People's Republic of China

Chapter 1

The Mortgage-Backed Securities Market in the People's Republic of China

by Bob Yau-ching Chan

Overview of the Fixed-Income Securities Markets

The fixed-income securities market in the People's Republic of China (PRC) is a single-product market. Treasury securities issued by the Ministry of Finance (MOF) are the only securities traded (on the Shanghai Stock Exchange). The Treasury securities market has enjoyed consistent growth because of the increasing reliance of the Chinese government on Treasury issues to finance fiscal deficits. In the secondary market the active participation of institutional investors has kept liquidity high.

The government seldom intervenes in the trading of Treasury securities. But state-owned enterprises and financial institutions may use public funds to invest in this market in anticipation of a change in government interest-rate policy. Market prices may deviate significantly from the intrinsic values of the securities.

Most Treasury securities have maturities of three to five years, and the maximum maturity is ten years. Trading activities often cluster around one or two issues, limiting the information needed to derive a yield curve.

Table 1 provides a summary of the conditions in the capital market in 1990 and 1997. The table shows the development of the Treasury securities market and the emergence of the equity market. Treasury issues in 1996 composed 2.47 percent of GDP, compared with only 0.5 percent in 1990. In terms of market size, however, the equity market has exceeded the Treasuries market.

Table 1 *Overview of the Chinese Capital Markets, 1990 and 1997* ■

	Value (Rmb billion)		% of GDP		Average Maturity		Longest Maturity		Average Interest Rate	
	1990	1997	1990	1997	1990	1997	1990	1997	1990	1997
Government debt										
Foreign	52.50	131.00	2.81	1.75	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Domestic	9.35	1,848.00	0.50	2.47	3.00	3.58	3.00	10.00	14.00	11.22
Corporate debt										
Foreign	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Domestic	12.64	0.00	0.68	0.00	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
MBSs	0.00	0.00	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Equity market	0.00	286.70	n.a.	23.43	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Banking credit to private sector	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Note: The figures in this table represent issues of government and corporate bonds and the year-end market value of equities listed in Chinese stock markets. In 1990, there was no stock market in PRC; in 1997, there were two stock exchanges. The Shanghai Stock Exchange was established in January 1992, and the Shenzhen Stock Exchange, in October 1992. The Chinese banking system lends primarily to the government and state-owned enterprises. Year-end figures (GDP share) in 1990 were Rmb 60 billion (0.33 percent) for the central government and Rmb 1.65 trillion (89.17 percent) for state-owned enterprises. Comparative figures for 1996 were Rmb 162 billion (2.03 percent) for the central government, and Rmb 7.7 trillion (98.0 percent) for state-owned enterprises.

THE ROLE OF THE FIXED-INCOME SECURITIES MARKETS

The capital markets in PRC are generally underdeveloped and significantly speculative. Stock prices in the domestic equity markets (A-shares) have high price/earnings ratios that are not supported by fundamentals. In the fixed-income market, trading is confined to Treasury securities and is usually concentrated on a particular issue; prices can therefore be quite volatile.

Table 2 presents a summary of market activities on the Shanghai Stock Exchange in 1996. A-shares, the most heavily traded, accounted for 89 percent of transactions. The average transaction value of about Rmb 4,900 suggests that the domestic equity market is mainly a retail market. B-shares are US dollar–denominated and are restricted to foreign investors. Institutional investors are the primary participants in the B-share market. The average transaction value in this market in 1996 was Rmb 24,000.

The fixed-income securities market is represented by nine Treasury securities and seven bonds, but is dominated by trading in Treasury securities. In 1996, there were 1,805 Treasuries transactions with a total value of Rmb 496 billion (99.98 percent of fixed-income securities trading). The average transaction value was Rmb 275,000, implying that the market participants are mostly institutional investors which trade in large volumes.

Table 2 *Summary of Market Activities on the Shanghai Stock Exchange, 1996* ■

	Number of Listings	Number of Transactions ('000)	Turnover Volume (mill unit[a])	Turnover Value (Rmb mill)	Volume per Transaction (unit[a])	Value per Transaction (Rmb)
Equities						
A-shares	287	184,349	107,400	902,024	582.59	4,893
B-shares	42	394	2,788	9,457	7,070.08	23,981
Fixed-income securities						
Treasury securities (spot)	9	1,805	435	496,238	241.18	274,900
Bonds	7	11	0	116	9.06	10,526
Treasury repos	8	686	1,244	1,243,916	1,812.73	1,812,720
Investment funds	15	11,389	12,801	49,738	1,123.91	4,367
Others	4	8,226	6,627	64,655	805.64	7,860
Total	372	206,861	131,296	2,766,145		

[a]Transaction units are stock shares, fixed-income security lots, and investment fund units

REGULATION OF FIXED-INCOME SECURITIES

Different types of traded securities are regulated differently. In general, equities and related securities are regulated by the Securities and Exchange Commission (SEC) and fixed-income securities (such as corporate bonds) by the People's Bank of China (PBC). With a few exceptions, such as the Yangzi River Gorges Project supported by the State Council, the PBC did not approve the issuance of fixed-income securities by corporations and financial institutions in 1995–1998.

Treasury securities are issued by the Ministry of Finance (MOF). The MOF, which occupies the same level of the Chinese government hierarchy as the PBC, is responsible for the planning and issuance process. The allocation of financial resources for large-scale infrastructure projects and major state-owned enterprises (SOEs) has traditionally been the responsibility of the State Planning Council. At least in theory, the council should also help coordinate the issuance of fixed-income securities. The issuance process has, however, been dominated in recent years by the PBC and the MOF.

TREASURY SECURITIES AND BANK DEPOSITS

The MOF began issuing Treasury securities in 1981 to finance the fiscal deficits of the PRC. Before 1981, the MOF used to balance the fiscal budget by drawing funds from the PBC in the form of overdraft transfers. The People's Congress decided in the late 1970s that the MOF should issue Treasury securities and treat these issues as separate entries in the national accounts.

The MOF issues Treasury securities to absorb the lowest-cost funds. Having identified a surplus in the savings of individuals which the banking system had not tapped, especially over the medium-term maturities, the MOF began offering Treasury securities as a complement to savings accounts. Treasury issues are therefore designed with relatively low face values, medium-term maturities, and coupon rates comparable to bank deposit rates.

Savings interest rates remained low in 1987–1995, ranging from a low of 1.8 percent in 1992 to a high of 4.7 percent in 1988 and 1989 (Table 3). Despite high inflation from 1992 to 1994, the savings interest rate was set below the average savings rate for the entire period. Fixed deposit rates, on the other hand, better reflected the actual interest rates. The deposit rates for one-year, three-year, and five-year deposits were fairly similar, but were all significantly above the savings rate. From 1993 to 1995, the five-year deposit rate exceeded the savings rate by more than 10 percentage points.

The coupon rates for three-year and five-year Treasury notes were slightly higher than the deposit rates for the same maturities. In 1993 and

Table 3 *Savings- and Fixed-Deposit Interest Rates and Coupon Rates of Treasury Securities, 1987–1997 (%)* ■

Year	Savings Deposit Rate	1-Yr Fixed Deposit Rate	3-Yr Fixed Deposit Rate	5-Yr Fixed Deposit Rate	3-Yr T-Note Coupon Rate	5-Yr T-Note Coupon Rate	1-Yr Negotiable Note Coupon Rate
1987	4.50	7.20	n.a.	n.a.	n.a.	n.a.	9.00
1988	4.68	8.46	9.72	10.80	10.00	n.a.	9.00
1989	4.68	8.46	13.14	14.94	14.00	n.a.	Savings + 2%
1990	2.52	10.17	10.08	11.52	14.00	n.a.	Savings + 2%
1991	1.98	8.10	8.28	9.00	10.00	n.a.	8.50
1992	1.80	7.47	8.28	9.00	9.50	10.50	8.50
1993	2.48	9.18	12.24	13.86	13.96	15.86	n.a.
1994	3.15	11.61	12.24	13.86	13.96	15.86	n.a.
1995	3.15	11.61	12.24	13.86	13.96	15.86	n.a.
1996	1.98	7.47	8.28	9.00	11.40	13.06	n.a.
1997	1.71	5.67	8.28	9.00	9.18	10.17	n.a.

Note: Interest rates are average year-end figures for various types of deposits of the same maturity. Coupon rates are average rates to individuals for all issues offered in the same year. One-year negotiable notes are fixed-income instruments issued by financial institutions. "n.a." stands for "not available."
Sources: *Almanac of China's Finance and Banking*, various issues

1994, however, the inflation rate and deposit rates went up sharply. The three-year deposit interest rate in 1993 was 12.24 percent, almost 4 percentage points higher than in 1992. The increase in interest rates made the Treasury securities less attractive from an investment standpoint. To compensate for the higher interest rates, coupon payments included an "inflation adjustment." Investors in Treasury securities received additional coupon payments based on the inflation figure announced monthly by the PBC.

INTEREST RATES AND YIELD CURVES

Interest rates are set by the PBC with two objectives in mind. First, the interest rate is set to reflect the current level of inflation. Second, since state-owned enterprise (SOE) interest costs are based on the interest rate, the latter may be adjusted by the PBC to provide indirect subsidies to SOEs. For example, the interest rate was reduced substantially for 1996–1998 to provide relief to the highly leveraged SOEs.

Treasury securities are traded on the Shanghai Stock Exchange. Although their yield can be inferred from the prices of the securities, such yield figures are not available. As mentioned earlier, the MOF used to adjust the coupon of Treasuries in periods of high inflation in the early 1990s. Bond prices (and hence yields) accordingly reflected the market expectation of a possible change in the coupon. In 1997, when the PBC cut interest rates to reduce the interest costs of SOEs, the prices of securities (bonds and stocks) generally appeared to reflect the expectation of lower interest rates. The effects of such policies on bond yields and securities prices have not been fully explored. Therefore, Treasuries yields calculated from bond prices may not be a good indicator of interest rates.

Plotting the yield curve is also a problem. Treasury securities have maturities of three to five years. Also, secondary market activities may be very thin for some issues. By implication, most of the issues have low liquidity. As a result, the yield curve may have limited usefulness for inferring the interest rate for fixed-income assets, especially over longer maturities.

TREASURY SECURITIES ISSUANCE

Issue Amount and Bond Features

The issuance of Treasury securities has increased significantly in the 1990s. Issues totaled Rmb 9.35 billion in 1990 and Rmb 187.8 billion in 1996, and

were expected to be in the range of Rmb 280.8 billion in 1998. The maximum face value of the issues is relatively small (Rmb 100, increased to Rmb 1,000 in 1993).

Until 1989, individuals received a higher coupon (4 percent) than corporations (SOEs), suggesting that the Treasury securities are intended for individuals to complement (or substitute for) bank deposit accounts. In 1989, the coupon interest restriction was abolished and corporations became eligible to receive the same coupon as individuals.

Issuing Mechanism and the Auction System

The Treasuries issuing mechanism has developed in three major stages. The first stage involved the administrative distribution of designated issue volumes to government officials. Then in 1991, the MOF adopted the underwriter system, issuing the securities through a network of about 70 designated Treasuries dealers, while continuing to determine coupon rates and bond prices.

The MOF first tried out the auction system in 1995, and started offering all Treasuries issues through auctions in 1996. Under the current system, approved securities dealers place bids on the terms previously announced by the MOF. The MOF has not decided on a single auction format. Securities prices and yields are determined by the market given the auction form of the issue.

The Repo Market

The Treasuries repo (repurchase agreement) market is a lending and borrowing market outside the banking system. Financial institutions, particularly securities companies, use Treasury securities as collateral for their lending activities. From an over-the-counter market for regional securities firms, the repo market in the 1990s began to shift to the stock exchanges, which formally provided products representing repos for specific issues.

In 1994, the Shanghai Stock Exchange standardized the repo product and introduced repo certificates based only on maturity terms rather than on specific Treasuries issues outstanding. Under this system, repo certificates are divided into different products according to the maturity structure. Major products carry maturities of 7, 14, 28, 91, and 182 days. Repo certificates are traded as separate securities on the Shanghai Stock Exchange.

The Treasury Futures Market

The Treasury futures contract was introduced by the MOF on the Shanghai Stock Exchange in 1993 to stimulate the spot market in Treasury securities, which suffered from rising interest rates. The futures market was intended to complement the spot market and make Treasury issues more salable.

Treasury futures were very actively traded in 1994. However, trading appeared to be based on speculation that a policy change would produce a significant shift in Treasuries prices. When the MOF included inflation adjustments in new Treasuries issues, participants in the futures market speculated on the likelihood of similar adjustments in earlier issues. The speculation continued through 1995, and the futures market attracted large amounts of funds, some apparently coming from SOEs. The speculation caused wide fluctuations in spot and futures prices, and big losses for some market participants.

The government closed down the Treasury futures market in May 1995 and has not reopened it since then. The closure of the market reflects the undeveloped state of the Chinese capital markets and the potentially ruinous effects of rampant speculation.

SECONDARY MARKET ACTIVITIES

Until 1985, Treasury securities were nontransferable. The assigned subscription of Treasuries by government officials was therefore tantamount to compulsory savings. In 1985, the MOF allowed Treasuries investors to discount their Treasuries at banks. In 1988, Treasury securities became transferable, marking the beginning of the secondary market.

Treasury securities were first traded in over-the-counter markets in various Chinese cities. In 1991, the Chinese government pushed for a regional over-the-counter market for Treasury securities to promote Treasuries issuance.

Exchange trading of Treasury securities began in December 1990 on the Shanghai Stock Exchange, which remains the primary market for Treasuries trading. The trading of Treasury securities has increased significantly since 1990. Trading volume in 1990 was Rmb 10.5 billion, or 21.6 percent of the total outstanding amount. By 1996, turnover had increased to Rmb 496.2 billion, or 119.8 percent of the total outstanding.

OTHER FIXED-INCOME SECURITIES

Two major types of fixed-income securities were issued in the early 1990s. Financial institutions (such as banks and trust companies) issued bonds to

raise medium- to long-term funds. Larger SOEs issued corporate bonds. Many of these fixed-income instruments were listed on the Shanghai Stock Exchange.

In 1993, the PBC, which regulates fixed-income securities, stopped their issuance, ostensibly to put an end to long-term lending by banks. (The outstanding issues were issued before 1993.) But since corporate bond issues were also disallowed, the policy might be interpreted as the government's way of regulating fund sourcing by financial institutions and corporations to prevent overheating.

Development of the MBSs Market: Potentials and Obstacles

OVERVIEW

The government's move to privatize housing is likely to create significant demand for housing finance which neither the local governments nor the banks can meet. The mortgage-backed securities (MBSs) market provides an important housing finance alternative.

Whether the MBSs market will be well received is still doubtful. The fixed-income securities market lacks the necessary legal and regulatory infrastructure. Mortgage origination by banks is a relatively new concept in the PRC. Also, it is not certain that the secondary market for MBSs will have sufficient liquidity.

HOUSING DEVELOPMENT POLICY OF THE GOVERNMENT

The most critical determinant of the future MBSs market is the new housing policy replacing the cash allowance with the provision of physical housing units. As officially announced, the policy was to take effect in the third quarter of 1998. The announcement did not include a detailed procedure for the conversion of the housing units currently provided by SOEs. It is nonetheless certain that the market for private housing will grow significantly for two reasons.

First, public housing residents will be encouraged to purchase their current residence or to move into new private housing units. While it is still too early to predict how long the conversion from public ownership to private ownership will take, the trend of development is fairly obvious and irrevocable.

Second, more private housing units are likely to be built in view of the PRC's economic growth target of 8 percent per year over the medium term, despite the recent economic slowdown and the likely adverse impact of the Asian currency crisis on exports. Housing construction will be a key element of the fiscal policy to sustain aggregate demand. Increased home ownership will become a principal means of realizing economic growth. With the inadequacy of funds for home financing, asset securitization becomes a likely solution to provide adequate funds.

LEGAL AND REGULATORY OBSTACLES

The PRC has always been a policy state rather than a legislation state. That is, government procedures are implemented primarily because of the state's commitment based on existing policy. This approach ensures that the policy will be carried out even before the necessary laws are passed.[1] While the PRC has consistently progressed toward the adoption of legislation, laws may be ambiguously defined and difficult to follow. At present, no law covers the securitization of assets. If the MBSs market is to be launched in the near future, the necessary laws and regulations may not yet be available.

INSTITUTIONAL OBSTACLES

In addition to the absence of laws for asset securitization, the primary mortgage lending market has a number of weaknesses. Chinese banks are used to policy lending and have little experience with commercial lending. In particular, banks are not sufficiently adept in assessing asset quality and evaluating the credit standing of borrowers. Furthermore, two banks account for more than 95 percent of mortgage lending in major cities which are also the potential target market of MBSs. Evidently, there is a serious lack of depth in the market as well as of competition among major lenders.

SECONDARY MARKET FOR MBSs

In 1996, Treasury securities were virtually the only type of fixed-income securities with an active secondary market. Regulatory and

[1]In the formal process of legislation, the law is drafted by the Drafting Committee of the People's Congress (or an appropriate government department) and then passed by the Executive Committee of the People's Congress. It may take years before the legislation is passed. The legislation process can also be viewed as formalizing the regulations that guide the operations of government departments.

policy constraints barred the issuance of debts by financial institutions and corporations. The existence of an active secondary market for MBSs is uncertain. One possibility is to have the MBSs listed on the Stock Exchange of Hong Kong, except that even in Hong Kong the fixed-income securities market is still not highly developed, and the less than full convertibility of the renminbi poses technical difficulties.

INADEQUACY OF INFORMATION

Forecasts of the potential market for MBSs are prone to significant error because of the lack of quality information, especially on consumption behavior in the residential market. Comprehensive statistics are sometimes unavailable and one has to go as far back as the late 1980s for more reliable data.

This study attempts to analyze and present data on Beijing, the nation's capital, and Shanghai, the largest city. As more information on these cities is available, primary data projections can be made. Also, these two cities are likely to be the main source of mortgages for MBSs. However, there is extremely limited experience with regard to private housing occupancy and pricing, and extrapolations based on past data may be highly inaccurate. Moreover, the affordability of housing obviously depends on the economic conditions in the PRC. Since the economic growth rate in the major cities is difficult to predict, forecasts can be based only on assumed growth rates.

TAXES AND TRANSACTION COSTS

The tax system in the PRC is rather complicated and hinges on local tax laws which may change from time to time. Major tax items include sales tax (5 percent) and deeds tax for the initial registration of the title (6 percent for individuals). Stamp duties, on the other hand, are small (0.03 percent for the sale of property). Firms and business units are charged very high taxes. There is a 33 percent tax on profits (ordinary income tax) as well as a 30–60 percent value-added tax for real estate developers. Other taxes apply to business units. However, tax exemptions shield many firms from these tax laws.

Those who own their residence pay a property tax of 1.2 percent. Property-related transactions are subject to a tax of 1 percent for both the buyer and the seller.

The Residential Housing Market

OVERVIEW

Land in the PRC has been nationalized and owned by the state since the founding of the People's Republic of China in 1949. SOEs, in turn, have routinely provided housing to their workers. Therefore, housing was viewed by workers as a natural and necessary part of compensation from their employer. This view began to change when the PRC adopted the open-door policy in the late 1970s. The introduction of joint ventures and foreign firms meant that non-state-owned enterprises now provided housing, which could take the form of a cash allowance or residential units.

The 1980s were marked by the emergence of privately owned residential units (also called "commodity houses"), which formed the basis for the private residential property market. Chinese citizens could hold legal rights to occupy the land and building for a specific period and could transfer the title to a unit to another party. So far, the market for private-owned houses is small.

Chinese housing policy underwent a series of changes in the 1990s. Since 1992, the government has urged its citizens to purchase their place of residence. Such an arrangement is meant to encourage residents to concern themselves with the upkeep of the units and the surrounding areas, thereby reducing the social costs of maintaining the basic facilities. Housing Funds were established at the city level to provide subsidized financing for workers who wanted to purchase public housing. These financing activities marked the beginning of the residential property financing market.

In 1995, the government launched a housing reform program with the objective of providing sufficient housing and improved building conditions especially for low- to middle-income workers. Efforts were taken to ensure funding for the construction and remodeling of residential units.

The residential market and the related financing arrangements may only be starting, but a radical change is expected as a result of the new policy announced at the General Assembly of the People's Congress in March 1998. The new policy integrates housing benefits in the total cash compensation of workers and puts an end to the practice of SOEs providing housing units for their employees. The policy change will greatly speed up the privatization of residential housing and, it is hoped, lead to the full-scale development of the home financing market.

CURRENT STATE OF THE RESIDENTIAL HOUSING MARKET

The most important characteristic of the residential housing market is the distribution of public and private housing units. The relevant statistics are not easily obtained because public ownership changes to private ownership at the firm level, when the worker purchases the unit from the employer. In general, the composition of private housing is dependent on the attitude of workers toward owning (and caring for) their housing unit. City government officials estimate private ownership in 1997 at about 28 percent in Beijing and 40 percent in Shanghai.

One can gain insights into the current state of the residential market by looking into the organizational form of developers. In 1996, SOEs represented 40.8 percent of property developers, and collective enterprises, 22.4 percent. Limited-liability developers, which are SOEs that are engaged in real estate development to derive business income rather than to provide housing for employees, accounted for 13.1 percent of developers. Non-SOEs—joint ventures, private enterprises, and foreign investors—composed 23.8 percent of developers in 1996.

SOEs and collective enterprises can be assumed to be mainly providing housing for workers, while non-state-owned enterprises are primarily engaged in private housing. Limited-liability developers, on the other hand, can be involved in both the public and private housing markets. Assuming that limited-liability developers are involved in equal share in the two markets, then the total private housing market measured by the number of developers is about 30 percent. This figure is consistent with the estimates for Beijing and Shanghai.

Table 4 shows the organizational form of employers in 1996. The figures are generally interpreted to mean that employers in state-owned enterprises are required to provide their employees with housing units, some of which become privately owned units through purchase by the employees. Employers in non-state-owned enterprises, on the other hand, provide housing in some other form. They may purchase housing units and house employees in those units. They may also purchase the units on behalf of their employees, who then amortize the purchase cost over a certain period and are granted ownership of the units if they serve out the period.

Table 4 shows that 85 percent of all employees in PRC (88 percent in Beijing and 82 percent in Shanghai) are in the SOE sector. As SOEs typically employ more people, it can be inferred that the original size of the public housing market represents the majority of housing units. It is

also understood that the transformation from public housing to private housing will continue to play an important role in determining the size of the private housing market.

Table 4 *Employers, by Organizational Form, 1996 (numbers in thousands)*

	Beijing		Shanghai		PRC	
Form of Organization	Number of Employees	%	Number of Employees	%	Number of Employees	%
State-owned enterprises	3,582	72.12	3,281	61.07	135,178	68.22
Collective enterprises	721	14.51	860	16.01	30,158	15.22
Limited-liability companies	77	1.56	286	5.32	3,626	1.83
Total state-owned sector	4,380	88.19	4,427	82.40	168,963	85.27
Joint ventures	37	0.74	31	0.58	495	0.25
Private enterprises	258	5.19	486	9.04	23,283	11.75
Foreign investors (HK/Macau)	100	2.02	137	2.55	2,655	1.34
Other foreign investors	174	3.50	271	5.04	2,655	1.34
Others	18	0.36	21	0.39	99	0.05
Total non-state-owned sector	587	11.81	946	17.60	29,187	14.73
Total	4,967	100.00	5,373	100.00	198,150	100.00

OWNERSHIP AND PROPERTY RIGHTS

While land is originally owned by the state, existing laws in the PRC permit Chinese citizens to own title to (in other words, have the right to use) land and buildings.[2] For land, the government grants a leasehold for a stated period of use, in exchange for cash. The term of the lease varies according to the stated use. For residential property, it is 70 years; for commercial buildings, 30 to 50 years; and for industrial property, 20 years. Although no leases have expired as yet, it is generally understood that additional compensation, in the form of a lump-sum payment or an annual tax, will secure the renewal of a lease.[3]

[2]In general, housing units can be owned only by Chinese citizens. There is a separate market for residential properties that are available for Hong Kong and Macau citizens and foreign investors. Typically this "foreign" housing market represents units of higher quality and market value. The market for non–Chinese citizens is still small and distinct from the domestic housing market.

[3]A parallel illustration can be drawn using the experience of Hong Kong. When Hong Kong was under British rule, the land (Crown land) belonged to the Hong Kong government. The government granted leaseholds with tenures that differed according to the location of the land. Land in the New Territories (which was theoretically leased from the PRC) generally carried a short lease. Leases that expired before the handover of Hong Kong to the PRC in 1997 (for terms extending beyond 1997, with the PRC's understanding) were renewed with fixed payments. After the handover, the land in the New Territories became subject to a land tax incorporating the automatic lease renewal.

The law defines and protects the property right pertaining to housing units. There are also known cases in which the property rights (titles) were transferred smoothly from one party to another.

DEMOGRAPHY AND HOUSING OCCUPANCY

Table 5 gives summary statistics of demographic distribution for Beijing, Shanghai, and the entire country in 1997. The first portion shows the population of the whole city (including its administrative counties) and the urban area. Beijing had a population of 12.2 million for the whole city and 7.5 million for the urban area. Shanghai had 13.1 million for the whole city and 10.2 million for the urban area. Shanghai's urban population was 36 percent larger than Beijing's. Table 5 also shows that population grows at the rate of 1.89 per thousand in Beijing and -2.4 per thousand in Shanghai. These figures are substantially lower than the national average of 10.06 per thousand. The implication is that city planning and development (including housing) in these major cities is more structured.

Table 5 *Demographic Distribution, 1997* ■

	Beijing	Shanghai	PRC
Population and Population Growth			
Population ('000)	12,167	13,055	1,236,260
Urban population ('000)	7,512	10,186	369,890
Birth rate (per thousand)	7.91	4.90	16.57
Mortality rate (per thousand)	6.02	7.30	6.51
Growth rate (per thousand)	1.89	-2.40	10.06
Age Distribution (%)			
0 to 14	16.50	15.58	24.98
15 to 64	74.70	72.19	67.99
65 and above	8.80	12.22	7.04
Family Structure (%)			
1-person families	7.90	8.80	5.97
2-person families	18.37	20.36	14.48
3-person families	44.62	43.38	29.81
4-person families	17.52	15.23	25.87
5-person families	7.48	9.11	13.73
Families of 6 or above	4.12	3.11	10.14
Number of Persons per Household			
Whole city	3.22	3.07	n.a.
Urban area	3.06	2.80	n.a.

Note: "n.a." stands for "not available"

Table 5 shows that most of the residents of Beijing (75 percent) and Shanghai (72 percent) are in the 15–64 age group. The national average is 68 percent. Table 5 also shows the composition of families. In Beijing, two- and three-person families together account for 63 percent of all families. In Shanghai, these two family types compose 64 percent of all families. Including four-person families, nuclear families account for 81 percent of families in Beijing and 79 percent of families in Shanghai. The number of persons per family is 3.22 in Beijing and 3.07 in Shanghai. The figures for the urban areas are about the same for Beijing (3.06) and Shanghai (2.80).

Housing occupancy is commonly measured in building area (in square meters) per capita. Very little information about the size of units and area per family is available. Fortunately, the data are representative because of the predominance of nuclear families of about three persons. Standard new housing units for the domestic market range from 60 sq m to 70 sq m (two- or three-bedroom units). For ease of calculation, it can be assumed that the typical housing unit is a 60–sq m two-bedroom unit.

Table 6 provides summary statistics from a housing occupancy survey of school employees in Beijing. This survey covered 165,822 teachers, administrators, and supporting staff members of kindergartens, elementary schools, and secondary schools. Although data on general housing occupancy are not available, Table 6 can be used as basis for an analysis of housing occupancy among typical SOE employees. Table 6 shows that the average building area per capita is 8.19 sq m. Given the average family size of 3.38 people, the average building area per household is 27.7 sq m, which is very much below the 60–sq m standard for new housing units. The table also shows that building area per capita is fairly constant among employees of different job classifications and seniority.

Table 7 reports summary statistics of housing occupancy by type of housing in Shanghai. The housing types in the table are arranged in descending order of quality and facilities available. Table 7 shows that staff quarters (for SOE employees) represent 77 percent of all residential units. These units, which are generally regarded to be of acceptable quality, are likely to be privatized in the near future. The table also shows that old residential units compose 25,820 sq m, or 17 percent of the total area. Their premises are likely to be redeveloped and the residents relocated in the near future. Finally, Table 7 shows that Shanghai has a building area of 7.71 sq m per capita, or 22.00 sq m per household.

Table 6 *Per Capita Housing Occupancy of Beijing School Employees, 1996* ■

General Statistics	
Total school employees	165,822
Total household members	560,518
Average members per family unit	3.38
Total living area ('000 sq m)	4,588
Average living area per capita	8.19
Per Capita Housing Occupancy by Job Classification (sq m)	
Teachers	8.33
Administrative staff members	8.20
Labor workers	7.21
Per Capita Housing Occupancy by Job Seniority (sq m)	
Senior employees	8.77
Mid-level employees	8.30
Junior employees	8.12
Unspecified job titles	8.69
Others	7.28

Note: The figures reported in this table are based on a survey of housing occupancy among employees of kindergartens, elementary schools, and secondary schools. The figures represent housing occupancy for teachers, administrative staff members, and labor workers. All residential units are provided by the employer.

Table 7 *Building Types in Metro Shanghai, 1997 (area in '000 sq m)* ■

Building Type	Total Area	Percentage
Independent house	1,885	1.22
Apartment	1,510	1.00
Staff quarters	116,220	76.89
Improved old residence	4,480	2.96
Old residence	25,820	17.08
Simple housing	570	0.38
Residence under construction	710	0.47
Total	151,160	100.00

Total population ('000)	10,186
Total households ('000)	3,577
Number of persons per household	2.85
Living area per capita (sq m)	7.71
Living area per household (sq m)	22.00

Note: The building types shown in this table are arranged in descending order of quality of residential units.

HOUSING PRICES

Housing prices vary significantly among the major cities of the PRC. SOEs provide housing for a nominal rent. Residents, however, need to contribute to the maintenance costs.

Since the start of housing reform, residents have been encouraged to purchase their units at a subsidized price. The actual price is typically based on a stated "base" price, which includes the cost of the building and ancillary facilities, but does not include the cost of land. In 1996, the base price was Rmb 1,200 per sq m in Beijing and Rmb 1,450 per sq m in Shanghai. The actual purchase price includes a discount for depreciation, location, floor of the unit, tenure of the employee, and type of facilities provided.

In theory, market supply and demand determine the prices of private housing units. But since the developers are typically SOEs that are unwilling to sell the units at low prices, the transaction prices are usually associated with a nontrivial vacancy rate and should be treated with care in analysis. Table 8 shows the average prices of private housing units in Beijing in 1996 for various location and quality groupings. Units of average quality sell for Rmb 5,250 per sq m in suburban areas and Rmb 7,250 in the city. Prices in Shanghai are generally higher than those in Beijing.

Table 8 *Prices of Private Housing in Beijing, 1996*

Location	Price per sq m
City area	
good quality	10,500
average quality	7,250
Suburban area, average quality	5,250
Outside the city, average quality	2,250

As transaction prices do not reflect true market clearing prices, it is difficult to predict the direction of prices. An important factor that affects housing prices is the government policy regarding the private housing market vis-à-vis lower-cost housing units to be sold to workers. Another factor is the vacancy rate of privately owned houses. Vacant units in Shanghai are estimated to occupy a total building area of about 10 million sq m. Housing prices may fail to attract more buyers into the market.

At the policy level, housing development in the next few years will probably be focused on affordable housing, priced at Rmb 1,500–2,000 per sq m. The private housing market is likely to converge at a more affordable level similar to that of the "home purchase" market.

THE HOUSING REFORM PROGRAM

By any standard, the housing reform program begun in 1995 represents a major shift in housing consumption in PRC. From a benefit item, housing has become a consumption item. In cities where SOEs have a dominant role in the local economy, workers still have a fairly reserved attitude toward the privatization of housing. But in cities where non-state-owned enterprises represent a sizable share of the economy, private home ownership has grown consistently.

Since SOEs will stop allocating housing units for their workers, the trend toward private home ownership is obvious. The remaining question is the rate of transformation to a market dominated by private ownership (say, 80 percent privately owned). Assuming a government policy of promoting home ownership and stimulating aggregate demand, the government can be expected to introduce measures to encourage workers to purchase their units. As such, the demand for financing will increase substantially and exceed the funds available from the banking system.

SIZE AND SIGNIFICANCE OF HOUSING FUNDS AS A FINANCING SOURCE

In 1992, Housing Funds were established at the city government level to fund the purchase of residential units by workers. The concept is based on the current system in Singapore. SOE employees contribute a fixed percentage of their income to the fund (7 percent in Beijing; 5 percent in Shanghai, raised to 6 percent in 1997), and their employers put in a matching contribution. The fund thus represents a pool of funds for financing home purchases. In 1997, the Housing Fund in Beijing amounted to Rmb 3 billion, and that in Shanghai, 16 billion.

Typically, the Housing Fund charges substantially lower than market interest rates. However, local governments may limit the loanable amount. For example, loans from the Beijing Housing Fund are limited to 70 percent of the purchase price or Rmb 30,000, whichever is lower. Should the home-buyer need further financing, banks may provide loans at the market rate.

Housing Funds have been a major source of home purchase financing. However, this is true only if a small percentage of workers borrow from the funds. For a worker in Beijing with an average annual salary of Rmb 7,300, the outstanding balance for a seven-year contribution period of 14 percent per year is only Rmb 7,154. If the purchase cost is Rmb 30,000, the Housing Fund can provide only 24 percent of the required financing.

BANK MORTGAGE LENDING AND INTEREST RATES

The Housing Fund is meant to capitalize on the low-cost capital contributed by individual employees and their employers. These contributions will in turn provide subsidized financing for borrowers from the fund. The interest rates vary according to the maturity of the loan (in Beijing, interest rates range from 4.2 percent for a one-year loan to 5.8 percent for a 15-year loan). The typical maturity in 1997 was five years with an interest rate of 4.7 percent (4.68 percent in Shanghai), compared with about 10 percent for commercial loans in the same period.

PRIMARY AND SECONDARY MARKETS

There are two primary markets for residential housing: the public and private housing markets. At the developer level, land can be acquired by either the employing companies or professional real estate developers. As discussed earlier, the employer is typically also the developer. It is not clear whether this trend will continue.

The secondary market comprises several activities. Developers (or the government) may acquire entire blocks of units for redevelopment. In such cases the residents will be compensated with cash, a new unit, or a combination of the two. Two owners may also exchange units. Such activities are usually settled between the two parties. In addition, owners can sell their units in the secondary market. In general, this market is still inactive. Investors who purchase private housing in Beijing and Shanghai typically rent out the units instead of trying to sell them.

Table 9 gives a summary of secondary market activities in Shanghai, one of the few cities in PRC with a relatively active secondary market for residential units. Table 9 shows that there were 3,830 property transactions in 1995. Roughly the same transaction figures were recorded for the entire period from 1988 to 1995 except for 1992, when 6,325 transactions were completed.

Table 9 *Residential Housing Transactions in Shanghai, 1988–1995 ('000 sq m)*

Year	Number of Transactions	Building Area (sq m)	Total Value (Rmb '000)	Building Area per Transaction (sq m)	Value per Transaction (Rmb '000)	Price per sq m (Rmb)
1988	3,841	97,200	19,876	25.31	5.17	204
1989	3,657	92,000	23,201	25.16	6.34	252
1990	3,373	88,000	43,323	26.09	12.84	492
1991	3,340	89,982	63,013	26.94	18.87	700
1992	6,325	201,399	129,934	31.84	20.54	645
1993	4,922	166,123	154,317	33.75	31.35	929
1994	2,597	105,896	223,911	40.78	86.22	2,114
1995	3,830	196,995	396,315	51.43	103.48	2,012

In terms of unit size, property transactions showed a significant increase in average building area in 1994 and 1995. The average area per unit in 1995 was 51.43 sq m, more than double the average unit size in 1988. The increase in transaction value was even larger. The average transaction size in 1995 was Rmb 103,480, twenty times that in 1988. The transaction price per square meter of Rmb 2,012 in 1995 represented an eightfold increase over the seven-year period.

Legal and Institutional Framework for Asset Securitization

TRANSFER OF PROPERTY RIGHTS

The law protects the property rights of the purchaser of residential property. Although the deed may state that the rights cover 70 years for the land, there are indications that the Chinese government may either extend the length of land ownership or change the ownership rights to infinite ownership. Also, the ownership can be transferred from one party to another under fairly standard terms. Hence, the legal framework for ownership transfer is in place.

Ownership transfer takes place mainly between SOEs and the employees who purchase their residence. Developers have also transferred ownership to other developers. As for the secondary market in privately owned units, there are still very few cases of property transfer.

FORECLOSURE PROCEDURES AND EXPERIENCE

A worker who borrows from the Housing Fund usually has to deposit the deed at the Housing Fund as collateral. The lender can thus take over the unit if the borrower defaults. The law also allows the lender to seek the court's permission to repossess the unit from defaulting borrowers. Thus far, the cases of default have mainly involved developers. There have been too few cases of default by individual borrowers to tell how long the foreclosure process would take in this instance, although in theory it should take about as long as the commercial procedure.

PRIMARY LENDERS

Mortgage loans have two components: a subsidized portion from the Housing Fund and an unsubsidized portion from banks. Table 10 gives information on the lending activities of these two types of mortgage lenders.

Because home purchase behavior is influenced by workers' attitudes toward house ownership, Beijing and Shanghai differ significantly in home purchase and borrowing behavior. In general, workers in Beijing are more conservative and view housing as a benefit whereas workers in Shanghai more actively borrow to purchase their units. In 1996, loans from the Housing Fund totaled Rmb 1.8 billion in Beijing and Rmb 11 billion in Shanghai, even though the two cities introduced the home purchase scheme at about the same time. Housing Fund lending in Shanghai represents 38 percent of total lending from Housing Funds in PRC.

Chinese banks have confined themselves to providing funds to SOEs, and have not been active in mortgage lending. Up to about three-fourths of their loans must go to SOEs. Besides, Chinese banks are generally not familiar with long-term lending. The mortgage lending market in most cities is dominated by the Bank of Construction, which approved Rmb 350 million worth of mortgage loans in Beijing in 1996 and holds a monopoly of the mortgage lending business in Shanghai. The Bank of Industry and Commerce, another active lender, approved Rmb 150 million in mortgage loans in Beijing in 1996. In the rural areas, the Bank of Agriculture and the Bank of China provide mortgage loans.

Table 10 further shows the outstanding mortgage loans for the three major lenders in 1993–1995. In 1995, the Bank of Construction had outstanding mortgage loans of Rmb 95 billion, 143 percent higher than the 1993 level, and held a market share of 65.7 percent, 4.2 percent more than in 1993.

Table 10 *Primary Home Mortgage Lenders (amounts in Rmb million)* ■

	Beijing	Shanghai	PRC
Housing Funds, Cumulative Balance, 1996 Year-End	1,830	11,070	29,364
Mortgage Loans Approved by Banks in 1996			
Bank of Construction	350	600	5,865
Bank of Industry and Commerce	150	—	3,205
Bank of Agriculture	50	—	665
Bank of China	50	—	265
Total Banks	600	600	10,000
Total Lending	2,430	11,670	39,364

Lending Activities of Major Mortgage Lenders	1993	1994	1995
Total Outstanding Mortgage Loans			
Bank of Construction	39,000	69,200	94,800
Bank of Industry and Commerce	23,000	32,000	39,100
Bank of Agriculture	1,400	2,100	10,400
Total	63,400	103,300	144,300
Market Share (%)			
Bank of Construction	61.51	66.99	65.70
Bank of Industry and Commerce	36.28	30.98	27.10
Bank of Agriculture	2.21	2.03	7.21

A competitive bank lending market does not seem likely to develop soon in view of the dominant, if not monopolistic, position of the Bank of Construction in mortgage lending. This situation affects the development of an MBSs market in a positive as well as a negative sense. On the one hand, the Bank of Construction needs to obtain additional funding in the capital market to serve the potentially large mortgage market. On the other hand, its monopoly of the lending market prevents other banks from acquiring experience in mortgage origination and in the monitoring of mortgage loan servicing. A more diverse base of lending banks will therefore be beneficial for the development of the MBSs market.

The Chinese government could conceivably require the Bank of Construction to open up the mortgage market to other banks. As the government has recently announced, the PRC is committed to promoting mortgage lending to stimulate the purchase of residential units.

Feasibility of Launching Special-Purpose Vehicles and MBSs

OVERVIEW

The potential market for MBSs is influenced by factors whose directions are not clear at present. The government's policy of promoting home ownership will increase the size of the private housing market. However, the speed of conversion from public housing to private housing will be influenced by the affordability of housing to workers, which in turn will be influenced by the state of the Chinese economy. On the financing side, it is not clear whether the present subsidy from the Housing Fund will continue to play a significant role. If it does, the MBSs will probably be in the form of asset-backed securities with a guarantee from the local government to pay the difference between the market interest and the subsidized lending rate. Should the mortgage lending be privatized and banks become the major lenders, a more competitive environment is required for the development of the MBSs market.

The Chinese government seems likely to continue using the Housing Fund to encourage workers to purchase housing units. Therefore, securitization through the Housing Fund (or its future form) appears more favorable for launching the MBSs market.

The potentials for an MBSs market may be present, but the necessary infrastructure is not. The Chinese government must provide or significantly improve the regulatory framework and the supporting institutions including rating agencies and clearing and depository facilities.

To ensure the smooth launching of the MBSs market, the special-purpose vehicle (SPV) should have the full support of the Chinese government to ensure maximum creditworthiness. The SPV can then issue MBSs to be listed on the organized stock exchanges to ensure favorable liquidity for the secondary market.

SUPPLY ANALYSIS

The supply of residential housing is the result of planning by the Construction Department of the State Council. At the city level, the planners consider such factors as the existing and planned building area per capita, and the redevelopment of old city residences and the attendant relocation of residents. After the land supply is determined, land is offered to developers.

At present, the ratio of area under construction to residential area completed is about 4:1.

Table 11 provides information on housing development in Beijing and Shanghai in 1996 and 1997. The top portion of the table shows that in 1997 the total floor area under development in Beijing was 58 million sq m and the total area completed was 16 million sq m. The development costs of these units were Rmb 1,479 per sq m for single employees and 1,347 for families. These figures are roughly the same as the 1996 figures. Table 11 also shows that Shanghai had a completed floor area of 17 million sq m.

Table 11 *Housing Development, 1996 and 1997 ('000 sq m)*

	1996	1997
Beijing		
Total floor area under development	56,332	58,194
Total floor area completed	15,175	16,257
Single-employee residence	156	254
Family residence	7,725	8,174
Development costs (Rmb per sq m)		
Single-employee residence	1,292	1,479
Family residence	1,212	1,347
Shanghai		
Total floor area completed	15,095	16,842
Employee residence	5,172	n.a.
Residence for sale	9,923	11,761

A major problem in the supply of residential units is the unwillingness of most developers to lower their selling prices. Therefore, almost all major cities have a substantial vacancy rate. Table 12 shows private housing supply and demand in Shanghai up to 1995. The supply of floor area (area available for sale) in 1995 was 8.7 million sq m, around 8.5 times as much as in 1988. The total floor area sold was 5.1 million sq m, or 73 percent of the new area completed in 1995. The vacancy rate had increased consistently during this period as unsold floor area was carried over from one year to the next. In 1995, only 58 percent of available floor area was sold, compared with 67 percent in 1988. The vacant floor area in 1998 was estimated to be in the range of 10 million sq m.

Table 12 *Private Housing Supply and Demand in Shanghai, 1988–1995 (area in '000 sq m)*

Year	Unsold Area from Previous Year	New Area Completed	Total Area Available	Area Sold	Area Carried Forward	Portion Sold for Current Year's Supply (%)	Portion Sold for Total Supply (%)
1988	0	1,018	1,018	680	338	66.77	66.77
1989	338	764	1,102	518	584	67.80	46.98
1990	584	729	1,314	872	441	119.58	66.40
1991	441	716	1,158	641	517	89.47	55.35
1992	517	646	1,163	559	604	86.50	48.06
1993	604	1,559	2,163	1,450	713	93.01	67.03
1994	713	2,343	3,056	1,334	1,722	56.95	43.66
1995	1,722	6,950	8,672	5,077	3,595	73.04	58.54

Because the supply of residential property is dictated by government policy rather than market demand, the growth of housing supply in the next few years is difficult to estimate. However, higher-priced private housing could well grow more slowly and relatively low-cost housing (Rmb 1,500–2,000 per sq m), at a constant rate. Assuming a GDP growth rate of 8 percent per year in the next five years, the supply can be expected to grow at 12–15 percent per year, the growth coming mainly from low-cost housing.

DEMAND ANALYSIS

Table 13 provides information on the demand for private housing in Shanghai from 1988 through 1995. Up to 1990, sales to individuals were mainly at discounted prices. Since 1991, however, all housing sales have been based on current market prices. In 1995, a total floor area of 1.7 million sq m was sold to individuals and 3.4 million sq m to enterprises. The figures show that the demand in 1995 from individuals and enterprises was 34 percent and 66 percent, respectively. Both markets showed remarkable growth. On a combined basis, the average annual growth rate was 63.4 percent per year, whereas the compound growth rate was 39.8 percent.

The demand for housing will clearly shift from enterprises to individuals. It is also apparent that housing price will be an important determinant of market demand. Assuming that affordable housing is available and given the support of the government, demand for housing can conceivably grow at 30 percent per year in the next five years.

Table 13 *Demand for Private Housing in Shanghai, 1988–1995* ■

Year	Sold to Individuals at Discounted Prices	Share (%)	Sold to Individuals at Market Prices	Share (%)	Sold to Enterprises at Discounted Prices	Share (%)	Total
Total Floor Area ('000 sq m)							
1988	158.20	23.27	38.40	5.65	483.20	71.08	679.80
1989	46.20	8.92	49.80	9.62	421.70	81.46	517.70
1990	46.60	5.34	80.40	9.22	745.10	85.44	872.10
1991	0.00	0.00	128.70	13.68	812.00	86.32	940.70
1992	0.00	0.00	81.50	14.58	477.40	85.42	558.90
1993	0.00	0.00	360.10	24.84	1,089.70	75.16	1,449.80
1994	0.00	0.00	672.00	50.36	662.40	49.64	1,334.40
1995	0.00	0.00	1,726.00	34.00	3,350.50	66.00	5,076.50
Growth Rates (%)							
1989	-70.80		29.69		-12.73		-23.85
1990	0.87		61.45		76.69		68.46
1991	n.a.		60.07		8.98		7.87
1992	n.a.		-36.67		-41.21		-40.59
1993	n.a.		341.84		128.26		159.40
1994	n.a.		86.61		-39.21		-7.96
1995	n.a.		156.85		405.81		280.43
average			99.98		75.23		63.40
compound rate			88.56		38.09		39.81

Note: "n.a." stands for "not available"

SIZE OF RESIDENTIAL MORTGAGE FINANCING

Table 14 gives summary projections of the size of residential mortgages. Because of the changing nature of the residential market, a more reasonable analysis should be based on the total market size of residential property. But since only 1995 figures are available, Table 14 assumes a yearly growth rate of 30 percent from 1995 through 1998. On the basis of this assumption, the estimated demand in 1998 was 11.2 million sq m. Table 14 presents the projected market demand under three different growth rate assumptions from 1998 through 2003: 20 percent, 30 percent, and 40 percent per year. Using this method, the projected market demand in 2003 will be 27.8 million sq m for 20 percent growth, 41.4 million sq m for 30 percent growth, and 60.0 million sq m for 40 percent growth.

Table 14 *Projected Size of Mortgage Lending in Shanghai, Up to the Year 2003* ■

Year	Total Demand (20% Growth)	(30% Growth)	(40% Growth)
Size of private housing demand ('000 sq m)			
1995	5,077	5,077	5,077
1996	6,599	6,599	6,599
1997	8,579	8,579	8,579
1998	11,153	11,153	11,153
1999	13,384	14,499	15,614
2000	16,060	18,849	21,860
2001	19,273	24,503	30,604
2002	23,127	31,854	42,846
2003	27,752	41,411	59,984

Note: The projections in this table are based on the actual floor area sold in 1995. Annual growth rate for the period from 1995 through 1998 is assumed to be 30%.

Year	Total Area (30% Growth)	Unit Price (Rmb) (30% Growth)	Market Value (Rmb million)
Estimated total market value			
1998	11,153	1,500	16,730
1999	14,499	1,725	25,011
2000	18,849	1,984	37,391
2001	24,503	2,281	55,900
2002	31,854	2,624	83,570
2003	41,411	3,017	124,937

Year	Mortgage Value (Rmb million)	Mortgage Market (20% mortgage)	(40% mortgage)	(60% mortgage)
Estimated total mortgage market (Rmb million)				
1998	16,730	3,346	6,692	10,038
1999	25,011	5,002	10,004	15,006
2000	37,391	7,478	14,956	22,435
2001	55,900	11,180	22,360	33,540
2002	83,570	16,714	33,428	50,142
2003	124,937	24,987	49,975	74,962

As discussed above, it is reasonable to assume a compound annual growth rate of 30 percent. It should be noted that this demand figure should also incorporate workers' demand for home purchases. The historical data and the prevailing government policy indicate that this growth rate is achievable.

Table 14 also gives projections of the total market value of residential property purchased for each year through 2003 based on a 30 percent annual growth rate in floor area. Because low-cost housing is likely to be the major component of market demand, the price of Rmb 1,500 per sq m is taken as the estimated average transaction cost. This is about the same as the average cost of newer units purchased by workers. It also incorporates a 25 percent profit margin over the development cost in 1996.[4] The purchase cost is expected to increase at the rate of 15 percent per year. Given these estimates, the total market value of housing units purchased in 2003 is projected to be Rmb 125 billion.

The bottom part of Table 14 gives estimates of the size of the mortgage market (including loans from the Housing Fund) based on the projected market value of property transactions. The projected size of the mortgage market in 2003 is Rmb 25 billion, assuming a 20 percent share for mortgage financing in home purchases, Rmb 50 billion if a 40 percent share is assumed, Rmb 75 billion if the assumed share is 60 percent. If the Housing Fund continues to be an important financing source, an estimate of 40 percent mortgage appears justified.

SECURITIES REGULATION AND SECURITIES LAWS

At present, no law governs the trading of fixed-income securities. If the MBSs market is launched, the regulatory body that should oversee MBSs issuance and market activities will have to be determined. Under the present regulatory set-up, MBSs issuance should be regulated by the Non-bank Department of the PBC. But whether the SEC will centralize the regulation of all traded securities is still unclear.

Securities trading is currently governed by a law based on the provisional security law for stock trading. The SEC drafted and finalized a new law, which was finally passed in December 1998 and will take effect in mid-1999. But this new law will continue to focus on equity trading and will contain very little detail regarding the regulation of the fixed-income securities markets.

LAUNCHING THE MBSs MARKET

The controlling body for the potential MBSs market has not yet been decided. The PBC, which is responsible for the issuance of fixed-income

[4]Development cost is further assumed to have remained fairly stable since 1996.

securities other than Treasury securities, would be a natural choice for the governing body for MBSs planning and issuance.

Building on the experience of the secondary market for Treasuries, the future MBSs should be listed for trading on organized exchanges to ensure sufficient liquidity in the secondary market. It is important that relevant laws on such trading activities should be present.

Lack of trading experience in corporate bonds has hampered the rating, clearing, and depository functions of fixed-income securities. A well-defined system for performing these functions should be in place when the MBSs market is launched. A new rating agency could be established for the sole purpose of rating MBSs. Such an institution should maintain independence in the evaluation of MBSs to ensure credibility. Treasury securities are currently cleared on the Shanghai Stock Exchange. If MBSs trading is to be handled similarly, clearing can also be done in association with the exchange where the securities are traded.

The MBSs market should be launched when the banking system has originated enough mortgage loans. A reasonably diverse mortgage pool can then be created and more relevant information on loan servicing can be obtained.

To maintain high creditworthiness, an SPV should be established, with full financial support from the government, to purchase housing loans from banks and issue MBSs in the capital market. It is not clear whether the loans sold to the SPV should have recourse to the originating bank. In Hong Kong loans are sold with recourse: the originating bank, by implication, is responsible for the credit control of the loans sold. However, when a large enough mortgage pool with high credit quality is formed, loans can be purchased by the SPV on a clear basis to promote better division of labor and a more favorable purchase cost for the loans.

OTHER FUTURE MARKET DEVELOPMENTS

The Chinese generally avoid borrowing and pay off the balance of any loans as quickly as possible. This conservative attitude is expected to liberalize gradually. Because housing will absorb a larger share of family income, homeowners are expected to take out larger loans and to pay them off over a longer period.

Housing costs as a percentage of total family income are expected to increase. Currently, the average salary of workers in Shanghai is Rmb 8,200 per capita. Housing-related expenditures represent about

5 percent of total income and 7 percent of total expenditures. The comparable figures are even lower for workers in Beijing. Table 15 summarizes the distribution of expenditure items in 1996. While there are not enough data to forecast housing expenditure trends, housing could represent a significantly higher share (say, 20–25 percent) of household expenditures.

Table 15 *Income and Expenditure Items for Urban Residents, 1996 (Rmb per capita)* ■

	Beijing		Shanghai		PRC	
Income and expenditure items	**Amount**	**% of income**	**Amount**	**% of income**	**Amount**	**% of income**
Disposable income	7,332.01		8,178.48		4,838.90	
Food	2,671.52	36.44	3,415.50	41.76	1,904.71	39.36
Clothing	847.02	11.55	589.62	7.21	527.95	10.91
Rent	150.60	2.05	97.91	1.20	124.14	2.57
Other rent-related expenditure	136.39	1.86	294.71	3.60	176.71	3.65
Medical and health	217.82	2.97	147.78	1.81	143.28	2.96
Transportation	257.02	3.51	467.85	5.72	199.12	4.11
Entertainment	699.15	9.54	779.28	9.53	374.95	7.75
Miscellaneous	436.31	5.95	637.28	7.79	298.15	6.16
Total Expenditure	5,415.83	73.87	6,429.93	78.62	3,749.01	77.48
Expenditure items as percentage of total expenditures						
Food		49.33		53.12		50.81
Clothing		15.64		9.17		14.08
Rent		2.78		1.52		3.31
Other rent-related expenditure		2.52		4.58		4.71
Medical and health		4.02		2.30		3.82
Transportation		4.75		7.28		5.31
Entertainment		12.91		12.12		10.00
Miscellaneous		8.06		9.91		7.95
Total		100.00		100.00		100.00

Another issue concerns the optimal capital market for the potential launch of MBSs. Since the funds will be lent out in renminbi, the MBSs should be denominated either in renminbi or in a currency that varies only slightly against the renminbi. In the first quarter of 1998, the Shanghai city government considered issuing an asset-backed security guaranteed by the city government in the US private placement (144A) market. The

144A market is essentially an institutional investment market that is exempted from SEC disclosure rules. This alternative, however, appears to carry a significant exchange-rate risk. Should the renminbi–US dollar exchange rate change significantly in the next few years, the Shanghai city government could incur significant losses.

The Shanghai Stock Exchange is a convenient market for the launch of MBSs, but its limited experience in fixed-income securities trading (which has been confined to Treasuries) and the speculative nature of market activities place it at a disadvantage. Furthermore, the abundance of funds within the PRC may be a source of concern for the Chinese government. The MOF, in particular, may have reservations since significant MBSs issuance may weaken the market acceptance of Treasury securities.

Another alternative would be to offer the MBSs in Hong Kong, an international financial center where the capital market is much more comprehensively regulated. Fixed-income securities are mainly traded over the counter in Hong Kong, but there should not be significant technical and institutional problems for the launch of MBSs trading on the Stock Exchange of Hong Kong. Experience, moreover, shows that, because of the close economic ties between the PRC and Hong Kong, the Hong Kong dollar moves fairly consistently with the renminbi. The exchange-rate risk would conceivably be less significant if the MBSs were denominated in Hong Kong dollars. The final issue is the identity of potential MBS investors. The Hong Kong Mortgage Corporation has successfully sold two HK$500-million issues in five-year fixed-rate notes. It is likely that more issues will be offered and a major source of potential demand would come from the mandatory pension fund scheme to be launched in the year 2000.

CONCLUSION

This study has identified significant potentials in the housing finance market in the PRC. A key element underlying housing development is the commitment of the central and local governments to privatize housing and promote home ownership. The study concludes that the principal area of housing market growth is low-cost housing and the housing units purchased by workers. At current prices, these units cost Rmb 1,500–2,000 per sq m, and have an average size of 60 sq m per unit.

An important consideration for choosing the appropriate city for the MBSs market is the acceptability of private home ownership to workers.

This study suggests that, compared with Beijing, Shanghai is more receptive to the concept of private home ownership and therefore appears to be a suitable base for the MBSs market.

The residential property market in the PRC, particularly in Shanghai, is characterized by high housing prices and high vacancy rates. This situation is expected to become less extreme as the government pushes the development of low-cost housing. Low-cost housing could be the principal source of growth of the housing market. At the same time, prices of private housing will probably decline and the two markets will converge at a single private housing market.

Given the situation in Shanghai, the annual demand for private housing is projected to reach 41 million sq m by 2003 with a market value of Rmb 125 billion. With a 40 percent mortgage rate, the size of the mortgage market will be Rmb 50 billion per year. Since the banking system is not likely to have enough funds to finance this mortgage market, the securitization of home mortgages has significant potential.

The study also identifies significant obstacles to the MBSs market in the near future. First, there is no comprehensive set of security laws for the fixed-income securities market. Second, Treasury securities dominate the Chinese securities market and the corporate bond market is inactive. Third, the private housing market is still emerging and there is very little experience with homeowner default and foreclosure procedures. Finally, the lack of competition in the mortgage origination market, which is dominated by one or two banks, may present difficulties in promoting home mortgages.

Overall, this study concludes that the launching of an MBSs market in PRC is both feasible and beneficial to the development of the Chinese economy, but that the legal and institutional issues pointed out need further investigation to ensure a smooth and successful launch.

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