

The Chinese Bond Market: Historical Lessons, Present Challenges and Future Perspectives¹

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Abstract

This study reviews historical lessons, depicts present challenges, and discusses future perspectives of Chinese bond market. Historical lessons on sovereign right concession and market tumult lead to a quite cautious approach towards the bond market. The legal background, and political considerations also played an important role in shaping bond market during the past two decades. Given the increasing demand for financing in China these days, the bond market is expected to enjoy some rapid growth in the coming decade and we discuss some areas with particular potentials and the challenges facing the development.

China enjoyed some very impressive economic growth over the past decade. The economic growth generated great wealth to the country and at the same time demands increasing investment and financing for further expansion. Chinese equity market has so far expanded considerably and its high volatility and institutional arrangement² have attracted considerable attention. In contrast, the bond market, which is generally believed to be as important to economic growth as the equity market, remained obscure among the general public: total value of outstanding bonds remain at a relatively low level in light of the total savings in the country; far fewer individual investors actively participate in the bond market than those that trade in the stock market; the number of bond securities and bond derivatives being offered for trading remains limited; trading activities are light except for some treasury or central-bank bonds.

Bond markets are important to economic growth for the following apparent reasons. From a macroeconomic perspective, the cash flow provided by bond securities correlate well with obligations of many institutional investors (banks, pension funds, and insurance companies, etc) and helps such investors better match the maturity of their assets and liabilities and manage risks. Bond market is particularly important to the transition of the Chinese banking sector, which has been ailed by the problem of non-performing loans. A more developed bond market is useful in helping the banking sector to diversify the risk of its holdings and provide much-needed capital to the state-owned enterprises, which used to heavily rely on bank loans.

A microscopic view at the firm level also highlights the importance of bond financing. The pecking order theory in modern corporate finance theory mandates that debt financing is cheaper and therefore more attractive than the alternative way of financing through issuing equities for many companies. Another important feature of the bond market in developed markets is that bond investors play an active role in monitoring and governing corporate managers who tend to waste *free cash flow*, cash flow in excess of that required to fund all projects with positive net present values. It seems that the

² See for research on rights offering and the linkage between Chinese equity market and the transition of state-owned enterprises.

growth of the bond market can help restore investor trust and confidence in the stock market.

Given its importance, the question seems particularly puzzling as to why Chinese bond market has not developed at a faster pace. One objective of the paper is to review the history of the Chinese bond market, outline the current state of the market, discuss the opportunities and challenges that face the market, and offer some guidance for the long-term development of the bond market. By reviewing the history of Chinese bond market, we come to understand that the reservation with the bond market today can partly be traced back to more than a century ago in Qing dynasty. It turns out that the legal background and political considerations from the history leave considerable footprint on the development of the bond market today

We attempt to understand the legal and political reasons why there was a stark contrast between international and domestic bond financing: while both the government and infrastructure projects relied heavily on foreign bond issuance under the pre-Communist governments, there was little activities in the domestic bond issuance. Historical evidence points out that the weak government credibility and lack of contract enforcement was directly responsible for the faltering growth of Chinese domestic bond market in Qing Dynasty and Republic of China Regime. Because investors were concerned about the enforceability of the lending contracts, they were unwilling to lend money to people that they did not know and slow in accepting the bond markets.

In contrast, the large-scale foreign borrowing during the same period took place only on the premises that Chinese borrowers, the government or private parties, have to abide by the much stricter Western civil law code in order to obtain bond financing. In order to ensure their investment outcome, foreign investors went to take direct control of Chinese fiscal sources. Although such arrangements temporarily reduce the cost of capital that Chinese borrowers faced, they ended up with exhausting Chinese sovereign income ultimately and caused the fall of the Qing government.

Interestingly, we feel that the bond market's moderate growth during the past two decades since the early 1980s can partly be attributed to reasons quite opposite to those in the history. Years after profound changes have taken place during the economic reforms, the central government still plays a dominant role in allocating credit in the economy, which limits the bond market's role of resource allocation. Bank loans, originated mostly from state-owned banks, lead the financing of most large-scale enterprises. Bond financing, in contrast, is only accessible to companies that are believed to have the highest credit-worthiness and ironclad security, because regulators are concerned about losing control of those companies in the event of default. Given that the government is the debtor for the treasury bond and ultimate debtor for most corporate bonds issued by large state-owned enterprises, the regulators' concerns about credit quality and default risk are not unwarranted and make debt financing somewhat less appealing.

Putting the current Chinese bond market into a historical perspective partly helps justify the moderate growth the bond market lately. Nevertheless, recent economic growth in China and the bond market development around the world both point to a more developed bond market in China in the near future. It is critical that the market plays an increasing role in allocating resources and stimulating sustainable growth. Consistent with such a spirit, we believe that Chinese bond market will witness unprecedented growth in the decade to come. As more companies, including large-scale state-owned enterprises, started financing through domestic and international equity market and instill modern corporate finance and governance, we expect bond market to play a much more important role as companies become more sensitive to cost of capital and look for alternative ways of financing in the future. As a consequence, we expect a robust growth in Chinese bond market in the coming decades.

The rest of the paper is organized as follows: Part I reviews the history of Chinese bond market till 1949; Part II discusses the development of the bond market along with the economic growth under central planning regime and the recent transition to market economy, with a focus on the recent developments of the past few years; Part III puts the current development of the bond market into a historical perspective and offers

projections about the future development of the bond market; before we conclude in Part IV.

Part I. History

We will start by reviewing the bond market within two distinct periods: the Qing Dynasty before 1911 and the Republic of China regime between 1911 and 1949.

1.1. Qing Dynasty

Government Bonds issued Overseas

China's access to the bond market can be traced to as early as late Qing Dynasty. Provincial government started tapping foreign bond market during the Taiping rebellion in 1861, and then again in 1862 to control bandits in Fukien and Taiwan. Reliance upon foreign merchants continued in 1867 and 1868 with loans to finance the war against Islamic rebels in Western China. Such moves toward foreign financing were primarily motivated by the local governments' desperate need for alternative financing channels, after the central government itself was under great pressure of paying indemnities resulting from a series of wars with the West. Most of such provincial loans were secured on provincial shares of Maritime Customs, which started the tradition of using maritime customs as collateral for many subsequent foreign bonds issued by various levels of the Qing government.

According to Goetzmann et al. (2005), who compiled and coded all Chinese external loans listed in Kuhlmann (1983) and Stanley (1970), Chinese external loans over the late 19th and early 20th centuries were essentially securitized the Maritime Custom Duties. In addition to being one of the largest sources of government revenue, Maritime Custom Duties were particularly attractive to foreigners because they were collected directly by foreign government officials at Chinese ports. By gaining access to the foreign capital market, the imperial government gradually put various sources of its fiscal income into foreigners' hands.

The next waves of government bonds were issued to defend against the Japanese designs on Taiwan in 1874, the war against France in the 1880s, and the 1894/5 war with Japan. Most of such loans were again secured on the Maritime Customs. The Boxer Indemnity of £67.5 million, the debt settled on China by the consortium of powers after the Boxer Rebellion, (which was divided among 14 powers with roughly 75% going to Russia, Germany, France and Great Britain), was probably the last foreign issuance that relied on maritime custom as collaterals, before the outstanding loans absorbed the remaining unpledged portion of China's customs revenues and placed her import taxes entirely under foreign control.

With her customs revenues largely pledged after 1900, China had to promise alternative sources of revenue as collateral on major loans. Some of the last obligations of the Chinese Imperial Government such as the 1910 Kiagnan loan issued in France and Belgium were secured by salt taxes. Internal transit taxes, called likin(厘金), which was in existence after the Tai-Ping Rebellion in 1860s, were pledged more commonly as security on Chinese external loans in 1898, 1909, 1911 and in 1912. Goetzmann et al. (2005) report that Chinese foreign bonds during the period were secured on an amazing array of specific government revenues, including salt taxes, internal provincial transfer taxes [likin], mining taxes, alcohol and tobacco taxes, opium revenues, property transfer taxes and revenues for railways. Of course, verification and collection of these revenues was an important feature of the loan contract. The Qing dynasty lost virtually all of its fiscal income before it collapsed.

Domestic Government Bonds

In contrast to its heavy dependence on foreign bond financing, there has been a very limited number of domestic bond issuances recorded in the Goetzmann et al. (2005) study. A combination of reasons, including the royal's unwillingness to condescend and borrow from its own citizens, the lack of understanding about modern finance, and insufficient interest in investing in her majesty's government, are all potentially responsible for this contrast.

The question remains as to why China could not develop its own domestic bond market. Despite that the Qing dynasty was greatly weakened after several rebellions and the foreign invasions, it was once very strong and affluent. Although some early forms of banks and savings and loans (S&Ls) came into existence, interest remained limited in having a developed domestic bond market. Several explanations are in place. First of all, the Qing government was not interested in promoting civil commercial activities and did not intend to develop a domestic bond financing market. A related factor is that the lack of a civil law system made it very difficult to enforce contracts at relatively low cost. Finally, with a large fraction of the wealth and the powers of taxing held in the hands of the royal family, they would not condescend to borrow from common people.

It seems that bond market can develop well when there is a strong enough government which can enforce borrowing contract or in some case, the government becomes a major borrower in the market itself. In addition, it is worth pointing out that the governments, at the same time, have to be willing to abide by the rule of the market and carry out transactions just like any other party in the market. The interesting example of the United Kingdom is that the bond market only started developing robustly after the royal family agreed to borrow from the market using future tax revenues as collateral and to honor the bond contract with the establishment of the Bank of England, a privately owned bank that can enforce the royals' borrowing contract. That is, the royals borrow in just the same fashion as any other market participant does. Such equality in the market ensures the credibility of the government, and at the same time, the market itself. In contrast, the Qing dynasty royal family considered it a disgrace to borrow from the commons and shut the door of domestic government bond financing.

Corporate Bonds

At the same time that government expanded its borrowing from foreign capital markets. A series of large infrastructure and defense projects turned to foreign markets for capital as well. Most significant of all corporate bonds are the bonds issued to raise capital for building railways.

Virtually all of China's railways constructed after 1895 were financed by foreign debt issuances underwritten by European-led investment banking syndicates which obtained right of way, property concessions and promises of repayment from the Chinese Imperial government.³ Under the control of the bankers who financed the loans, Chinese railways were constructed, owned, operated and policed by managers designated by the financial consortium. Foreign debtors enjoy unprecedented protection of their investments at the expense of local residents in the area. For example, the most contentious feature of these loans was their provision for extra-territorial rights, which in essence "means the substitution of the court procedure of a creditor country for the business practices of the debtor country." That is, foreigners enjoy jurisdiction over part of Chinese territory. In retrospect, such concessions clearly indicates that the Qing government was at the mercy of foreign investors and had to give up its sovereignty to raise capital

For example, The Chinese Eastern Railway reflects many distinct features of the railway build during the era. The Russo-Chinese bank issued a 5 million tael loan in Russia in 1896 to finance the construction of a railway across Manchuria linking the Trans-Siberian Railway to Vladivostok. Russia initiated such a blueprint largely to shorten the travel time from central Russia to its far east territory. Not only did the Qing government granted Russia to build such a railway, it also agreed to raise capital for the construction for the Russian-backed bank. The railway and its right of way were entirely administered and policed by Russian officials, who controlled the receipts and disbursements. Till 1920s, over 120,000 Russian citizens lived in Manchuria, accounting for a quarter of the population of the city and over 20,000 Russians worked for the China Eastern Railway. The line even issued its own currency and was in effect a little bit of Russian territory within China's borders.

Such concession of sovereign rights sparked numerous protests, reflecting in part Chinese citizens' request for sovereign rights and also Chinese investors' demand to have

³ For a specific example of the Chinese Eastern Railway, See Goetzmann and et. 2005

the investment opportunities. As some wealthy Chinese individuals realized the lucrative nature of such railway loans, they intended to grab a share of the market for themselves.

The highlight of the clash between foreign and domestic investors, between national and provincial powers, and between Chinese sovereign rights and foreign extra-territorial rights was the struggle over the Hukuang loan, the financing of a railway project that goes through a wealthy central-China area. In 1905, a consortium of Hukuang gentry, officials and businessmen, with the blessing and participation of the provincial governor Chang Chih-Tung, obtained a concession to develop a domestically financed rail line through Hukuang. It came after the successful provincial lobbying for compensated cancellation of the development rights of J.P. Morgan's American China Development Company which actually fronted for a Belgian rail development firm seeking to construct a line from Canton (Guangzhou) to Hankow. The line was a key route through Hukuang linking a commercial port to the cross-roads of Chinese rail lines in the interior, and the cancellation of the foreign concession opened the door for domestic development.

After the cancellation of the American concession, the Hukuang gentry took an active role in gaining concessions. For example, the Canton-Hankow line was divided between two domestic concessionaires, one in Kwangtung (Guangdong) and the other in Hunan. The experience of the Kwangtung company illustrates some of the problems of corporate governance experienced in the emerging Chinese legal framework. The firm was among the most successful of Chinese companies at capital subscription. All 4 million Taels was raised, much of it from wealthy overseas Chinese investors.

Unfortunately, the company ran into a series of scandals after a successful start and fell victim to massive embezzlement. Ultimately, the Qing dynasty government granted the issuance rights to the foreign consortium, as result of diplomacy and political pressure. Such decisions stirred a nationalist movement to regain Chinese rights and overthrow the Manchu governance and coincided with the fall of the regime. Some historians believe that the spark that the struggle over the Hukuang loan sparked 1911

revolution and led to the end of 3,000 years of dynastic rule, epitomizing how mis-handling of financing decisions can have disastrous shock to the issuing authority.

The Hukuang Railway loan was the last external debt of the Chinese Imperial Government, and it defaulted in the 1920's. China as a nation continued to borrow for railway development until late into the 1930's – rail loans appear in 1934, 1935, 1936 and 1937. The only significant gaps in railroad bond issuance in the database are 1926 and 1927 (coinciding with Chiang Kai-shek (蔣介石)'s northern military campaign to unify China), and the first four years of the Great Depression of the 1930's. With these exceptions, Chinese railway financing and development by foreign investors continued in the face of civil war and eventually foreign occupation.

Lessons from the railway exemplify the potential hazards of bond financing. Creditors had the potential of not only protecting their investment, but over-reaching into Chinese territory. Railway construction, which was originally designed to unite the nation, indeed tore it apart for the West. Seemingly economic transactions were unfortunately clouded by political struggles, which left lasting unfavorable memories of bond financing.

One notable pattern about Chinese bonds issued during the period from the Goetzmann et al. (2005) is that the yields of Chinese foreign bonds were strikingly flat, in light of the political and military turmoil of China and the volatile international capital market during the similar period. This was not quite due to choice – the stability in Chinese bond prices in the first decade of the 20th century is almost certainly attributable to the foreign control of Chinese government revenues.

By investigating a couple of political events, the 1894-95 war with Japan and the funding of the Boxer Indemnities in 1901, the authors point out that new bond issuances secured on alternative fiscal sources had little impact on the pricing of outstanding loans, which were guaranteed by pre-stipulated securities. Such findings may seem odd at first glance because such military and political events should affect the issuing authority, which changes the likelihood of payment of the security. However, if foreign investors

believe that their claim protection was ironclad, we would expect to see little price reaction to political events.

In stark contrast with such apparent security in its foreign bonds, holders of Chinese domestic bonds have gone through several times of defaults and reorganizations and ultimately lost most of their investment as consequence of the vicious inflation toward the 1949. It seems that the protection of foreign bond holders, who mostly hold senior claim to and direct control over the security, came at least in part at the cost of China sovereignty and domestic investors.

1.2. 1911-1949 -- The Period of War Lords and the Republic of China

Paradoxically, the very transparency and accountability of the Maritime Customs Revenues that guaranteed bondholder security in a series of foreign bonds also restricted the ability of the new Republic of China's access cash when needed. Bond financing may seem to carry a low cost early on but turned out not to be a bargain from a historical perspective. With fluctuating fiscal income and constrained access to future bond financing, the Republic kept running into fiscal problems when wars, infrastructure projects, and natural disaster called for considerable financing. Such fiscal constraints arguable have considerable bearing on the economy, outcomes of wars, and ultimately the fate of the regime.

Government Bonds issued Overseas

Although the fall of the Qing dynasty in 1911 historically signified the end of imperial governance in China, it did not have much noticeable impact on the foreign bonds issued before the incident. Chinese Republic agreed to honor the debts of the previous government, as a condition upon which it gained the recognition by the great powers.

Following the Qing practice of securing bond issuances with fiscal incomes, the first major loan of the new Republic in 1912 (the 5% Crisp Gold Loan), floated in

London, negotiated and approved by the new political leaders Sun Yat-sen 孙逸仙 and Yuan Shi-kai 袁世凯, was backed explicitly by salt revenues. The subsequent loans issued by a variety of Chinese government during the same period in 1911, 1917, 1918, 1922 and 1937 were also secured by salt revenues.

During the period between 1937 and 1949, China went through a series of wars and relied heavily upon foreign aids to balance off its budget. Because of a series of default and reorganization in the 1920-1930s, which hurts the government's credit in repaying its obligations, and the escalating military confrontation during the period, foreign bond issuance was severely interrupted during the period.

Domestic Government Bonds

Although the Imperial government relied almost exclusively on foreign debt, the Republic government started to issue domestic debt immediately after the revolution. Table 2 of Goetzmann et al. (2005) provides a comprehensive summary of domestic government bonds. In 1914, the Republic government established a new agency, Internal Debts Bureau, to overlook the issuance of domestic public debts. One problem with the agency was that most of the high ranking officers of this bureau were foreigners, although the targeted investors of the bond issues were primarily domestic citizens. The bureau had to cope with the challenge that most Chinese domestic bonds during that time were insufficiently secured – foreign bondholders held senior claim to the security to domestic bondholders. Many domestic debts were secured with the remainder of customs revenues, which were largely pledged to previous foreign debts. Demand for domestic issuance indeed surged in the 1920s, partly due to the financing for the military clashes between the war lords.

Not surprisingly, such extensive borrowing without cash flow backing brought the government to the verge of bankruptcy. In the 1920s, the Republic government defaulted on domestic as well as foreign loans and had to reorganize its debts. After the Nanjing Government took control of most of the country in the late 1920's, it further increased the size of domestic public debt issuance, resulting in another default in 1929. The paper

annual yield of most previous public debts was reduced from 7-8 percent down to 6 percent and the re-organization plan also extended the maturity of the debts to twice as long as originally designed. Shortly after the reorganization, the government picked up the speed of public debt issuance again. The ever-increasing size of public debts put the government into default again in 1935. The government issued 2,082,000,000 Yuan worth of public debts in 1936 to reorganize its debts, which is the largest issuance in a single year till then.

After the Sino-Japanese war broke out in 1937, the Republic issued various domestic bonds during the eight years of the war. A shift in the issuance process was that such bonds were no longer targeted toward individual investors, but institutions such as banks. Paradoxically, with the weakening of the central government, the banks in Shanghai – China's money center – became relatively strong. While the government defaulted frequently, Chinese banks in this era gained and maintained a sterling reputation. To attract investment from Chinese living overseas, some debts were issued in foreign currencies outside China. In addition to regular debts, the government also issued debt denominated in commodities such as wheat and rice. Because the regular taxes and custom revenues decreased dramatically during the Sino-Japanese War, the public debts issued during that period were at even greater risk of default.

Eventually, inflation solved the government's problems at the expense of domestic bondholders. The inflation of the 1940's decreased the real value of investments by 90%. Finally, the 'Currency Reform' of 1948 issued a new currency at a rate of 3,000,000 to 1 to original currencies, wiping out most existing domestic debt.

The development of the domestic bond market during the period should be interpreted as necessity, instead of initiation from the government. The republic government went into continuous financial distress as a result of disrupted revenue incomes and escalating warfare-related expenses. As the government exhausted its cash flows, the possibility of raising foreign bonds diminished and the government was forced to raise capital from domestic investors. Unfortunately, due to poor government financing

and constant change of powers in the country, the government did not establish itself as a trustworthy borrower. Instead, the government had used its superior power to reset the bond contracts in its own favor, which hurt many domestic investors. Consequently, even if there were more domestic bond issuances and trading than during the Qing dynasty, the quality of the market did not improve much. As a matter of fact, the domestic bond market damaged the image of the bond market in China and domestic investors became very suspicious of bond financing after suffering steep personal losses.

Corporate bonds

Possibly as a by-product of the development of the domestic government bond market, the domestic corporate bond market enjoyed some developments during the same period as well. Over 20 enterprises issued bonds in the domestic market. Unfortunately, continuous warfare, unstable governments, and poor contract enforcement led many of the investors little return for their investment, which further hurt the bond financing's credibility and its long-term development in China.

Part II. The Present State

A few bonds were issued to assist the economic development and curb the vicious inflation soon after the People Republic was founded. Most of such bonds were subscribed by patriotic citizens or former 'capitalists' under political pressures. These bonds were quite useful in stabilizing the transitory economy and providing much-needed capital for the new government. There was little trading activities on such bonds, hence little bond market activities.

Not surprisingly, the bond market withered during the next three decades, when the economy was under central planning. The most powerful economic decision-making agency was the State Economic Planning Commission, which allocated credit (often treated as grants for the state owned enterprises (SOEs)), controlled prices and managed total supply. The financial system was down graded to one agency, under the umbrella of the People's Bank of China, which was in fact the central bank as well as the whole

banking system, as there were no other banks (aside from small credit unions operating in the rural area), insurance companies or securities firms. Few bonds were issued except for treasury bonds, which were issued as an alternative form of savings and subscribed as an act of patriotism, rather than investment.

As the Chinese economy reopened itself up to the foreign market and became the focus of the country in early 1980s, the bond market witnessed resurgence in interest as well. In addition to the more traditional treasury bond issuance (which is often considered as a superior way of saving), state-owned enterprises started issuing bonds with great enthusiasm during the early 1990s. One needs to be careful, however, in concluding that such sudden growth in the quasi-corporate bond market was a reflection of the maturity of the market or the issuing firms. Quite to the contrary, such issuances largely represent distorted incentives facing the large SOEs during the economic transition (see Yi, 1999). Because most of such firms were strictly subsidiaries of various levels of government agencies, they were not financially or legally constrained by bankruptcy prospects. That is, they would face little adverse consequences if there were a debt default or bankruptcy filing. On the other hand, the management had every incentive to borrow at whatever interest rates because such borrowings provided capital for the firms to expand while posing little binding constraints on the SOEs.

As a consequence, SOEs issued excessive corporate obligations in the early 1990s, many of them ended up in default and resulted as non-performing assets in the balance sheet of the state-owned banks, major holders of those securities. The State Economic Planning Commission decided to close down the corporate bond market. That ban over a decade ago is still having a major impact on the regulatory sentiment and the structure of corporate bonds in China. As the bond market is considered 'risky' compared to commercial bank lending, the latter received more encouragement during the past decade, which further solidifies the main banking system, where banks play the major role of credit allocation. Despite the inefficiency in the main banking system as pointed by many experts, a financial system based on balanced contributions from and complimentary

functions between financial markets and banks is still a long way down the road and the bond market has to develop robustly to assist such a transition.

Market Infrastructure

Before discussing the development of each sector of the bond market, as we did with the history of the market, we would like to first offer some overview of Chinese bond market these days. The total value of outstanding bonds was CNY 7,831 billion yuans at the end of October, 2006. There are primarily four types of bonds in Chinese domestic bond market: Treasury bonds (2,149 billion yuans, or 27.4% of total outstanding bonds), central bank notes (2,931 billion yuans, or 37.4%), financial bonds (2,097 billion yuans, or 26.8%), and corporate bonds (170 billion yuans, or 2.2%). A closer look at the more dynamic bond issuance during the period of January to October 2006 indicates that among Treasury bonds (563 billion yuans, or 12.4% of new issuances), central bank notes (3,033 billion yuans, or 67%), financial bonds (584 billion yuans, or 12.9%) and corporate bonds (80 billion yuans, or 1.8%), central bank notes make up of two-thirds of the total of 4,526 billion yuan new issuances, while corporate bonds only account for a mere 1.8%.⁴

The primary market of bond issuance is largely completed through syndication. Governmental bonds were mostly underwritten by the four stated-owned banks while other commercial banks and securities companies play active role in forming syndicate to market financial and corporate bonds. Most of bonds are held by banks, insurance companies, securities firms, and corporations. Mutual funds hold a relatively small fraction of the total outstanding bonds. Starting late 2002, China loosened regulation on foreign investors investing in Treasury bond. The launching of Qualified Foreign Institutional Investor (QFII) offers foreign capital an opportunity to invest in Chinese bond market. International Finance Corporation (IFC) and Asian Development Bank (ADB) were allowed to issue CNY-denominated bonds in China in 2005.

⁴ For insightful discussion on China and Asian regional bond markets development, see, among others, Gynthelberg, Ma and Romolona (2005), Scott and Ho (2004), and Rhee (2000).

The secondary bond market is somewhat segmented in a sense that there are three markets: the inter-bank bond market, the exchange market, and the over-the-counter (OTC) market. The inter-bank bond market is by far the most active and important one among the three. The inter-bank bond market relies on the National Inter-bank Funding Center (hereunder referred to as the “inter-bank center”) and the Central T-bond Registration and Settlement Co., Ltd. (hereunder referred to as the “central registration company”), and provides a market for the bond transactions and repurchases of commercial banks, rural credit cooperatives, insurance companies, securities firms and other financial institutions. Most book-entry T-bonds, policy financial bonds are listed and traded in this market. At the end of 2005, there was over 5000 billion CNY yuan worth of bonds deposited at the inter-bond market, over 400 of which were in active trading. Some bonds and bond derivatives started being listed in the Shanghai stock exchanges in the early 2000s and the OTC market remained moderately active.

Some attempts to launch fixed-income derivatives securities, such as futures and repurchase agreements, were made during the early 1990s. Due to several trading anomalies and scandals, the trading on treasury futures was suspended not too long after the market was born. Starting in early 2000s, some new derivatives products, such as outright repurchase agreement, were introduced.

The issuance and transactions of Treasury bonds, central bank bills, and various notes are under respective purview of Ministry of Finance, People’s Bank of China, and National Development Reform Commission (NDRC), in accordance with the securities law. Ministry of finance and Peoples’ Bank of China set important guidelines for the quota of bond issuance and China Bank Regulatory Commission oversees the secondary market.

From January 4, 2007, a set of new benchmark interbank market rates, the Shanghai Interbank Offered Rate (Shibor), consisting of overnight rate, one-week rate, two-week rate, one-month rate, three-month rate, six-month rate, nine-month rate, and one-year rate, was established.

Government Bonds issued Overseas

As of end of September, 2006, China's total foreign debt stood at \$305 billion, rising 8.5% from the year-end 2005. The foreign debts were about equally split between long- and medium-term bonds, and short-term bonds, each accounting for 44.7% and 55.3% of the total value. Such an amount of outstanding bond is widely believed to be within the 'manageable' range given a much bigger value that China holds in its foreign exchange reserve (\$1.066 trillion by end 2006). Bond issuance only accounts for a small fraction of the total amount of foreign debt, which often takes the form of privately negotiated bank loans. In addition to the government, other borrowers also tap the international bond market. By June 2005, debt issued by sovereign government, foreign-invested enterprises, domestic financial institutions, foreign-invested financial institutions, and domestic enterprises each represent 34.4, 23.2, 24, 7.2, 10.7 percent of the foreign debts.

It is important that Chinese government seems to display contrasting attitude toward the equity and bond financing. While the government has been encouraging the development of the stock market since its inception in early 1990s, similar initiatives were lacking in the bond market. Such a contrast can in part be explained by the political and legal consideration outlined earlier in the paper and illustrated by the history of the bond market.

In contrast to equity financing that gives shareholders a fraction of the residual ownership, creditors holding debt claims could conceivably grab the entire issuing entity, posing unlikely but graver economic consequences to the enterprises than equity financing does. Sovereign bond issuance is tied closely to a government's fiscal and budgetary situation and ability to repay. Default on sovereign bonds can lead to erosion of sovereign and governmental rights, a phenomenon that China has vividly witnessed during its early access to international bond market. A series of foreign bond issuance in late 1800s and early 1900s virtually gave away all Chinese governmental revenues to

foreign bond holders, a fact that had profound impact on the path of Chinese history in the following decades. The colonial history of China reminds the current policymakers of the potential hazards of relying heavily on debt financing, especially foreign bond financing. Learning from its historical lessons, the current government manages to vigilantly balance its budget, in both domestic and foreign bond market, which results in conservatism with the bond market and explains the modest pace of the bond market.

In addition to the erosion of sovereign debts, the current policy makers are also aware of the volatile history of bond yields under the China Republic regime before 1949. If bond market were to develop further, it is inevitable that the market will have greater influences over all kinds of interest rates, which ultimately affect the interest rates that banks can charge. Thank to a series of regulation, the banking sector currently enjoys the monopoly of setting interest rate, which greatly alleviate the non-performing loan problems and the state-owned enterprises' under-funding crisis. Should the banks and policy makers yield such discretion to the open market, the stability of the bond market and more importantly the entire economy, will be brought under question. Therefore, the government is taking a more conservative approach to the bond market, compared to its attitude towards the stock market.

Domestic Government Bonds (Treasury Bonds and Central Bank Bills)

Treasury bonds are issued to meet the national government's budgetary needs. Issuance has been fairly limited partly because China's fiscal position has been strong over the last several years (tax revenues increased by over 20% in 2006). Over the last two years, new issuance has been CNY 600bn-700bn a year. Another reason for the moderate T-bond issuances, according to some foreign scholars, was the increasing use of policy financial bonds (not showing up in the national budgetary estimate) by state-owned and policy banks.⁵ With the rapid growth of tax revenues, the total amount of financial bonds (2,097 billion yuans in October 2006) became smaller than that of treasury bonds (2,149 billion yuans).

⁵ For example, Nicolas Lardy points out in his article that the budget estimate is misleading and the governmental debt is under-estimated. China's Worsening Debts, *The Financial Times*, June 22, 2001, [Nicholas R. Lardy](#).

Before 1993, Treasury bonds were issued exclusively as physical printer bonds, with which holders can redeem at maturity. Investors do not have much choice in investing in treasury bonds as there were limited alternative investment opportunities and treasury bond underwriting was completed as part of administrative assignments. After 1993, treasury bonds started being issued as book-entry bonds and certificate bonds. Accordingly, the under-writing of treasury bonds has shifted from administrative assignment to syndication, which most of the time involve the four state-owned banks.

An advantage of the book-entry and certificate bonds is that trading in the secondary market is greatly facilitated. Before 1988, there was hardly a market where treasury bonds could be traded. The preliminary bond market was established in 1988 when treasury bonds could be traded for the first time. After stock exchanges were established in the early 1990s, most of the bonds and bond derivatives (repurchase agreement) were traded at the stock exchanges. In 1997, commercial banks pulled out from the stock exchange and established the inter-bank bond market and the over-the-counter (OTC) bond market was started a few years later in 2002. Most recently, the outright repo agreement can be traded both at the stock exchange and in the inter-bank bond market.

Another form of governmental obligations, the Central Bank notes is much larger than Treasury bonds in issuing size. We may recall that the total amount of newly issued Treasury bonds was 563 billion yuans, or 12.4% of new issuances, while central bank notes reached 3,033 billion yuans, or 67% of new issuance in January to October 2006, as described above. Peoples' Bank of China, the central bank, started open market operations in late 1990s and use Central Bank notes as an important tool to adjust money supply and prime interest rate. In recent years, faced with increasing capital inflows and inadequate supply of MoF bonds, PBoC issued more of its own notes to conduct OMOs and 'sterilize' the large capital inflows. In 2006, PBoC issued CNY3.03tn yuan notes, mostly in one-year maturity. Over the period of 2003-2006, PBoC mopped out about CNY3tn yuan liquidity through issuance of central bank notes (see PBoC February 2007).

Currently, Chinese local and municipal governments are not allowed to issue their own bonds, despite that the quasi-deficit of local governments and their financing is an important issue.^{6 7} Local governments used to rely exclusively on fiscal appropriation from the central government, and thus budgeting and financing used to be an important tool that central government used to keep local government in check. As economy growth spreads to more areas of China, local governments need increasing capital for infrastructure development and the central government can no longer shoulder the fiscal pressures alone. Consequently, the central government is looking at the possibility of issuing local government bonds. Similar to other forms of governmental financing, municipal bond issuances opens the possibility of excessive borrowing by the local governments, which can jeopardize government sovereignty, increase the financial risks at the national level, and weaken budgetary incentives that the central government can use as discipline tools over local governments.

Corporate bonds and corporate short-term bills

Corporate bonds market witnessed a tumultuous history during its growth (Zhou, 2005). The market grew slowly in the early 1980 with only a limited number of stated-owned enterprises being allowed in the market. During the early 1990s, local governments obtained permission to enable local government-owned enterprises to issue bonds and raised considerable amount of capital through the bond market. Many of the issuers defaulted and caused financial instability. Consequently, the central government took steps to separate the securities and banking industry in the mid-1990s, which led the size of the market to fall back to their 1980s level.

The caution exercised with the corporate bond market is in someway similar to that with other forms of the bond market. Bearing in mind that the state owns the majority of large-scale enterprises and financial institutions, one can understand why the government is unwilling to take any chance with potential corporate default and loss of

⁶ http://english.people.com.cn/200404/15/eng20040415_140484.shtml

⁷ Some estimates indicate that the quasi-deficit caused by over borrowing by local governments can be a sizable portion of China's GDP.

control over the companies. The high hurdle set for corporate bonds can be thought as a defense mechanism against potential risk of takeover by creditors. Although a large number of state-owned-enterprises could benefit from bond-financing, there is the risk that state-owned assets may be possessed by creditors, especially foreign ones, like what happened to Chinese railway loan about a century ago. Until very recently, only firms with very sound financial situations are granted access to the bond market while others in greater need of bond financing are left out of the market.

Corporate bond growth rate increased by over 100% in 2005, but the growth momentum did not last in 2006. A total of CNY101.5bn in corporate bonds was issued in 2006, compared to CNY100.6bn in the first three quarters of 2005. To avoid the irregularities in the 1990s, the central government takes very cautious steps in developing the corporate bond market. All corporate bond issuance have to be approved by the National Development Reform Commission (NDRC) and must be guaranteed. In addition, only firms of the highest credit ratings can access the corporate bond market. Almost all issuers enjoy the AAA rating. In addition to the limitation in the primary market, the legality of different secondary markets of corporate bonds market remains ambiguous. The two stock exchanges are the only legal exchanges where such bonds can be traded, in the strictest sense, but these two markets only observe modest trading of corporate bond markets. As a result, only about one half of the corporate bonds are listed and even less are available for trading in the two stock exchanges. Due to above constraints, the development of long-term corporate bonds have been moderate.

The Administrative Rules for Short-term Financing Bills was published on May 23, 2005 and stimulated the recent growth of the bond market. Short-term corporate bills are issued on the inter-bank market, which is regulated and supported by People's Bank of China. Such institutional arrangement addresses the problem of the lengthy application process and the needed guarantee, and provides more flexibility to corporate bond issuance. Notwithstanding, issuances are almost restricted only to companies with very good credit ratings and such short-term financing bills have to mature within 91 days. In 2006, 210 firms issued CNY433.7bn yuan short-term bills.

Policy and Financial Bonds

Policy bond is issued by Chinese policy banks (State Development Bank, China Import and Export Bank, and China Agriculture Development Bank) and often represent subordinated debt. A total of CNY584 billion policy financial bonds were issued during the first ten months in 2006. Other financial institutions, such as commercial banks, commercial insurance companies, city commercial banks, rural credit cooperatives, post offices, issue financial bonds, their own subordinated debt, to raise capital. Issuance of policy and financial bonds has to be approved by the State Council and PBOC according to the market issuing mode.

On 27 April 2005, the People's Bank of China ("PBOC") promulgated the Measures Governing the Issuance of Financial Bonds on the National Inter-bank Bond Market ("the Measures"). The Measures entered into force as of 1 June 2005 and represent a major attempt by China's central bank to standardize the activities of issuing financial bonds on the national inter-bank bond market. Such measures aimed at standardizing the issuance on the national inter-bank bond market and improve the market-based framework as well as the fairness and effectiveness of market regulation.

The new measures are believed to have positive impact on the development of the financial bond market and further economic reform. First, a transparent and standard issuance process will encourage more issuers to issue financial bonds. Second, policy/finance bonds enable deposit-taking institutions to better match maturity and reduce financial risks. Banks can take advantage of more policy/financial bonds to improve their balance sheet. Third, the enactment of the Measures will increase the number of issuers from different credit categories. This will increase market competition, enhance pricing efficiency, and attract more investors to participate in the bond market.

On 10 January 2007, the State Council approved a new policy allowing Chinese policy and commercial banks with high credit rating, upon obtaining approval from

relevant authorities, to issue CNY denominated bonds in Hong Kong. PBoC will accordingly provide corresponding clearing arrangements for this new business.

In sum, the new measures and new policies permitting CNY denominated bonds to be issued by Chinese financial institution in Hong Kong are largely welcomed by the market and because they serve to improve the asset and liability management capacity of financial institutions, expand direct financing and increase the number of investment portfolios available to investors. It is therefore hoped that the Measures as well as the new policies permitting CNY denominated bonds to be issued in Hong Kong will facilitate the healthy development of the financial bond market in the long run.^{8 9}

Table 1: Major events on bond market developments in China

Time	Event
1988	MoF started to issue treasury bonds in 61 cities in China as an experiment.
1990 (December)	Establishment of the Shanghai Stock Exchange, which permitted trading of bonds
1994	Short sell of treasury bonds were permitted, and raised market risk substantially. T-Bond futures contracts were permitted to trade.
1995	Speculations and irregularities in T-bond trading led to the closure of regional T-bond trading centers, e.g., the Wuhan Trading Center, and T-bond features contracts were banned.
1995 (August)	OTC trading of T-bonds was stopped, and the Shanghai and Shenzhen Stock Exchanges became the only legal trading platforms.
1996	Book-entry bonds were issued in the Shanghai and Shenzhen Stock Exchanges, and the bond trading system was established with the increasing volume in re-purchase transactions.
1998 (May)	PBoC started OMOs, which stimulated the development of interbank bond market of bond/notes trading.
1998 (September)	China Development Bank started to issue financial bonds in the interbank bond market.
1998 (October)	PBOC approved insurance companies to become members of the interbank bond market.
1999 (October)	A portion of securities firms and all asset management firms became member of the interbank bond market.
2000 (September)	Financial firms were allowed by PBoC to become members of the interbank bond market.
2002 (October)	Non-financial institutions were allowed by PBoC to become members of the interbank bond market.
2005	Short-term corporate notes were allowed to be issued in the interbank bond market.
2007 (January)	The State Council allowed financial institutions to issue CNY denominated bonds in Hong Kong
2007 (March)	Corporate pension funds were allowed to trade in the interbank bond market.

⁸ http://www.hg.org/articles/article_787.html

⁹ Nonetheless, there is some reservation that the Measures will dampen the bond market in the short run due to worries over an excessive supply of bonds.

Part III. The Future

III. 1. Current Challenges

Limited participation and lack of liquidity.

Although the size of outstanding bonds does not seem particularly small in light of the size of Chinese equity market, one consensus among policymakers and practitioners is the lack participation and the resulting illiquidity in the bond market. Notwithstanding that PBoC has approved many more participants, ranging from insurance companies to corporate pension funds, to trade in the interbank bond market over the years (see Table 1), currently banks and insurance companies make up the majority of market participants. As is the case in any other types of securities market, one necessary condition for the development of a market is a broad investor base with different expectation and belief, consumption pattern, and utility functions so that two counter parties can trade with each other. Limiting investors mostly to institutions runs into the dilemma that there are few counterparty traders when the institutions attempt to make certain moves in the bond market. The number of bond mutual funds remains small compared with the number of equity funds and the total number of other participants in the bond market.

Corporate bond development

Current regulations on interest rate cap (not more than 40 percent higher than the prevailing bank lending rate) and minimum credit rating (most issues are AAA rated) limit the corporate bond market to only a handful of companies. In addition, corporate bonds interest income is subject to a 20% interest tax, which is not assessed on treasury or financial bonds. Such tax treatment almost completely takes away any spread of corporate bonds over competing treasury or financial bonds, confining corporate bond market development. Finally, the trading and clearing of corporate bond in the secondary market remains segmented and lag the development of the primary market.

Competition with the banking sector and equity market.

Under the circumstances of the transitional economy in China, bond market development faces competition from both the equity market and the banking sector. According to the pecking order theory in corporate finance, debt financing should carry lower costs of capital than equity financing. However, many government officials, corporation executives and even private entrepreneurs in China still treat equity financing as the cheaper channel for financing, because the public companies enjoy the right offering, face little governance and regulations, and often do not pay any dividends. Facing with such a challenging environment, regulators need to not only make the bond market available for issuers and investors, but also educate the market on the mechanism by which each market operates.

The regulations on interest rate and issuance take away the flexibility of the bond market and many heterogeneous investors. Without a wide range of tradable securities and an active secondary market, bond market cannot fully enjoy its role of price discovery and risk management, which put bond financing into direct competition on interest rate with bank loans, to which many of the high-quality companies already have easy access. Given the much higher administration and transaction costs, bank loans are often times preferred by issuers with access to both markets.

III. 2. Future Outlook

There is hardly any doubt that China is trying hard to speed up the development of its domestic bond market. China's regulators, especially the PBoC, suggest that they will fully support the nation's bond market in the coming years: allowing market participants more power to roll out new products, introducing more bond products, improving market infra-structure, and facilitating bond transactions and more sophisticated strategies (Su, 2006; Zhou, 2005). It becomes clear that the bond market development enjoys policy auspice in the near future. A more mature and developed bond market can provide alternative channels for companies that need raise capital, offer additional opportunities for domestic investors to diversify their portfolio, and help the banking and finance sector to better manage financial risks.

Recent trends in the government policy orientation, as shown in Table 1, highlight the following areas for further bond market development.

Central Government bond

Municipal and Local Government Bond

China has been studying the possibility of allowing its local governments to issue bonds to finance urban infrastructure construction projects. With help from international financial institutions, some local governments, e.g., Jiangmen Municipality in Guangdong Province, have started to issue municipal bonds on an experimental base. The issuance of municipal bonds will give the local governments a new legitimate channel to raise funds, other than Treasury bonds and bank loans, for their massive infrastructure projects.

Municipal will play a key role in raising the huge amount of capital needed for China's urban infrastructure projects as the nation strives to further urbanize itself. Local governments have to undertake infrastructure projects, which may not always be the maximum net-asset-value projects, coveted by private entrepreneurs, and municipal bonds can provide local governments with a strong tool for flexibility in financial management and reducing the cost of financing. With financing through stocks and corporate bonds today accounting for less than 1 percent of aggregate urban infrastructure investment, China's fledgling capital market nowadays can hardly handle the volume of such financing and new market has to be established.

Corporate bond

Several motivations together make the development of the corporate bond market a promising area of the entire bond market. From the issuers' perspective, many corporations and private enterprises with different credit quality are searching for new financing channels. State-owned and commercial banks can no longer come up with

enough capital to make the needed loans. Even if they can, banks have to be very conservative in their lending practices, in the face of their own non-performing loan quandary. If companies can issue bonds to targeted investors, with the intermediation of banks and securities companies, the above two problems can be solved at the same time. Although there has been some loosening in the very short-term financial bill issuances, more progress is made on medium- and long-term bonds, to satisfy the term structure need of the issuers.

Social security fund and insurance companies, some of the most important institutional investors in China, need fixed-income securities other than the treasury bonds to diversify their portfolios and match cash flow with their obligations. Corporate bonds can bridge this gap by providing higher returns, varying credit grade, and different maturity. In addition, issuing corporate bonds directly to individual investors offer individuals an alternative security class to invest in and channel the over-speculation on stock or the real estate market.

The development of the secondary market is an indispensable element to the above-mentioned proposals. Without an active secondary market, information cannot be effectively communicated and there will be no liquidity needed to rebalance portfolio and control risks. The short-term bills have set a very good example of being actively traded in the inter-bank bond market. Now that long-term railway bonds, a similar type of bond to corporate bond, started being listed in the secondary market, we feel that it will not take too long before all corporate bonds are traded in a unified secondary bond market.

Asset-Backed and Mortgage-Backed Securities

The Administrative Rules for Credit Asset Securitization Pilot Operations was publicized on April 20, 2005 aimed to promote securitization pilot program. In accordance with the rules, National Development Bank issued some asset-backed securities and China Construction Bank issued mortgage backed securities.

Several advantages promised such securities to develop. First, there is a great demand for infrastructure and residential constructions in the coming decades and securitization has been proved by international practices as an effective way of attracting individual investors and controlling risks. Once the banks successfully securitize their loans, the banking sector can distance itself from the infrastructure loans that they make and reduce the risk of their loan portfolios. The entire banking sector should therefore become stable. Finally, asset-backed securities provide bonds with different levels of credit ratings, which should help investors better understand credit risks and induce the development of credit rating agencies. Such subordinated securities help market better understand the risks associated with different securities and price such risks accordingly.

Fixed-Income Derivatives

Derivatives are very important securities to risk management and price discovery. As China launches a wide variety of bonds and other fixed-income securities, it is imperative that futures and options have to catch up with the pace of the spot market. In 2004, the outright repurchase agreement started being traded in the inter-bank bond market and the two stock exchanges. Last year, China introduced and started executing *The Administrative Rules for the Forward Bond Transactions in the National Interbank Bond Market*. It is widely believed that the exchanges have been actively researching the feasibility of starting the option market for fixed-income securities.

One challenge that many derivative market regulators face is the complex nature of derivative products. Many derivative products are treated as off-balance items which can fly under the radar of the regulators. Because derivatives often involve leverage, obsolete price due to illiquidity, and hedging positions, one has to go through many details to obtain an accurate assessment of risks. Given lessons from its own development, Chinese bond market should treat development of derivative products with extra caution and utilize foreign experiences in regulation and risk control.

Open up bond market to foreign investors

Although it is understandable that Chinese regulators and investors are both concerned with opening the bond market to foreign investors, given lessons learnt from the history, it is important the opening up the bond market to foreigners can potentially bring more than just capital. Qualified Foreign Institutional Investors (QFII) and Qualified Domestic Institutional Investors (QDII) not only open up Chinese market to foreign institutional investors but also offer Chinese domestic institutions opportunities to explore foreign bond market. The new policy approved by the State Council that allows CNY denominate bonds to be issued by Chinese financial institutions in Hong Kong, likely in the summer of 07, is a major step in this direction.

IV. Conclusions

We analyze the historical lessons, explain the present challenges, and discuss future perspectives of Chinese bond market. We believe this market that will grow with great potential in the years to come and outline several particularly exciting areas for future development. Historical lessons so far indicate that legal environment and political considerations have been playing considerable role in shaping the bond market. Further reforms in the legal and political arenas will likely to stimulate the growth of the bond market, and the resulting developed bond market could further fuel future rounds of healthy economic growth. We expect market regulators, intermediaries, and investors should pay particular attention to Chinese bond market in the near future and help the market reach its full potential to the country.

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Figure 1. Yield of China Foreign Bonds (1860s-1930s)

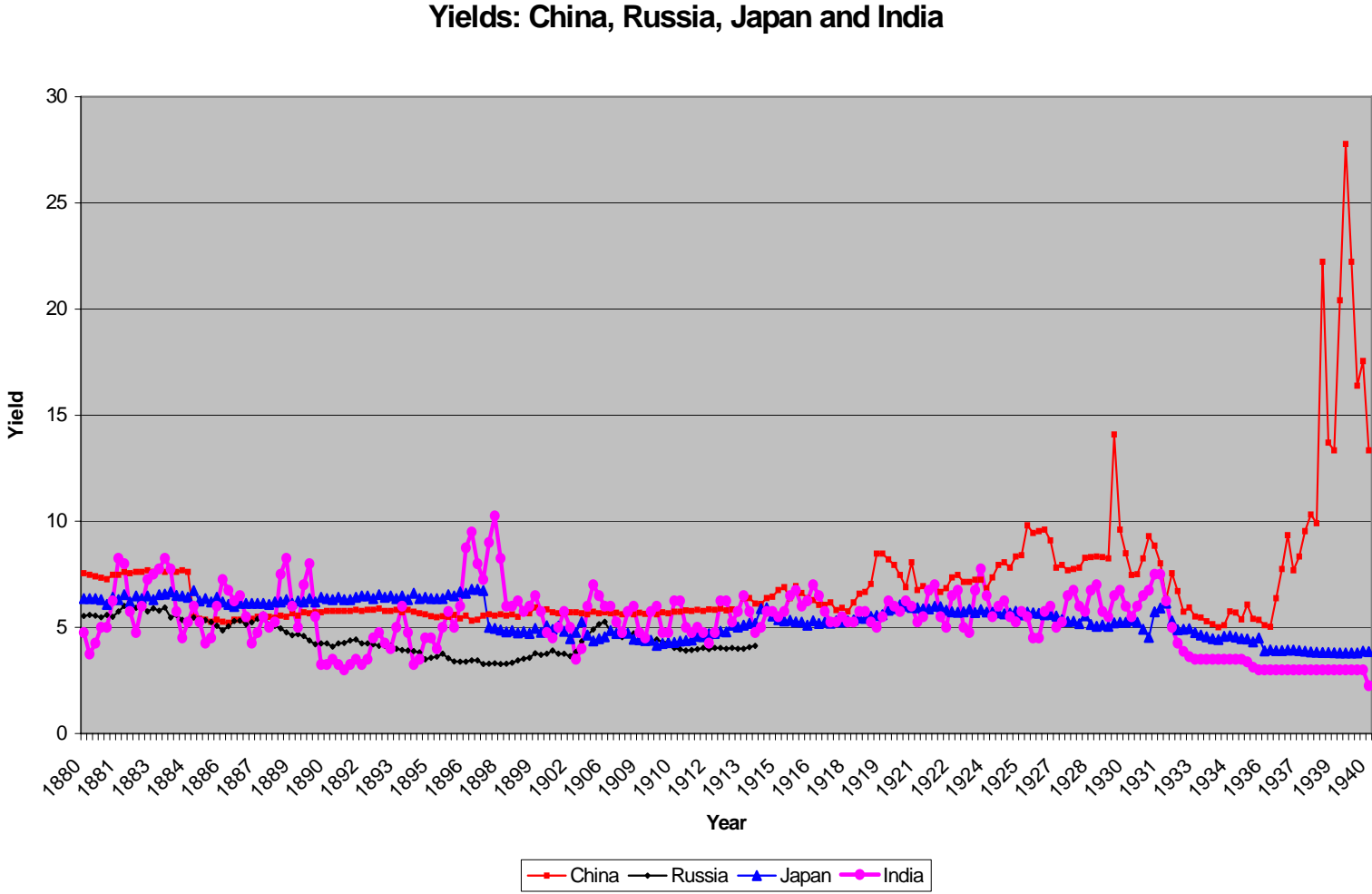


Figure 2. Break-down of Chinese Domestic Bond Market (by outstanding bond value in October 2006)

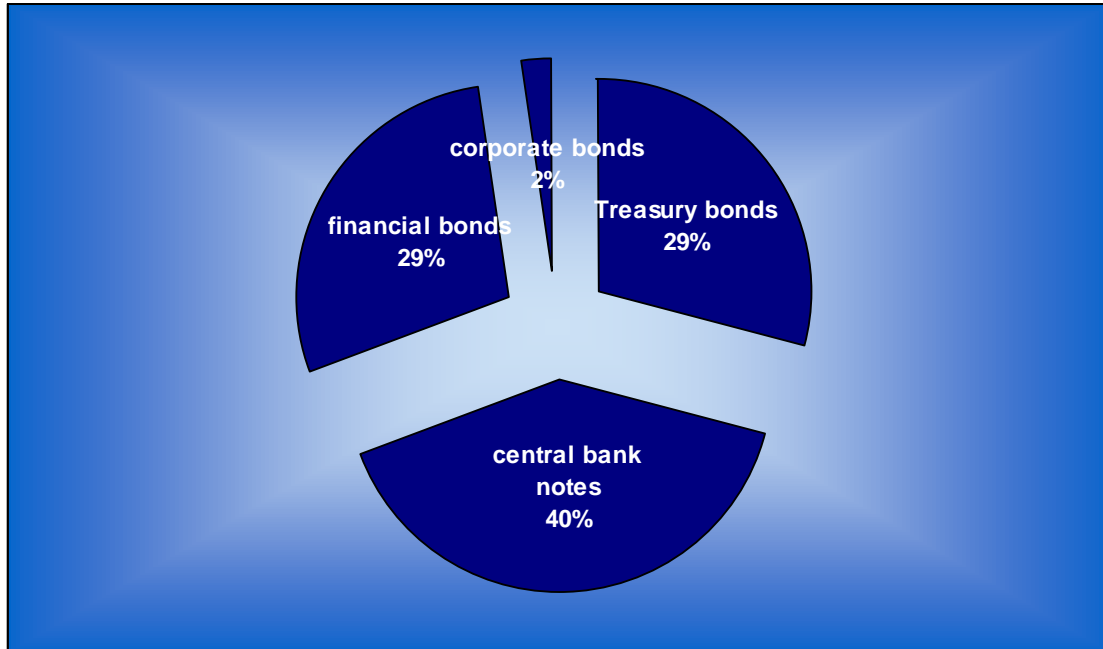


Figure 3. Break-down of Chinese Domestic Bond Market (by issuing size in January-October 2006)

