Chinese Bond Markets – An Introduction

- While foreign investors have flocked to Chinese equities because of performance and correlation considerations, there is relatively less awareness of Chinese bond markets. This paper serves as an introduction to structure, trading venues, investor base and performance of Chinese bond markets for outside investors.

- After more than a quarter century of development, Chinese bond markets have evolved into a RMB 15 trillion (more than USD 2 trillion) market across a broad variety of credit, maturity and investor profiles.

- The market has a multi-layered structure, comprised of the national interbank market, the exchange market and bank counters, with the interbank market being the dominant trading venue.

- Foreign institutional investors can invest in Chinese bonds by seeking regulator approval for QFII quota or access to the interbank market. Product creators and asset managers have hitherto focused on bringing out higher margin equity products. This may change as global investors seek to participate in the growth of Chinese capital markets without volatility of equities.

- Over the five years ending 2008, the Chinese bonds in aggregate returned 8.1% annually in USD terms as measured by S&P/CITIC Composite Bond Index, a rate higher than those of U.S. and European bonds. RMB appreciation was a key return driver.

- Correlations of Chinese bonds with U.S. and European bonds have been less than 10%. Correlation with Chinese equities is a low 1.6%.

- Prospects for future evolution of the market include broadening of corporate bond markets, expansion of derivatives and risk management tools, and possible development of municipal bonds.
Introduction

This paper aims to provide foreign investors a brief introduction of the past, present and future of the Chinese bond market. In the first section of the paper, the history of Chinese bond market is reviewed, covering the development of market infrastructure and major bond instruments. The second section provides detailed information about the current market structure, market segments and market participants. Recent performance of the market and its driving forces are discussed in the third section. The last section lists several areas of further development of the market.

History of Chinese Bond Market

I. Before 1949

China’s access to bonds can be traced back to the late Qing dynasty. After a series of wars with the West, the government faced enormous indemnities. Unwilling to borrow from its own citizens, the government were forced to go to foreign capital markets. Bonds issued during the Qing dynasty were almost exclusively government foreign issuances secured with an array of various fiscal revenues such as maritime customs, salt taxes and internal transit taxes etc [8].

The first domestic bond market was established under the Republic’s regime. Following the end of imperial governance in China in 1911, the new Republic government shortly ran into fiscal problems. While continually relying on foreign debts secured with fiscal revenues, the Republic government started to issue domestic bonds. As the government went through continuous warfare, fiscal revenues were severely disrupted. To make ends meet, the government had to pick up its borrowing speed until it found itself at the edge of bankruptcy. After a series of defaults and reorganizations in the 1920-1930s, the creditworthiness of the government and the market was severely damaged. In the 1940s, the government took advantage of the prevailing inflation by issuing a new currency, effectively wiping out most of its outstanding debts at the expense of bond holders [8].

II. Post 1949

After the Communist party took the reins of the country in 1949, the economy was devastated following the 8-year Sino-Japanese and 4-year civil wars. To revive the economy, the new government issued RMB 302 million debts, which stabilized the economy and provided the capital the government needed. In 1953, fiscal pressure was greatly alleviated with foreign aid injected and a new tax system established to secure a steady growth of fiscal revenues [6].

With the economy stabilized, the government set out to fulfill its economic reconstruction plans, the so-called “Five Year Plans.” From 1954 to 1958, the government raised RMB 3.5 billion in total. Meanwhile, the government took full control of the country by establishing a new national economic system with highly centralized planning and budget allocation [6].

As the government directly controlled and supplied corporate capital, there was virtually no need for the existence of separate corporate bonds and financial bonds. Therefore, bonds issued during the period were solely government bonds in the form of physical
printing notes. The issuance of the bonds was done through administrative apportion rather than volunteer investment, and no secondary markets existed.

Following the break-up of its relationship with the Soviet Union in the late 1950s, the Chinese government decided that it should have no internal and external debts. As a result, for 20 years there were no developments in the bond market and most of the fiscal deficit was financed by money creation [1, 6].

1. Government Bond Markets & Infrastructure Development

In 1979, the Chinese government started its profound economic reforms. The raising of prices for rural production and the allowance for enterprises to retain part of profits originally collected by the government quickly turned the country’s fiscal budget in the red. To finance the economic reforms and to curb inflation, the government turned to issuing government bonds.

During the period from 1981 to 1986, the issuing size for government bonds was kept at fairly low level, with no more than RMB 10 billion each year, and the issuance was done through administrative apportion. All of the bonds issued were physical printed bonds and there was no secondary market for bond trading [6, 12].

Starting 1987, China entered a new stage of market infrastructure development and the period between 1987 to 1997 saw several breakthroughs:

**Secondary Markets:**

The approval of the circulation of government bonds at bank counters in 61 cities in 1988 symbolized the beginning of secondary bond markets. Two exchange bond markets were opened in 1990 and 1994. In 1997, the national interbank market was established to isolate the Chinese banking system from market risks associated with exchange transactions [6].

**Market Oriented Primary Markets:**

In 1991, the first underwriting syndicate was organized for bond issuance, followed by the establishment of the primary dealer system for more efficient distribution in 1993. In 1996, public auction was widely adopted to fulfill the market function of price discovery [6].

**Centralized Custodian System and Settlement & Clearing House**

In December 1996, China Government Securities Depository Trust & Clearing Co. Ltd (CDC) was established for centralized settlement and clearing. In 1997, it was assigned the responsibility for centralized treasury custodian [6].

With all the issuing and trading platforms set in the place, and the introduction of the market pricing mechanism, the issuance of government bonds grew steadily from 1987 to 1997. In 1998, government bonds no longer functioned solely as a financing tool for public expenditure, but as an integral part of fiscal policies. From 1998 to 2003, the issuance of government bonds picked up the speed after the Asian financial crisis [10]. In 2008, the issuance of government bonds was RMB 796.5 billion compared to 4.87 billion in 1981[6, 12].
2. Corporate Bond Market Development

There was very little regulation for corporate bonds in the 1980’s. Spontaneous fund raising, both publicly and internally, emerged in the mid 1980s. In 1984, state-owned enterprises (SOEs) were allowed to issue corporate bonds subject to the approval of the PBOC. The coupon rate was initially set 40% higher than the prevailing 1-year bank deposit rate which made corporate bonds attractive investment opportunities to the public in ignorance of the associated credit risk [2, 6].

In the early 1990s, the overheating of the Chinese economy and excessive corporate bond issuance not only resulted in a high default rate, but also interrupted the issuance of government bonds. To strengthen the regulation, the government amended the administrative rules and appointed the State Planning Commission (SPC, predecessor of National Development & Reform Commission, NDRC) as the regulatory body for corporate bond governance in 1993 [2, 6].

The SPC shortly adopted a quota system that only allowed large SOEs to gain access to the system. All corporate bonds issued had AAA rating since 100% bank guarantee was required for issuance. The coupon rate was set around 150-250 bps above the 1-year bank deposit rate, unrelated to the initial maturity [2].

Due to limited quota and strict administrative controls, the primary market for corporate bonds quickly withered. However, the listing of the first corporate bond took place in 1994 on Shenzhen Stock Exchange, a breakthrough in the secondary market of corporate bonds [6].

In 1995, with a quota of RMB 15 billion approved by the government, the corporate bond market sprung back to life. In 1998, the CDC was designated as the top-tier custodian of corporate bonds, and book-entry was adopted for corporate bond issuance. During this period, the size of Chinese corporate bonds was relatively small, and the trade was limited to exchanges with low turnover [6]. In December 2004, administrative rules were enacted allowing the circulation of corporate bonds in the national interbank market [9].
To encourage enterprises with good credit standing to explore direct financing channels and reduce financing costs the PBOC promulgated the Administrative Measures on Short-Term Financing Bills in May 2005 which required all issues to be rated. By the end of 2005, the issuance of corporate short-term bills had surpassed RMB 140 billion [6, 9, 12].

In 2006, the first corporate credit bond in real-meaning was issued without bank guarantee (Three Gorge Bond). In the following year, the responsibility of authorizing corporate bond issuance was split between the NDRC and CSRC. In 2007, listed company bond was introduced to the exchanges and CSRC Decree No.50: Provisional Administrative Measures on the Credit Rating Business in Chinese Securities Market was enacted to strengthen the regulation on the operation of credit rating agencies [2, 6, 16].

3. Financial Bonds

The first financial bond was issued in 1982 by CITIC at the Tokyo Stock Exchange. In 1985, China Industrial & Commercial Bank and the China Agricultural Bank issued RMB-denominated financial bonds domestically. After that, a couple of commercial banks and trust investment corporations followed suit. In 1993, China Investment Bank was approved to issue $50 million USD-denominated financial bonds domestically [6].

In 1994, policy banks became the major issuers of financial bonds and the second largest bond issuing body in China after the Ministry of Finance [6, 14].

In 2004, securities companies were approved to issue public bonds and short-term financing bills. By the end of 2006, 3 securities company bonds (totalling RMB 4.15 billion) and 5 securities short-term bills (totalling RMB 2.9 billion) were issued. In 2004, to help commercial banks improve asset quality and capital adequacy, the PBOC granted approval for selected commercial banks to issue subordinated bonds. By the end of 2006, 11 subordinated bonds (totalling RMB 29.7 billion) were issued [6].

In 2006, the commercial bank hybrid capital bond was introduced to the interbank market. By the end of 2007, a total of 12.3 billion was issued by three commercial banks [13].
The Present Chinese Bond Market

I. Market Structure

The Chinese bond market has developed into a multi-layered market, comprised of three segments: the national interbank market, the exchange market and the bank counters, among which the interbank market plays the dominant role.

1. The Interbank Market

The interbank market is a quote-driven OTC market, where deals are negotiated between two counterparties through an electronic trading system [9]. It is governed by the PBOC and functions as a wholesale market for institutional investors. After more than 10 years in development, it has become the most active bond market in China, absorbing more than 97% of the trading [12]. At the end of 2008, the total amount of bonds outstanding was RMB 13900.3 billion [14]. Institutional investors are the main participants in this market. By the end of February 2009, there were 1219 institutions and 7375 registered members who have access to a broad array of trading instruments compared to the other two markets [14].

The interbank market is where the central bank conducts its open market operations. The central bank bill, corporate commercial paper (CP) and mid-term note (MTN), the three instruments that are solely traded in the interbank market are by far the most actively traded products in the Chinese bond market.

2. The Exchange Market

The exchange market is an order-driven market governed by the CSRC. The size of the market as of Dec.31, 2008 was RMB 300.9 billion by face value [14]. The spot trading in the exchange market is very thin; only RMB 227.8 billion in 2008 [12]. The major players in this market are small, medium and individual investors [9]. Most market participants gain access to the exchange market via brokerage services provided by securities companies. Commercial banks are prohibited from trading in the exchange market.

3. The Bank Counter Market

The bank counter market is an important supplement to the other two markets since it targets individual investors. The varieties of bond instruments available are very limited, with mainly government bonds in the form of certificate bonds and electronic saving bonds available.

Table 1: Trading Activities in Chinese Bond Market

<table>
<thead>
<tr>
<th>Market</th>
<th>Spot Trading</th>
<th>Repo Trading</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shanghai Stock Exchange</td>
<td>205.87</td>
<td>2430.68</td>
<td>2636.55</td>
</tr>
<tr>
<td>Shenzhen Stock Exchange</td>
<td>21.88</td>
<td>0.00</td>
<td>21.88</td>
</tr>
<tr>
<td>Interbank Market</td>
<td>37090.52</td>
<td>57526.25</td>
<td>94616.78</td>
</tr>
<tr>
<td>Total</td>
<td>37318.28</td>
<td>59956.93</td>
<td>97275.21</td>
</tr>
</tbody>
</table>

Source: Wind. Figures are total value traded in 2008 in billion yuan.
II. Major Bond Instruments and Issuers

After more than 20 years in development, Chinese bond investors now enjoy a broad array of fixed-income securities with different risk and return profiles. At the end of 2008, the total amount of bonds outstanding was RMB 15110.2 billion, among which government bonds, central bank sterilization bills, financial bonds and non-financial corporate bonds (including CPs and MTNs) represented 32.3%, 31.8%, 27.1% and 8.4% of the total market, respectively [14].

Table 2: Fixed Income Instruments Outstanding in Chinese Bond Market

<table>
<thead>
<tr>
<th>Bonds Outstanding</th>
<th># of Issues</th>
<th>Par Value (Billion)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government Bonds</td>
<td>110</td>
<td>4875.34</td>
<td>32.27%</td>
</tr>
<tr>
<td>Central Bank Bills</td>
<td>135</td>
<td>4812.10</td>
<td>31.85%</td>
</tr>
<tr>
<td>Policy Bank Bonds</td>
<td>222</td>
<td>3672.01</td>
<td>24.30%</td>
</tr>
<tr>
<td>Financial Institution Bonds</td>
<td>99</td>
<td>424.82</td>
<td>2.81%</td>
</tr>
<tr>
<td>Corporate Bonds</td>
<td>295</td>
<td>680.35</td>
<td>4.50%</td>
</tr>
<tr>
<td>Corporate Commercial Papers</td>
<td>259</td>
<td>420.31</td>
<td>2.78%</td>
</tr>
<tr>
<td>Assets Backed Securities</td>
<td>49</td>
<td>55.11</td>
<td>0.36%</td>
</tr>
<tr>
<td>Mid-Term Notes</td>
<td>39</td>
<td>167.20</td>
<td>1.11%</td>
</tr>
<tr>
<td>Panda Bonds</td>
<td>3</td>
<td>3.00</td>
<td>0.02%</td>
</tr>
<tr>
<td>Total</td>
<td>1211</td>
<td>15110.23</td>
<td>100.00%</td>
</tr>
</tbody>
</table>


1. Government Bonds

Government bonds are issued by the Ministry of Finance to finance public expenditure. The interest earned is tax-exempt. Currently, there are two types of government bonds: electronic saving bonds and book-entry bonds [14].

Electronic saving bonds are mainly sold at banks. They target individual investors, and channel household savings directly into national construction funds. The issuing process is relatively simple. Saving bonds cannot trade. However, they can be used as collateral and if needed sold back to banks before maturity [6, 10].

Book-entry bonds are a major type of government bond, making up 98.2% of total outstanding at the end of 2008 [14]. They are issued and traded mainly in the interbank and exchange markets, targeting institutional investors. The underwriting is conducted via auction among designated primary treasury dealers. The issuing rate is determined by the prevailing market conditions.

At the end of 2008, the total amount of government bonds outstanding was RMB 4875.3 billion, and commercial banks are the main market participants in the primary and secondary markets of government bonds as shown in Exhibit 2.
Exhibit 2: Ownership Profile of Chinese Government Bonds

![Ownership Profile of Chinese Government Bonds]


The maturity structure of Chinese government bonds is tilted in the long term, with more than half of bonds outstanding having a term-to-maturity greater than 7 years as of Dec. 31, 2008.

Table 3: Maturity Structure of Chinese Government Bonds

<table>
<thead>
<tr>
<th>Government Bonds Outstanding</th>
<th>Face Value (billion)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 1 Year</td>
<td>587.71</td>
<td>12.05%</td>
</tr>
<tr>
<td>1-3 Years</td>
<td>846.31</td>
<td>17.36%</td>
</tr>
<tr>
<td>3-5 Years</td>
<td>467.53</td>
<td>9.59%</td>
</tr>
<tr>
<td>5-7 Years</td>
<td>288.40</td>
<td>5.92%</td>
</tr>
<tr>
<td>7-10 Years</td>
<td>987.77</td>
<td>20.26%</td>
</tr>
<tr>
<td>&gt; 10 Years</td>
<td>1697.63</td>
<td>34.82%</td>
</tr>
<tr>
<td>Total</td>
<td>4875.34</td>
<td>100.00%</td>
</tr>
</tbody>
</table>


As the most basic building block of market benchmarks, a well-defined riskless yield curve is very important for pricing, valuation and risk management in both the primary and secondary bond markets. Therefore, the liquidity and normal functioning of government bond market is critical to the efficient transmission of monetary policy.

In China, most of the trading for government bonds occurs in the interbank market. The liquidity is far from satisfactory, but is improving thanks to the PBOC’s policy to bring in more institutional investors. Now, the interbank market no longer is just inter-
bank, it includes 1219 institutional investors. In 2008, the trading of government bonds was 0.75 times outstanding, a significant increase from 0.46 times in 2007 [14].

Exhibit 3: the Yield Curve of Chinese Government Bonds

![Yield Curve Graph](image-url)


2. Central Bank Bills

Central bank bills are issued by the PBOC to members of the interbank market. The initial maturity is usually within 1 year with some maturities within 1-3 years occasionally. In 2003, short of government bonds needed for open market operations, the central bank started to issue its own central bank sterilization bills to absorb extra market liquidity. Due to its simplicity and flexibility, central bank bills quickly became the most important monetary tool for open market operations in China [6].

The issuance of central bank bills has grown from RMB 722.7 billion in 2003 to RMB 4296.0 billion in 2008 [14]. At the end of 2008, the amount outstanding of central bank bills reached RMB 4812.1 billion, second to government bonds. The central bank bill is the one of the most actively traded instruments. In 2008, central bank bills absorbed more than 60% of spot trading in the interbank market [14]. Due to its safety, large issuance and high liquidity, the central bank bill has become one of the most popular instruments for money market funds and other institutional investors for liquidity management. Its active trading provides a useful benchmark rate for the Chinese money market.

3. Financial Bonds

Financial bonds are issued by commercial banks and non-bank financial institutions to raise mid- to long-term capitals. The purpose is to finance projects, improve capital adequacy and manage assets/liabilities mismatch.

Currently there are a variety of financial bonds issued and traded in China including policy bank bonds, bank subordinate bonds, hybrid capital bonds, other financial institutional bonds, etc.
(1) Policy Bank Bonds

The Policy Bank bond is the main type of financial bond in China, representing 24.3% of Chinese bond market as of Dec. 31, 2008 [14]. Currently there are three policy banks in China with different specializations. China Development Bank is perhaps the most important, functioning as an alternative financing source for national infrastructure and pillar industries critical to the national economic growth. The Export-Import Bank of China specializes in financing exports & imports of high-tech products, and foreign construction contracts and investments. The Agricultural Development Bank of China is the policy bank supporting agriculture and rural economic development.

Policy banks are owned and backed by the government. Because they have sovereign credit, policy banks can issue bonds at much lower cost than commercial banks. The funds raised are usually used to finance key national projects that are not covered by the fiscal budget; therefore they are often regarded as the supplement of fiscal funds [6].

Among the three policy banks, the China Development Bank is the major issuer. In 2008, it issued 24 bonds with face value of RMB 620 billion [14]. Most policy bank bonds are short- to mid-term bonds.

Table 4: Maturity Structure of Chinese Policy Bank Bonds

<table>
<thead>
<tr>
<th>Policy Bank Bonds Outstanding</th>
<th>Face Value (RMB, billion)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 1 Year</td>
<td>359.94</td>
<td>9.80%</td>
</tr>
<tr>
<td>1-3 Years</td>
<td>897.13</td>
<td>24.43%</td>
</tr>
<tr>
<td>3-5 Years</td>
<td>902.51</td>
<td>24.58%</td>
</tr>
<tr>
<td>5-7 Years</td>
<td>487.52</td>
<td>13.28%</td>
</tr>
<tr>
<td>7-10 Years</td>
<td>651.12</td>
<td>17.73%</td>
</tr>
<tr>
<td>&gt; 10 Years</td>
<td>373.80</td>
<td>10.18%</td>
</tr>
<tr>
<td>Total</td>
<td>3672.01</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

Source: Chinabond. Data are as of Dec.31, 2008.

Policy bank bonds are only traded in the interbank market. They have much better liquidity than government bonds. The turnover in 2008 was RMB 7401.5 billion, 2.02 times its outstanding [14]. Due to the high liquidity and close to riskless credit, the yield curve of policy bank bonds is a good alternative benchmark for credit spread analysis, especially for commercial bank bonds. Commercial banks and insurance companies are major investors of policy bank bonds.
Exhibit 4: Ownership Profile of Chinese Policy Bank Bonds


(2) Bank Subordinate Bonds and Hybrid Capital Bonds

In 2004, qualified commercial banks were allowed to issue subordinate bonds to improve capital adequacy. The amount of subordinated bonds a bank can issue is no more than 50% of its core capital. Usually, the initial maturity is 10 years or 15 years. By the end of February 2009, more than 60 bank subordinate bonds were issued [13, 15, 18].

In December 2005, as some commercial banks had used up their quotas for subordinated bonds, the PBOC approved the issuance of hybrid capital bonds as an alternate finance source for bank capital replenishment. Hybrid capital bonds differ from subordinated bonds in that hybrid capital bonds have more equity features, they can defer the interest and principal payments once certain conditions are met. Each qualified bank can issue hybrid capital bonds at an amount that is no more than 100% of its core capital. In 2006 and 2007, China Industrial Bank, China Minsheng Bank and Huaxia Bank issued hybrid capital bonds totalling RMB 12.3 billion. They all have an initial maturity of 15 years [13, 15].

(3) Other Financial Bonds

In accordance with the rules & regulations issued by the CSRC in 2003, subject to the CSRC’s approval, securities firms can raise capital by issuing bonds publicly or via private placement, which opened alternative finance channels for securities companies.

In 2004, the PBOC allowed securities firms to issue short-term financing bills in the interbank market, which satisfied securities companies’ short-term financing needs and provided money market investors alternative investment opportunities [6].
4. Non-Financial Corporation Bonds

As an alternative way to raise capital other than by issuing equities or directly taking loans from banks, corporate bonds can provide long-term capital without diluting shareholders’ interests, and there is no strict limitation imposed on the usage of the funds compared to bank loans.

Currently, in China, there are four types of non-financial corporation bonds: enterprise bonds, convertible bonds, short-term corporate financing bills (CPs and MTNs) and listed company bonds.

(1) Enterprise Bonds

Enterprise bonds are the earliest type of corporate bonds issued in China. As its issuance was tightly regulated by the NDRC, the size of enterprise bonds has grown moderately. There was no more than RMB 700 billion outstanding at the end of 2008 [14]. Many enterprise bonds trade in both the interbank market and exchange markets. Because they are usually guaranteed by one of the state-banks, their coupon rates are lower than those of listed company bonds with the same maturity. Their maturity tends to be mid- to long-term.

Exhibit 5: Ownership Profile of Chinese Enterprise Bonds


Insurance companies, commercial banks and mutual funds are the three major investors of enterprise bonds.
(2) Convertible Bonds

Convertible bonds are issued and traded in exchanges governed by the CSRC. The initial maturity is usually 5 years, and is often with stepped coupon rates. Since its debut in 2000, more than 70 convertible bonds have been issued, including 20 warrant detachable convertible bonds. Mutual funds, insurance companies, QFIIs and securities companies are active investors in this market [13].

(3) Corporate CPs and MTNs

Corporate CPs and MTNs are issued and traded in the interbank market, regulated by the PBOC. Since the issuers are usually large corporations with good standing, no bank guarantee is required. Credit rating is required for issuance. CP and MTN markets have been the fastest growing segments in the past years. At the end of 2008, the size of CPs and MTNs reached RMB 420.3 billion and 167.2 billion respectively. They are two of the most actively traded instruments in Chinese bond market. In 2008, the turnover was 6.87 times and 4.40 times their outstanding balance respectively [14]. Commercial banks and mutual funds are the main investors of CPs and MTNs.
Exhibit 7: Ownership Profile of Commercial Paper


Exhibit 8: Yield Curves of Commercial Paper with Different Ratings


(4) Listed Company Bonds

Listed company bonds were introduced in 2007 and are regulated by the CSRC. They are issued by listed companies and traded in exchanges. Listed company bonds are real credit bonds without bank guarantees. They have higher coupon rates than enterprise bonds with the same maturity.
By the end of 2008, there were 20 listed company bonds outstanding, with a total face value of RMB 40 billion [12].

5. Asset Backed Securities

China is still at the early stages of the ABS market development. In December 2005, China had the first ABS and MBS bonds launched by the China Development Bank and China Construction Bank respectively. At the end of 2008, the total amount of ABS bonds outstanding reached RMB 55.1 billion [14].

6. Panda Bonds

In February 2005, international development institutions were allowed to issue RMB denominated bonds which provided an alternative way other than QFII and QDII schemes to balance capital inflows and outflows. In 2005 and 2006, two Panda Bonds were issued by International Finance Corporation (IFC), totaling RMB 2 billion. The Asian Development Bank issued RMB 1 billion in 2005 [12, 13, 14].

7. Repos and Derivatives

Collateralized repos were first introduced to Shanghai Stock Exchange in 1993 to facilitate short-term finance and increase bond market liquidity. In 2004, the Regulations on Bond Outright Repos in the National Interbank Bond Market was enacted. This paved the way for the introduction of outright repos and other derivatives. In 2008, the turnover reached RMB 58 trillion and RMB 2.4 trillion in the interbank market and exchange market respectively. Collateralized repos represented 97% of the turnover. As shown in Exhibit 9 and 10, repo trading was far more active than spot trading, especially in exchange market [9, 12, 14, 15].

In 2005, bond forward transactions were introduced to the interbank market to help investors manage interest-rate risk and increase bond market liquidity. In 2008, the total settlement value amounted RMB 498 billion [9, 14].

Exhibit 9: Trading in Shanghai Stock Exchange

- Spot Trading
- Repo Trading

Source: Wind. Figures are value traded in 2008 in billions (RMB).
III. Major Bond Market Investors

The major investors in the Chinese bond market are commercial banks, insurance companies, mutual funds, securities companies, national social security funds, occupational pension funds, non-bank financial institutions, non-financial institutions, QFIIs and individual investors. With different investment objectives and constraints, these investors differ in investment scope and maturity preference.

1. Commercial Banks

Although Chinese commercial banks are only allowed to trade in the interbank market, they are the main market participants for both primary and secondary markets.

Currently, commercial banks can invest government bonds, policy bank bonds, high grade enterprise bonds, commercial bank subordinate bonds, CPs and MTNs. Restrictions are imposed on the investment of low-grade corporate bonds and other credit products [6, 15]. Commercial banks usually invest short- to mid-term bonds, therefore, change of bank capital usage usually has a big impact on the short end of the term structure.

As of Dec. 31, 2008, the total amount of government bonds, policy bank bonds, corporate bonds and CPs held by Chinese commercial banks was RMB 5457 billion [12].

Commercial banks invest bonds mainly through the participation of bond underwriting in the primary market. Occasionally, they may trade in the secondary market for yield enhancement and liquidity management [6].
Commercial banks are the primary dealers for open market operations and market makers in the interbank market. Their quotes play an important role for market liquidity and price discovery. Currently, commercial banks make up 40 of the 50 PBOC-approved primary dealers [6, 15].

2. Insurance Companies

Insurance companies are the second largest institutional investor in the Chinese bond market. They can invest directly in the interbank and exchange markets. As of Dec. 31, 2008, the total assets of Chinese insurance companies reached RMB 3341.8 billion, among which RMB 2246.5 billion were available for investment [17].

Insurance companies usually allocate their assets among negotiable bank deposits, bonds and mutual funds. They can invest in low risk instruments such as government bonds, central bank bills, policy bank bonds, policy bank subordinate bonds and RMB denominated bonds issued by international development institutions. Certain restrictions are imposed on the investment of commercial bank bonds (including subordinate bonds), corporate bonds (including convertibles and CPs) and other low credit instruments [17]. Due to the AAA rating and bank guarantees, it is not surprising that enterprise bond has become one of the favorite instruments to be held by insurance companies.

Since the liabilities of insurance companies (especially life insurance companies) are usually long-term in nature, insurance companies are the largest investors of long-term government bonds in the exchange market and the major investors in long-term financial bonds in the interbank market, just second to commercial banks [6].

Large insurance companies make bond investments mainly through the primary market. Insurance companies with good standing can also act as market maker in the interbank market [6]. In 2009, 4 insurance companies have seats as primary dealers for open market operations in the interbank market [15].
**Exhibit 12: Funds of Insurance Companies Available for Investment**

Source: [www.circ.gov.cn](http://www.circ.gov.cn). Investment includes funds, bonds and other investment. Data is in billions (RMB).

**Exhibit 13: Funds of Insurance Companies Allocated to Different Bonds**


### 3. Mutual Funds

Mutual funds have become a rising force in the Chinese bond markets. They have direct access to the interbank market and indirect access to exchange markets via securities companies.

Because of the diversity of fund types, mutual funds can invest in almost all kinds of bonds. Due to the open-ended features, mutual funds usually prefer instruments with higher liquidity with short- to mid-term maturities.
As shown in Exhibit 14, 15 and 16, the proportion of mutual funds allocated in bonds has increased in 2008. With the rise of money market funds, the central bank bill has become a favorite instrument for mutual funds.

Exhibit 14: Asset Allocation of Chinese Mutual Funds

Source: Wind.

Exhibit 15: Fixed Income Instruments Held by Chinese Mutual Funds

Source: Wind. Corporate bonds include enterprise bonds and listed company bonds.
4. Securities Companies

Securities companies are very important market participants in the Chinese bond markets. Although funds available for proprietary trading are limited, securities firms are unique in that they act as investors, brokers and market makers simultaneously.

Due to the shortage of long-term capitals and the high opportunity cost as their funds can be invested in equities, securities companies’ bond investments are almost always short-term in nature and meant for liquidity management and momentum trading. Securities companies can participate in both primary and secondary markets, and can invest in almost every type of bond [6]. With high risk tolerance and strong research capabilities, securities companies are active participants in corporate bonds and CP markets.

Securities companies provide brokerage services to other investors who do not have direct market access or need to make anonymous trades [6]. As the financial intermediaries that straddle both exchange and interbank markets, securities companies provide important channels for cross-market trading and liquidity improvement.

Securities companies with good standing can also act as primary dealers and market makers in the interbank market, subject to the PBOC’s approval. Although their capital is limited compared to commercial banks, their strong research capabilities and broad client base make their quotes very instructive for market price discovery [6]. In 2009, among 50 approved primary dealers for open market operations, five are securities companies [15].
5. National Social Security Fund

The China National Social Security Fund was established in August 2000 by the State Council. Its aim is to be a solution to the aging problem, and serve as a strategic reserve fund to support future social security expenditures [19].

The funding sources of NSSF are primarily fiscal allocations of the central government and capital derived from reduction of state-owned shares. In accordance with Interim Measures on the Administration of the Investment of National Social Security Fund, the total weight of bank deposits and government bonds should not be less than 50% of NSSF total assets. Bank deposits should take a share of at least 10% of the total assets. A cap of 10% was imposed on the combined weights of corporate bonds and financial bonds. The total weights of securities investment funds and stocks should be no more than 40% of the total assets [19].

Since its establishment, the size of NSSF has grown rapidly. At the end of 2007, the total assets of NSSF have reached RMB 439.7 billion [19].
6. Occupational Pension Funds

Occupational pension funds provided by enterprises voluntarily for their staff is an important supplement to the basic social security system and commercial retirement insurance. In May 2004, the Ministry of Labour and Social Security promulgated a regulation on the management of occupational pension funds, which set the rules for the qualification and responsibilities of the custodian, trustee and fund managers.

In accordance with regulation, liquid instruments such as demand deposits, central bank bills, short-term bond repos and money market funds should take a share of at least 20% of the funds. The total weights of time deposits, negotiable bank deposits, fixed income instruments, convertibles and bond funds should be no more than 50% of the funds, and 20% of the funds should be allocated to government bonds. Regulation also set a 30% cap on the combined weights of equities, equity funds and investment-linked insurance products [20].

Since the enforcement of the regulation, more enterprises have joined the system. By the end of August 2008, the total assets had surpassed RMB 150 billion. It is estimated that this market will grow steadily, and its scale may exceed mutual funds in the future.

Currently, qualified securities companies, fund management companies, trust firms, insurance asset management companies and other professional investment institutions are the fund managers of occupational pension funds.

7. Non-Bank Financial Institutions

Non-bank financial institutions are also participants in the Chinese bond market, including Postal Savings Bank of China, large scale finance companies, financial leasing companies, etc. They have direct access to the interbank market and indirect access to exchange markets via securities companies. The total amount of bonds
outstanding held by non-bank financial institutions surpassed RMB 70 billion at the end of 2008 [14].

Exhibit 19: Funds of Non-Bank Financial Institutions Allocated to Different Bonds

Source: Chinabond. Total is the sum of the investment in government bonds, policy bank bonds, corporate bonds and commercial bonds held by non-bank financial institutions. Data in billions (RMB).

8. Non Financial Institutions

Non-financial institutions include large scale enterprises. They have direct access to interbank markets and indirect access to exchange markets via securities companies. The total amount of government bonds, policy bank bonds, enterprise bonds and CPs held by non financial institutions was RMB 29 billion as of Dec. 31, 2008 [14].

9. Individual Investors

Individual investors have no direct access to the interbank market. However they can purchase government bonds at bank counters, and trade on exchange markets via securities companies. Due to the poor liquidity in exchange markets, the most practical and cost efficient way for individual investors to participate in bond market is to invest in bond mutual funds and money market funds. At the end of 2008, the amount of bonds held directly by individuals was around RMB 3.7 billion [14].

10. Foreign Investors

So far, there are two ways for foreign institutional investors to gain access to the Chinese bond market. One way is to apply for QFII quota or direct access to the interbank market themselves. The other way is to invest through other foreign institutions that have gained market access.

Based on CSRC Decree No.12 promulgated in 2002, up to the approved investment quota, qualified QFII can invest on A-shares, government bonds, corporate bonds, convertible bonds and warrants listed in China’s stock exchanges and other financial instruments as approved by CSRC [16].
In July 2003, UBS AG became the first QFII in China. Since then, 79 QFIIs have been approved with a total investment quota of USD 12.8 billion (Appendix 3). In the recent past, foreign investors have chosen to use QFII quotas for higher margin products, such as equities and convertible bonds [12, 16, 21]. However, this may change as global investors seek to participate in growth of Chinese capital markets without the volatility of equities.

In 2005, Pan Asia Index Fund and the China Index Bond Fund of the Asian Bond Fund 2 were granted direct access to the interbank market [9].

In November 2006, to honor its WTO commitments for the opening-up of its banking sector, Chinese government promulgated the Regulations of the PRC on Administration of Foreign-funded Banks, allowing Chinese branches of foreign banks to receive a time deposit of no less than RMB 1 million yuan from the domestic citizens. Based on the regulations, foreign-funded banks can invest government bonds and financial bonds traded in the interbank market. At the current stage, several foreign bank branches and locally incorporated foreign-funded banks have gained membership in the interbank market.
Risk and Return Profile of Chinese Bond Markets

Over the past five years ending 2008, Chinese bonds in aggregate returned 3.98% annually in RMB terms, lower than that of the Chinese equity market, but with much lower volatility. The correlation between these two markets was only 1.64%. If translated into USD, the annualized return of the Chinese bond market was 8.07% better than that of the U.S. and European bond markets. The correlations between the Chinese bond market and other major bond markets were fairly low as shown in Table 7.

In 2008, the market advanced 9.69% in RMB and 17.43% in USD terms, a striking contrast with 63.15% loss of Chinese equity market and a big rise compared to those of the U.S. and European bond markets.

Table 5: Risk & Return Profiles of Chinese Bond & Equity Markets

<table>
<thead>
<tr>
<th>As of 12/31/08 (p.a.)</th>
<th>S&amp;P/CITIC Composite Bond</th>
<th>S&amp;P/CITIC A Share Composite</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Return</td>
<td>Stdev</td>
</tr>
<tr>
<td>1 Yr</td>
<td>9.69%</td>
<td>1.59%</td>
</tr>
<tr>
<td>2 Yrs</td>
<td>4.22%</td>
<td>1.32%</td>
</tr>
<tr>
<td>3 Yrs</td>
<td>3.37%</td>
<td>1.19%</td>
</tr>
<tr>
<td>4 Yrs</td>
<td>5.52%</td>
<td>1.32%</td>
</tr>
<tr>
<td>5 Yrs</td>
<td>3.98%</td>
<td>1.48%</td>
</tr>
</tbody>
</table>


Exhibit 20: Historical Performance of Major Bond Markets

Source: Standard and Poors’, Barclay Capital. The Performance of Chinese Bond Market is measured by S&P/CITIC Composite Bond Index. The performances of other regions are measured by corresponding Barclay Capital regional aggregate bond indices. All Indices are in USD. Reuters/WM exchange rate was used.
Table 6: Risk & Return Profiles of Major Bond Markets

<table>
<thead>
<tr>
<th>p.a.</th>
<th>China Bonds</th>
<th>U.S. Bonds</th>
<th>Europe Bonds</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Return</td>
<td>Stdev</td>
<td>Return</td>
</tr>
<tr>
<td>1 Yr</td>
<td>17.43%</td>
<td>2.63%</td>
<td>5.57%</td>
</tr>
<tr>
<td>2 Yrs</td>
<td>11.47%</td>
<td>2.35%</td>
<td>6.10%</td>
</tr>
<tr>
<td>3 Yrs</td>
<td>9.32%</td>
<td>2.09%</td>
<td>5.51%</td>
</tr>
<tr>
<td>4 Yrs</td>
<td>10.73%</td>
<td>2.23%</td>
<td>4.73%</td>
</tr>
<tr>
<td>5 Yrs</td>
<td>8.07%</td>
<td>2.19%</td>
<td>4.65%</td>
</tr>
</tbody>
</table>

Source: Standard and Poors’, Barclay Capital. Data as of Dec.31, 2008. Performance of Chinese bond market is measured by S&P/CITIC Composite Bond Index and translated into USD. The performances of other regions are measured by corresponding Barclay Capital regional aggregate bond indices in USD. All the returns and risks are annualized.

Table 7: Correlations among Major Bond Markets

<table>
<thead>
<tr>
<th>Correlation</th>
<th>China Bonds</th>
<th>U.S. Bonds</th>
<th>Europe Bonds</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>100.00%</td>
<td>0.16%</td>
<td>8.85%</td>
</tr>
<tr>
<td>US</td>
<td>0.16%</td>
<td>100.00%</td>
<td>31.58%</td>
</tr>
<tr>
<td>Europe</td>
<td>8.85%</td>
<td>31.58%</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

Source: Standard and Poors’, Barclay Capital. Performance of Chinese bond market is measured by S&P/CITIC Composite Bond Index and translated into USD. The performances of other regions are measured by corresponding Barclay Capital regional aggregate bond indices in USD. The correlation is calculated during the period from Jan., 2004 to Dec. 2008.

The key driving force for the strong performance of Chinese bond market in recent years was the appreciation of the Renminbi. Since the de-pegging of RMB from USD in July 2005 up to the end of 2008, RMB had appreciated 21.3% against the USD, at an annual rate of 5.67%. Another driver was the flight to safety of investment funds during the downturn of the equity market.

Exhibit 21: Historical Performance of RMB

![RMB/USD Graph]
Future Outlook

Looking forward, large RMB appreciation has abated and it is uncertain whether the trend will continue. In fact, in January and February 2009, RMB slightly depreciated against the USD. From a macroeconomic aspect, the slowdown of international and domestic economies, and the current low inflation environment works positively to the market in the short-term. On the supply side, one expects an increase to finance the large stimulus package announced by the government. On the demand side, abundant market liquidity due to the loose monetary policy will work positively to impact Chinese bond market. However, commercial banks’ investment behavior might offset the effect of abundant liquidities. To coordinate the government’s massive fiscal stimulus, commercial banks will increase lending, leaving less assets to park in the bond market.

However, there are key evolutions we see in the market that will be from a structural perspective. We list some potential structural developments below:

I. Further development of corporate bonds

Although corporate bonds represent an important source for stable, long-term capital, Chinese enterprises still heavily rely on bank loans for capital, which brings in big risks to the Chinese banking system. Realizing the need to speed up the development of this market, the government has enacted regulatory reforms such as the lifting of interest cap, the establishment of regulated rating system for better risk disclosure, and the introduction of listed company bonds and short-term financing bills. However, by the end of 2008, Chinese corporate bonds still accounted for less than 10% of the total market. This is an area where we expect further growth and changes.

II. Opportunities for municipal bonds

To keep local government spending under control, authorities have promulgated legislation that prohibited local governments from issuing municipal bonds. As the rapid economic growth calls for an alternative channel for local government to finance massive infrastructure constructions, China has been considering the possibility of opening-up the municipal bond market [8]. The massive economic rescue plans announced by the Chinese government make this even more urgent. As a pilot program, the central government announced a plan to issue RMB 200 billion bonds on behalf of the local government. Although these are not truly municipal bonds, one can imagine that the opening of the municipal bond market shouldn’t be far away.

III. Fixed income derivatives

Despite being important tools for risk management and catalysts for market liquidity, fixed income derivatives in China are still underdeveloped. Given the lessons from the speculation on treasury futures in 1995, the government is justifiably cautious in introduction of financial derivatives. The only fixed income derivatives allowed in China are bond forwards introduced to the interbank market. However, the government is actively preparing the legal and supervisory framework for broader opening of the derivatives market [8, 9]. Given the adoption of commodity futures, it
would not be surprising for interest rate futures and forwards to gain wide liquidity once broadly introduced.
Appendix 1: Macroeconomic Indicators in China

Source: Wind.
Appendix 2: Yield Curve Movement and Credit Spread Changes in 2008 and early 2009

Appendix 3: QFII List

<table>
<thead>
<tr>
<th>#</th>
<th>QFII Name</th>
<th>Approval Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>UBS AG</td>
<td>2003-5-23</td>
</tr>
<tr>
<td>2</td>
<td>Nomura Securities Co., Ltd.</td>
<td>2003-5-23</td>
</tr>
<tr>
<td>4</td>
<td>Citigroup Global Markets Limited</td>
<td>2003-6-5</td>
</tr>
<tr>
<td>5</td>
<td>Goldman, Sachs &amp; Co.</td>
<td>2003-7-4</td>
</tr>
<tr>
<td>6</td>
<td>Deutsche Bank Aktiengesellschaft</td>
<td>2003-7-30</td>
</tr>
<tr>
<td>7</td>
<td>The Hongkong and Shanghai Banking Corporation Limited</td>
<td>2003-8-4</td>
</tr>
<tr>
<td>8</td>
<td>ING Bank N. V.</td>
<td>2003-9-10</td>
</tr>
<tr>
<td>9</td>
<td>JP Morgan Chase Bank</td>
<td>2003-9-30</td>
</tr>
<tr>
<td>10</td>
<td>Credit Suisse (HongKong) Limited</td>
<td>2003-10-24</td>
</tr>
<tr>
<td>11</td>
<td>Standard Chartered Bank (Hong Kong) Limited</td>
<td>2003-12-11</td>
</tr>
<tr>
<td>12</td>
<td>Nikko Asset Management Co., Ltd.</td>
<td>2003-12-11</td>
</tr>
<tr>
<td>13</td>
<td>Merrill Lynch International</td>
<td>2004-4-30</td>
</tr>
<tr>
<td>14</td>
<td>Hang Seng Bank</td>
<td>2004-5-10</td>
</tr>
<tr>
<td>15</td>
<td>Daiwa Securities SMBC Co., Ltd.</td>
<td>2004-5-10</td>
</tr>
<tr>
<td>16</td>
<td>Lehman Brothers International (Europe)</td>
<td>2004-7-6</td>
</tr>
<tr>
<td>17</td>
<td>Bill &amp; Melinda Gates Foundation</td>
<td>2004-7-19</td>
</tr>
<tr>
<td>18</td>
<td>INVESCO Asset Management Limited</td>
<td>2004-8-4</td>
</tr>
<tr>
<td>19</td>
<td>ABN AMRO Bank N.V.</td>
<td>2004-9-2</td>
</tr>
<tr>
<td>20</td>
<td>Société Générale</td>
<td>2004-9-2</td>
</tr>
<tr>
<td>21</td>
<td>Templeton Asset Management Ltd</td>
<td>2004-9-14</td>
</tr>
<tr>
<td>22</td>
<td>Barclays Bank PLC</td>
<td>2004-9-15</td>
</tr>
<tr>
<td>23</td>
<td>Dresdner Bank Aktiengesellschaft</td>
<td>2004-9-27</td>
</tr>
<tr>
<td>24</td>
<td>Fortis Bank SA/NV</td>
<td>2004-9-29</td>
</tr>
<tr>
<td>25</td>
<td>BNP Paribas</td>
<td>2004-9-29</td>
</tr>
<tr>
<td>26</td>
<td>Power Corporation of Canada</td>
<td>2004-10-15</td>
</tr>
<tr>
<td>27</td>
<td>Calyon S.A.</td>
<td>2004-10-15</td>
</tr>
<tr>
<td>28</td>
<td>Goldman Sachs Asset Management International</td>
<td>2005-5-9</td>
</tr>
<tr>
<td>29</td>
<td>Martin Curie Investment Management Ltd</td>
<td>2005-10-25</td>
</tr>
<tr>
<td>30</td>
<td>Government of Singapore Investment Corporation Pte Ltd</td>
<td>2005-10-25</td>
</tr>
<tr>
<td>31</td>
<td>AIG Global Investment Corp</td>
<td>2005-11-14</td>
</tr>
<tr>
<td>32</td>
<td>Temasek Fullerton Alpha Investments Pte Ltd</td>
<td>2005-11-15</td>
</tr>
<tr>
<td>33</td>
<td>JF Asset Management Limited</td>
<td>2005-12-28</td>
</tr>
<tr>
<td>34</td>
<td>The Dai-ichi Mutual Life Insurance Company</td>
<td>2005-12-28</td>
</tr>
<tr>
<td>35</td>
<td>DBS Bank Ltd.</td>
<td>2006-2-13</td>
</tr>
<tr>
<td>36</td>
<td>AMP Capital Investors Ltd.</td>
<td>2006-4-10</td>
</tr>
<tr>
<td>37</td>
<td>The Bank of Nova Scotia</td>
<td>2006-4-10</td>
</tr>
<tr>
<td>38</td>
<td>KBC Financial Products UK Limited</td>
<td>2006-4-10</td>
</tr>
<tr>
<td>39</td>
<td>La Compagnie Financierr Edmond de Rothschild Banque</td>
<td>2006-4-10</td>
</tr>
<tr>
<td>40</td>
<td>Yale University</td>
<td>2006-4-14</td>
</tr>
<tr>
<td>41</td>
<td>Morgan Stanley Investment Management Inc.</td>
<td>2006-7-7</td>
</tr>
<tr>
<td>42</td>
<td>Prudential Asset Management (Hong Kong) Limited</td>
<td>2006-7-7</td>
</tr>
<tr>
<td>43</td>
<td>Stanford University</td>
<td>2006-8-5</td>
</tr>
<tr>
<td>44</td>
<td>GE Asset Management Incorporated</td>
<td>2006-8-5</td>
</tr>
<tr>
<td>45</td>
<td>United Overseas Bank Limited</td>
<td>2006-8-5</td>
</tr>
</tbody>
</table>
46 Schroder Investment Management Limited 2006-8-29
47 HSBC Investment (Hong Kong) Limited 2006-9-5
48 Shinko Securities Co. Ltd 2006-9-5
49 UBS Global Asset Management (Singapore) Ltd 2006-9-25
50 Sumitomo Mitsui Asset Management Company, Limited 2006-9-25
51 Norges Bank 2006-10-24
52 Pictet Asset Management Limited 2006-10-25
53 The Trustees of Columbia University in the City of New York 2008-3-14
54 Prudential Asset Management Co., Ltd. 2008-4-11
55 Robeco Institutional Asset management B.V. 2008-5-5
56 State Street Global Advisors Asia Limited 2008-5-16
57 KBC Asset Management N.V. 2008-6-2
58 Platinum Investment Company Limited 2008-7-14
59 Mirae Asset Investment Management Co., Ltd 2008-7-25
60 ACE INA International Holdings, Ltd. 2008-8-5
61 President and Fellows of Harvard College 2008-8-22
62 Caisse de dép&ocirc;t et placement du Qu&egrave;bec 2008-8-22
63 Samsung Investment Trust Management Co., Ltd. 2008-8-25
64 Alliance Bernstein Limited 2008-8-28
65 Oversea-Chinese Banking Corporation Limited 2008-8-28
66 First State Investment Management (UK) Limited 2008-9-11
67 DAIWA Asset Management Co. 2008-9-11
68 Shell Asset Management Company B.V 2008-9-12
69 T. Rowe Price International, Inc. 2008-9-12
70 Credit Suisse Group, CSGN.VX 2008-11-14
71 Societe Generale Asset Management SA 2008-11-14
72 UOB Asset Management LTD 2008-11-29
73 Abu Dhabi Investment Authority, ADIA 2008-12-29
74 Allianz Global Investors Luxembourg S.A. 2008-12-29
75 Capital International, Inc. 2008-12-29
76 Mitsubishi UFJ Securities Co., Ltd. 2008-12-29
77 Hanwha Investment Trust Management Co., Ltd 2009-2-5
78 Emerging Markets Management, L.L.C. 2009-2-10
79 DWS Investment S.A. 2009-2-24

Source: Wind, the CSRC website (www.csirc.gov.cn) and SAFE website (www.safe.gov.cn).
References

Papers & Reports:


Other information sources:

12. Wind Info.
13. Juyuan Workstation, GILDATA.
15. www.pbc.gov.cn, the PBOC website
16. www.csrc.gov.cn, the website of China Securities Regulatory Commission (CSRC)
17. www.circ.gov.cn, the website of China Insurance Regulatory Commission (CIRC)
18. www.cbrc.gov.cn, the website of China Bank Regulatory Commission (CBRC)
19. wwwssf.gov.cn, the website of National Council for Social Securities Fund
20. www.cnss.cn, the website China National Social Security
21. www.safe.gov.cn, the website of the State administration of Foreign Exchange.
Disclaimers

This report is published by Standard & Poor’s, 55 Water Street, New York, NY 10041. Copyright © 2008. Standard & Poor’s (S&P) is a division of The McGraw-Hill Companies, Inc. All rights reserved. Standard & Poor’s does not undertake to advise of changes in the information in this document. “Standard & Poor’s” and “S&P” are trademarks of The McGraw-Hill Companies, Inc. Other index names are trademarks of respective index providers.

These materials have been prepared solely for informational purposes based upon information generally available to the public from sources believed to be reliable. Standard & Poor’s makes no representation with respect to the accuracy or completeness of these materials, whose content may change without notice. Standard & Poor’s disclaims any and all liability relating to these materials, and makes no express or implied representations or warranties concerning the statements made in, or omissions from, these materials. No portion of this publication may be reproduced in any format or by any means including electronically or mechanically, by photocopying, recording or by any information storage or retrieval system, or by any other form or manner whatsoever, without the prior written consent of Standard & Poor’s.

Standard & Poor’s does not guarantee the accuracy and/or completeness of the S&P indices, any data included therein, or any data from which it is based, and Standard & Poor’s shall have no liability for any errors, omissions, or interruptions therein. Standard & Poor’s makes no warranty, express or implied, as to results to be obtained from the use of the S&P indices. Standard & Poor’s makes no express or implied warranties, and expressly disclaims all warranties of merchantability or fitness for a particular purpose or use with respect to the S&P indices or any data included therein. Without limiting any of the foregoing, in no event shall Standard & Poor’s have any liability for any special, punitive, indirect, or consequential damages (including lost profits), even if notified of the possibility of such damages.

Standard & Poor’s does not sponsor, endorse, sell, or promote any investment fund or other vehicle that is offered by third parties and that seeks to provide an investment return based on the returns of the S&P indices. A decision to invest in any such investment fund or other vehicle should not be made in reliance on any of the statements set forth in this document. Prospective investors are advised to make an investment in any such fund or vehicle only after carefully considering the risks associated with investing in such funds, as detailed in an offering memorandum or similar document that is prepared by or on behalf of the issuer of the investment fund or vehicle.

Analytic services and products provided by Standard & Poor’s are the result of separate activities designed to preserve the independence and objectivity of each analytic process. Standard & Poor’s has established policies and procedures to maintain the confidentiality of non-public information received during each analytic process.