tax incentives. In 1994, rather than cover government deficits with loans from the central bank, as was done previously, the government began raising funds by issuing CGBs, and this sparked an increase in CGB issuance (Figure 1).

Figure 1: CGB issuance amounts



Source: Nomura Institute of Capital Markets Research, based on the "Zhongguo Zhengjuan Qihuo Nianjian" (China Securities and Futures Statistical Yearbook) and CEIC Data (in Chinese).

[8] "Quan Guo Ganbu Xuexi Peixun Jiaocai" (National Cadre Training Program Course Materials), 2006 (in Chinese).

A tightening of macroeconomic policy was successful in achieving a soft landing for the Chinese economy. In 1997, however, the Asian currency crisis erupted, tipping the Chinese economy into a period of deflation in 1998. To deal with sluggish internal and external demand, falling prices, and rising unemployment, the Chinese government pursued monetary easing as well as aggressive fiscal policy measures. 1998 was also the year when the PBC stopped setting limits on bank lending, a form of direct control.

These aggressive fiscal policies remained in place from 1998 until 2004. They included the issuance of long-term construction CGBs to fund the construction of infrastructure, which totaled Rmb100 billion in 1998, Rmb110 billion in 1999, Rmb150 billion each in 2000, 2001, and 2002, Rmb140 billion in 2003, and Rmb110 billion in 2004. Thus, following its initial increase in 1994, the amount of CGB issuance increased further from 1998, as did the government deficit.

Starting in the second half of 2003, it became clear that the economy was getting stronger and pulling out of deflation, while fears of economic overheating in at least some industry sectors began to emerge in 2004. Consequently, at end-2004 the aggressive fiscal policies that had been in place for seven years were ended, and China switched to the more moderate, or "neutral" fiscal policy that remains in place today.

This more moderate fiscal policy has been characterized by controls on government deficits, structural adjustments, further reforms, and tax revenue increases combined with spending reductions[9]. Here, the term structural adjustments means changes in the structure of fiscal spending and of projects funded with CGBs, based on the concepts of scientific development and public service funding outlined in the introduction. The term "reform" refers to the parallel process of abandoning the old model of economic development dependent on CGB-funded projects, which is essentially the change in approach to economic development referred to in the introduction. The controls on government deficits led to their reduction, from a peak of Rmb314.96 billion (2.6% of GDP) in 2002 to only Rmb166.25 billion (0.8% of GDP) in 2006.

China has thus pursued textbook fiscal policies, adopting expansionary policies during downturns and then returning to neutral policies during times when economic overheating is a concern. Consequently, it is important to note that China retains considerable leeway in its fiscal policy, in case the economy sours in a backlash from the overheated growth of recent years[10].

9 "Quan Guo Ganbu Xuexi Peixun Jiaocai" (National Cadre Training Program Course Materials), 2006 (in Chinese).

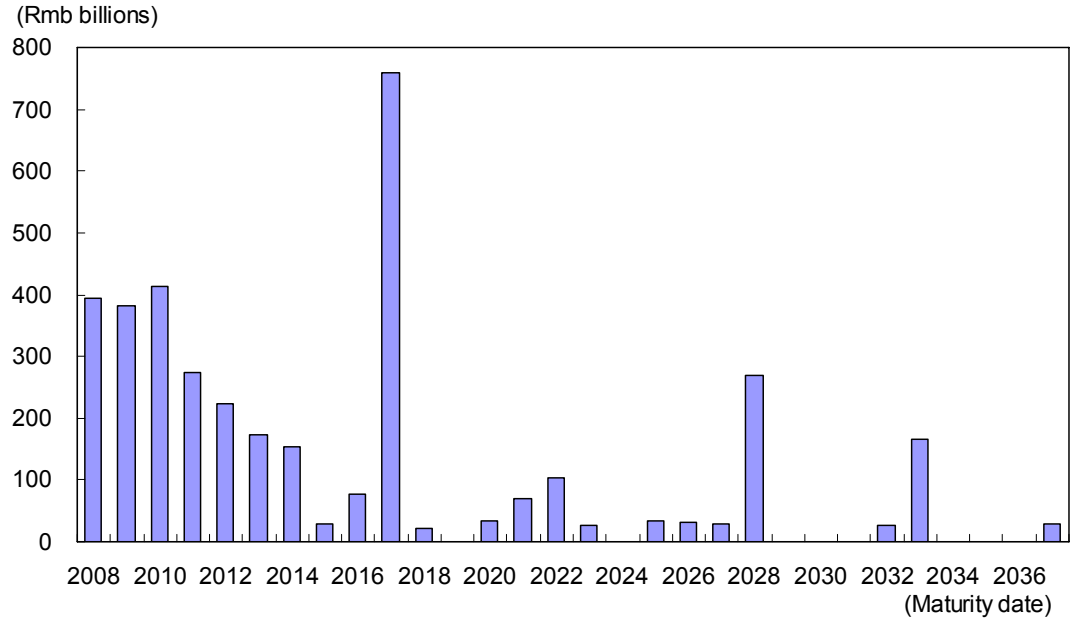
10 Be aware, of course, that there is a hidden, potential deficit over the long term, including nonperforming loans of financial institutions and social security funding shortfalls.

III. Problems with the CGB market

The CGB market has had its regulatory infrastructure developed and also grown in size, making it increasingly important both as a way for the government to raise funds and as an investment vehicle for investors. But the market also has a number of problems, as we describe below.

The first problem relates to the maturity profile of CGBs. Although this maturity profile has improved relative to before, it is still weighted heavily in the intermediate zone (1-year to 10-year), and has an insufficient amount of treasury bills. Looking at the amount of CGBs outstanding in the interbank market by remaining maturity, only 11% of the total is short term (a year or less remaining maturity) and 23% is long term (over 10 years), leaving the bulk of bonds in the intermediate zone (Figure 2). We think that this small amount of treasury bills also affects the liquidity of the overall market. Furthermore, because the PBC does not have sufficient treasury bills with which to conduct open market operations, it has recently had to rely on the issuance of central bank bills. An increase in treasury bills is thus also desirable from the perspective of giving the PBC greater flexibility in its open market operations in the future. Meanwhile, as the amount of investable funds held by the insurance companies increases, we expect demand for long-term CGBs will also increase.

Figure 2: CGBs outstanding by maturity date



Note: As of end-November 2006. CGBs outstanding, excluding certificate bonds. The bonds maturing in 2017 include the special treasury bonds issued in August 2007 to provide funds to the China Investment Corporation, the entity created to manage China's foreign reserves.

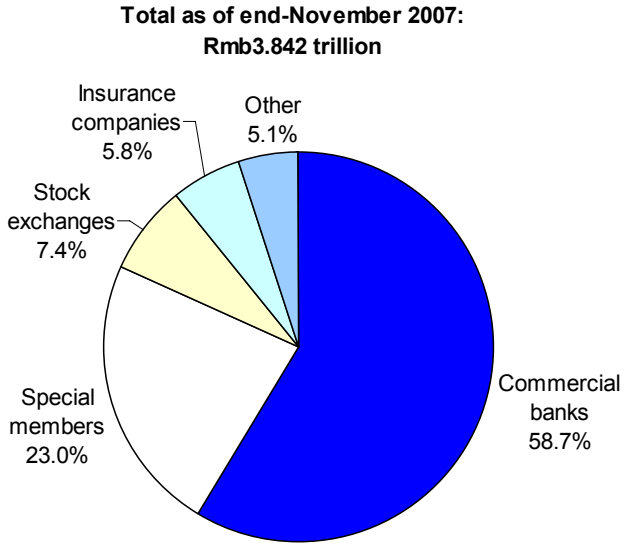
Source: Nomura Institute of Capital Markets Research, based on data from Wind Information

The second problem relates to certificate bonds. Although the issuance of book-entry bonds is increasing, certificate bonds still account for about one fourth of total CGB issuance outstanding. These certificate bonds, which are primarily sold to individuals, have yet to transition to a paperless (electronic) system, and this presents its own set of problems, both in terms of safety and, on the technological side, the difficulty of managing the bonds centrally. Specifically, it has been difficult to create a single system for issuance nationwide, and this has created the problem of some regions not having enough bonds and other regions having bonds left over. To address this issue, China began issuing paperless government savings bonds in 2006 (more on these bonds below).

The third problem that has been pointed out is the lack of liquidity. Trading turnover (trade amount/outstanding amount) in the CGB market was only 0.4x in January-November 2007, compared with 2.1x for central bank bills and 0.92x for policy financial bonds. Contrast this with Japan, where the turnover of cash JGBs was approximately 4x in 2007. Out of a total of approximately 80 issues, only 12 had a turnover above 1x in 2007 (versus only 10 in 2006). Even the major issues traded on both the interbank market and the stock exchanges do not always see trading action on a daily basis[11].

One reason for this is the skewed ownership of CGBs. Looking at CGB ownership by investor type in the interbank market as of November 2007, the commercial banks owned 58.7% of all CGBs, special members owned 23.0%, and the insurance companies owned 5.8% (Figure 3). Special members include the PBC and other authorities[12], and together with the commercial banks and the insurance companies own nearly 90% of outstanding CGBs.

Figure 3: Ownership profile of CGBs (in the interbank market)



Source: Nomura Institute of Capital Markets Research, based on data from ChinaBond

11 Sun (2006)

12 The PBC, the Ministry of Finance, the policy banks, the China Government Securities Depository Trust & Clearing Co. Ltd., and the China Securities Depository & Clearing Corporation, Ltd.

The commercial banks dominate ownership, and it is this lack of a diverse range of market participants that explains the infrequency of trading. In addition, because the commercial banks prefer to invest in CGBs for purposes of managing risk and their capital ratio, most of the CGBs in commercial bank portfolios are held to maturity, and when they are traded it is usually in the form of a repo transaction. The risk from rising interest rates appears to be concentrated among the commercial banks and the insurance companies and to make matters worse derivatives aimed at avoiding risk are scarce.

There is still a divide between the interbank market and the stock exchanges. We have already seen a number of initiatives that address this, including the broadening of the types of investors who can participate in both markets, the issuance of the same name on both markets, and the announcement of rules governing trades that straddle both markets, but commercial banks, which own a large share of CGBs, are still unable to participate in the stock exchanges.

A fourth problem is the unreliable government bond yield curve, which reflects the low level of liquidity. A government bond yield curve normally establishes the risk-free interest rate and provides a basis for pricing assets. This instability of the reference yield is a glaring problem for a country, like China, that is transitioning to a market economy.

Even the short end of the yield curve below 1-year, where transaction volume is relatively large, is still not very stable[13]. In the intermediate and long-term portions of the curve, we have already pointed out the lack of sufficient trading activity in CGBs and policy financial bonds. There is also a problem with price formation; prices can get distorted, for example, when some institutions raise their volume of trades[14]. In this regard, it is conceivable that the lack of sufficient derivative products makes it difficult to correct these price distortions.

IV. Recent trends

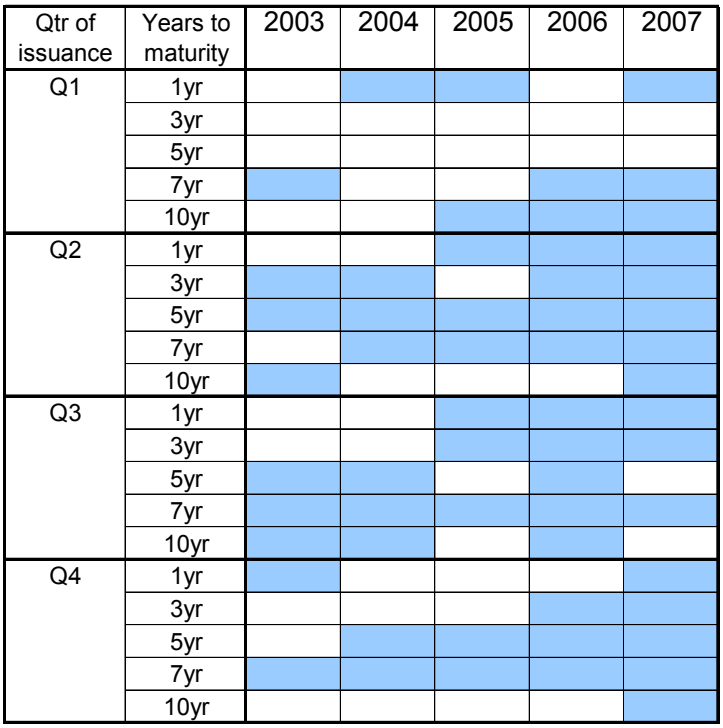
Over the past several years, the government has implemented a variety of measures to address these problems, which we look at below.

First, in 2006 the government changed its approach to managing debt, abandoning the method, in use since 1981, of managing the amount of CGB issuance each year, and going instead to a system of managing the amount of CGBs outstanding. This approach made it easier to regularly issue rollover treasury bills, and also created a basis for increasing the issuance of treasury bills, which are needed to conduct monetary policy. There has been a steady increase in the level of information disclosure on CGB issuance since 2000. The FY2007 CGB issuance plan, which gives quarterly auction dates for 1-year, 3-year, 7-year, and 10-year book-entry CGBs, was announced on 27 January 2007. Actual issuance is now largely according to plan,

[13] Jingu (2007)
[14] Sun (2006)

making it considerably easier to predict CGB issuance now relative to several years ago (Figure 4).

Figure 4: CGB issuance (maturities of 1yr to 10yr)



Note: As of end-November 2007. A shaded area means issuance.
Source: Nomura Institute of Capital Markets Research, based on the China Government Bond Almanac and data from ChinaBond.

Second was the issuance of special treasury bonds in 2007. These special treasury bonds are issued by the Ministry of Finance to raise funds for the China Investment Corporation (CIC), the corporation that manages China's foreign-exchange reserves, and although improving the CGB market was not the specific purpose of their issuance, they bear mentioning based on their importance to conducting monetary policy. Special treasury issuance totaled Rmb1.55 trillion, all in 2007. Out of this amount, Rmb200 billion was issued directly to the market across several tranches, while the remaining Rmb1.35 trillion was purchased by the PBC after passing through the Agricultural Bank of China[15]. Of the Rmb1.35 trillion, Rmb600 billion was issued in August and the remaining Rmb750 billion was issued in December. In regards to monetary policy, this Rmb1.35 trillion in special treasury bonds is now available to the PBC for use in open market operations. The Rmb200 billion issued directly to the market served to absorb liquidity from the market at the time of issuance.

Third is the introduction of paperless savings bonds in 2006. The purpose was to improve the safety and centralize the management of certificate bonds, and the

[15] Jingu (2007)

electronic book-entry approach will enable such centralized management. The differences between the electronic savings bonds and certificate bonds are: (1) the certificate bonds are underwritten by a syndicate (as of 2007, comprising 39 commercial banks and the national postal savings system), whereas the electronic savings bonds are sold by agents (initially seven banks); and (2) the certificate bonds are issued to society at large, and can be purchased by corporations as well as individuals, whereas the electronic savings bonds are sold only to individuals[16]. For the time being, both certificate bonds and electronic savings bonds will be issued, and both will be nontradable government bonds for use as savings by individuals.

A fourth measure has been the introduction of new financial products for the interbank market, beginning with buy-sell repos in 2004. In contrast with a general collateral repo, a funding transaction using bonds as collateral, in a buy-sell repo, the bondholder sells the bond to the fund provider, and then repurchases the bond after a given period. Because ownership of the bond resides with the fund provider during the period of the repo, a buy/sellback repo can be used for bond procurement and short sales.

Bond forward transactions (with a period no longer than 365 days) were introduced in 2005, and then rules covering bond borrowing and lending were announced in 2006. Bond loans are a mechanism to enable the borrowing of bonds with collateral, with the aim of increasing overall market liquidity and providing short-sale capability. The lending period is up to 365 days, at a lending fee agreed upon by both parties.

The amount of buy-sell repos in 2007 (January-November) totaled Rmb659.7 billion, more than double the amount in all of 2006, but only about 1.6% of the amount of general collateral repos, which totaled roughly Rmb40.5 trillion in the first 11 months of 2007. The amount of bond forward transactions in 2007 (January-November) totaled Rmb227.3 billion, an increase of 3.5x over the full year 2006, although still a fairly low number when considering that the amount of bonds outstanding in the interbank market totaled approximately Rmb10 trillion in November 2007[17].

Fifth were the improvements made to the market maker system. The market maker system was initially introduced in 2001, but in January 2007, the People's Bank of China issued the "Administrative Rules on Market Makers in the Interbank Bond Market." These rules loosened the requirements that had to be met to participate as a market maker. Specifically, the new rules eliminated the requirements for market makers to meet hurdles regarding bond sales volume and to be qualified as a primary dealer for open market operations. It also eased the requirement for applying for qualification, from ranking in the top 20 companies in cash bond trading volume during the year preceding application, to ranking in the top 80 companies. The rules

[16] Although the underwriting approach is being used for both book-entry CGBs and certificate bonds, issuance terms are determined at auction for book-entry CGBs but decided by the authorities (the Ministry of Finance and the PBC) for certificate bonds. Yields for electronic bonds are also set by the authorities. Neither certificate bonds nor electronic bonds are tradable.

[17] These facts and statistics refer to the interbank market overall, and include bank debentures and other bonds outside of CGBs.

also strengthened the hand of market makers with certain incentives, including (1) more favorable treatment and fee structures in the issuance market and in bond borrowing and lending, and (2) priority in becoming qualified as a member of underwriting syndicates for CGBs and policy financial bonds and as a primary dealer for open market operations. As of November 2007, however, these incentives had not resulted in any change in the number of market makers.

Future improvements in the CGB market could conceivably include changes in the CGB ownership profile, improvements in market infrastructure, and the introduction of financial innovations.

As the main institutional investors in securities markets, namely fund management companies and the insurance companies, experience growth in the amount of funds that they have available to invest, we expect to see a change in the CGB ownership profile, which is now heavily weighted toward the commercial banks. This is another reason why fostering a base of institutional investors is important.

Regarding the market segmentation problem, although it is now possible to engage in transactions that straddle the interbank market and the stock exchanges, the investor category with the highest ownership of CGBs, the commercial banks, are not allowed to trade their CGB holdings on stock exchanges. Although the relative size of the stock exchanges is getting smaller, solving the problem of pricing differences between the two markets may require allowing the commercial banks to participate in the CGB markets operated by the stock exchanges.

With respect to financial innovations, a number of new methods of trading have been introduced, but the volume of those trades remains small. We see a need to increase the trading volume of those new products already introduced, as well as to consider reopening the market for CGB futures, which has been closed since 1995, mostly from the standpoint of providing investors a way to hedge their positions.

To achieve a higher level of market liquidity and a more stable yield curve, it is essential to pursue comprehensive market reforms.

Lastly, it is important to note that in practical terms, the CGB market can play an important role in both monetary policy and fiscal policy. For example, both the amount and issuing method of the special treasury bonds issued in 2007 have had an impact on the conduct of monetary policy. If over the long term, an increase in the liquidity of the CGB market helps to stabilize the benchmark yield and make open market operations more effective, it should in turn increase the effectiveness of the PBC's indirect macroeconomic controls, which depend on the interest rate transmission mechanism. We expect cooperation between the Ministry of Finance and the PBC to become even more important to the CGB market's operation in the future.

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