The Housing Finance Sector in Indonesia *

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Executive Summary

While the requirement for new housing in Indonesia is more than 800,000 units per year just to accommodate new household formation, the mortgage sector only finances at the most 200,000 of this demand, confined mostly to developer built residential schemes and high-end residences.[1] The production of houses is likely to be close to the national requirement for new housing, however, since house prices do not show signs of an overheated market. Both house-price –to-income ratios (3 to 3.6) and increases in house-prices relative to the overall CPI are modest. Most new houses are, however, built on an individual basis by contractors and households themselves and are financed from savings, and if debt finance is used at all, it is in the form of short-term loans. Such mode of production has severe limitations in relation to the systematic provision of services and infrastructure when cities grow rapidly. Indonesia shows major signs of stress in that area. Also, the construction process is less efficient when upfront finance is not available.

A 2004 national housing survey (BPS, 2004) showed that the great majority of houses were constructed on land owned by the home owner, even though not all houses may have received formal building permits. It is, therefore, not the lack of formal title to the land that hinders the expansion of mortgage lending as it was perceived to be in the past. There are, however, other reasons both having to do with low demand and constraints in supply. This study looks into the current context and structure of housing finance in Indonesia and proposes some actions for its expansion and the development of alternatives to mortgage finance.

A. **Demand Constraints for Long-Term Mortgage Borrowing.** There are several demand constraints related to the expansion of mortgage borrowing of which the most important are:

- Low levels of formal sector employment (only 26 percent of the labor force) hampers access to long-term finance, since lenders are reluctant to make loans to individuals that are not permanently employed wage earners.
- Relatively high interest rates (only since 2003 have the rates come down and reach 14.5 to 16 percent for a 10 year adjustable rate mortgage loan at the end of 2004) and volatility of rates (recent inflation and other macro-economic factors caused mortgage rates to go up to 17 or 18 percent) decreases affordability and appetite for long-term debt. High upfront costs and down-payment requirements further decrease finance affordability. At the median income level, households can barely pay the monthly payments on a loan for a 36m2 house on a 90M2 lot in a rather poor location if they allocate 30 percent of their income to mortgage payments and require 2 to 3 times their monthly income to pay for transaction costs to obtain a loan, not including savings for a down-payment. There is also a deep cultural bias against incurring long-term debt.
- Middle- and lower-middle income households have a long tradition of receiving deeply subsidized fixed rate loans and demand for mortgage debt for this group is artificially conditioned to the number of subsidized loans issued by government.

[1] It comprised only 7.8 percent of all credit outstanding and was 1.83 percent of the total value of GDP in 2004.

B. **Supply Constraints in Expanding Mortgage Lending**. There are different types of supply-side constraints; limited real housing developments that qualify for mortgage funding and weaknesses within the mortgage sector itself that limit growth.

First there is a lack of developer built houses affordable to the majority of households, i.e., houses priced below the Rp75 million and an inability by lenders to deal with individual contractor built houses. This is related to:

- ***The lack of supply of serviced land and tedious permitting procedures*** make it unprofitable for developers to use available land resources for middle and lower-middle income houses.

  Recommended actions: the enforcement of the permit system, measures to release public land for residential development in suitable locations, improvements in the process and reduction of upfront and hidden costs to gain development and building approvals.

- ***The lack of construction finance*** provided by banks related to poor past performance causes developers to focus on projects where equity investments rather than debt can finance construction, and make contractor built houses dependent on owner funding.

  Recommended actions: i) Bank Indonesia (BI) to develop a circular with guidelines on prudent construction lending; ii) Bank Indonesia to explore the establishment of special guarantees for construction lending (e.g., jointly with international development and investment agencies), although these could be expensive given the poor track record of such lending, iii) explore the establishment of an independent, fee-based housing quality guarantee program for new residential construction to ease the burden on lenders to conduct in-depth technical appraisals for moderate income housing and increase confidence to invest in this market segment, iv) eliminate the double VAT taxation on home sales for moderate income housing that impact affordability of developer built homes.

Second, mortgage finance while expanded and strengthened since the 1997/98 crisis still faces some important hurdles limiting its expansion.

- ***Current macro-economic volatility*** is a set back for the process of expansion, just when the sector had made substantial improvements in the aftermath of the 1997/98 crisis. Nominal interest rates have increased since the end of 2004 because of rising inflation and, as a consequence, NPLs have increased. Moreover long-term investors have moved part of the deposits held in the banking system towards shorter term deposits, creating concerns about asset-liability duration gaps. As a result there is a flattening of the expansionary trend in mortgage lending of the last few years.
- ***Weaknesses in the mortgage finance system itself*** that need to be addressed include:
  - *Relatively high credit risk as a consequence of the lack of credit information, lingering issues in foreclosure risk, and lack of credit risk management mechanisms.*

    Recommended actions: i) BI to facilitate the establishment of a credit bureau, ii) MOF and Secondary Mortgage Corporation (SMF) to take action to establish public/private mortgage insurance, iii) BI to regulate consumer protection and the requirement for consumer education, iv) BI and SMF to develop borrower education tools.
  - *Lack of access to mortgage credit for those households who are creditworthy and can afford a mortgage loan, but whom the market is reluctant to serve.*

Recommended actions: i) the Ministry of Housing and MOF/BI to explore ways to tie requirements for saving for housing over a period of time to subsidized loans to establish lender confidence and increase owner equity particularly for borrowers who have non-fixed incomes, ii) the expansion of (small) upfront subsidies to a level of income closer to the current margin of banks' willingness to lend (for houses of Rp75 million and below); if mortgage insurance is to be developed a subsidy for this group of borrowers at the margin could focus on the payment of the insurance premium to improve both lender confidence and borrower access to loans, iii) consumer education programs and consumer support systems to focus on this group specifically, iv) allowing part of the subsidy programs to be used for existing housing.

- *Successful operation of the SMF requires clarification of tax rules and adjustments of the limit on its lending term.*

  Recommended actions: i) tax regulations be clarified to avoid double taxation on securitization activities; ii) MOF to explore the extension of the term for liquidity lending by SMF beyond the current three year limit.

- *Finance Companies (FC) could play a role in medium term mortgage lending now that SMF is operational*, which could increase competition in the mortgage sector and improve the diversification of risk for the FCs.

  Recommended action: MOF to explore lifting the regulation for certain categories of Financial Companies that prevent their expansion into mortgage lending.

- *Inadequate housing market information creates inefficiencies.*

  Recommended actions: the Ministry of Housing and/or the SMF set up an integrated housing data base that includes price and appraisal information, information on building permits issued and housing transactions completed for different types of houses, consolidated information on the housing finance sector, etc.

C. Need to Develop Shorter Term, Non Mortgage Based Housing Finance Options.

Irrespective of the exact number of households that can access a regular mortgage loan with or without a subsidy, at least 40 percent or more than 300,000 of the total new households formed annually will not qualify for such loans because of low or uncertain incomes or low collateral quality.

- *There is a need to focus specifically on expansion of smaller, medium term housing loans to finance new and existing homes and home-improvements for this category of households.* Several banks and possibly some finance companies and micro-lending institutions may target that market. A new subsidy program is being developed that intends to stimulate the expansion of this sector through the provision of guarantees for part of the loan. But there is as yet reluctance by insurance companies to buy into the scheme.

  Recommended actions: i) provide training in housing micro-finance and technical support to cooperatives and other such lenders which are technically weak, ii) provide liquidity support to micro-finance providers; such a function may be conducted by the SMF since it requires similar types of analyses as required for liquidity funding for finance companies and banks, iii) explore alternative risk guarantee subsidies for micro-finance for housing in the form of closed escrow accounts for missed payments, which may improve lender confidence to enter that market. When such micro-lending for housing becomes better known as a separate product, and the risks are better understood, it may be easier to develop credit insurance products.

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I Introduction

Had this study of the housing finance system of Indonesia been conducted only less than a year ago when a smooth political transition promised a focus on macro-economic stability and the creation of a positive business environment, the tenor of the conclusions of this report might have been rather different. Economic growth rates for 2004 were higher than expected, Government and Central Bank (SBI) interest rates were steadily declining, and so were interest rates for mortgage lending, banks were confident to expand their credit portfolios and competition among banks for customers for mortgage and consumer credit was increasing, new housing lending products were introduced, demand for housing was increasing with the rise of disposable incomes and lower interest rates, housing finance subsidies had been redesigned to be more transparent and efficient and developers had come back into the market even though shortage of construction finance and constraints in land supply still hindered expansion into the moderate income housing. In short, the report might have concluded that after the major disruptions of the 1997/98 financial and real estate crisis and the related restructuring of the financial sector, the housing finance system showed signs of normalization and strengthening.

However, this positive trend was brought to a halt by recent macro-economic uncertainties; a worsening current account situation and decreasing international reserves, increasing oil imports and rapidly rising oil prices, and the effects of a global increase in interest rates resulted in a depreciation of the Rupiah, rising inflation and a related hike in government interest rates. Macro-economic uncertainties have a particularly negative effect on long-term mortgage lending, and therefore on housing investment, and there are indications that the current period of volatility is no exception. In addition, fuel subsidies are being phased out through the next year which has a negative effect on real incomes and therefore on housing demand and payment capacity, even if the poor are to receive a special cash transfer.

This paper will discuss the improvements made in the housing finance sector, the expected trends, and the areas of needed reform. It anticipates, maybe optimistically, that the current macro-economic and fiscal issues will work themselves out through the next year and, while slowing down mortgage lending in the shorter term and making lenders more risk averse for a while its expansionary course will continue in the longer term.

The paper will briefly outline the context in which the housing finance sector operates – the macro-economic environment, the overall financial system and the housing market – before detailing the development, structure, products and extend of both the mortgage and micro-finance sector for housing and the subsidies that apply to housing finance. It concludes with a summary of main recommendations.

II Macro-economy, Financial Market and Housing Market

A. THE MACROECONOMY

Economic Growth

GDP growth rates turned negative (-13 percent) as a result of the financial and economic crisis in 1998 but increased to pre-crisis levels of 5% in 2004, and exceeding 6% in the last quarter of

2004 and the first quarter of 2005. Real GDP growth has been strong since 2001; total GDP at current market prices was Rp532,568 billion in 1996, Rp1,290,680 billion in 2000 and Rp2,303,013 billion in 2004 (See Table 17; BI, 2005). Per capita incomes rose from less than $550 in 1999 to just over $700 in 2001 and $1050 in 2004. However, there has been a deceleration in recent quarters as a result of a weakening exchange rate and higher inflation. The slow-down reflects a number of growing risks in the Indonesian economy mostly linked to the fact that Indonesia no longer is an oil and gas exporter but net importer. Bank Indonesia's forecast is, however, that the expected growth rate will remain around 5.5. to 6% (year-on-year) for 2005 and at 5.5% to 6.5% in 2006.

After the crisis, GDP growth was attributed mostly to increases in private domestic consumption, 69 percent of GDP in 2003 (EIU, 2005), but the proportion of private consumption has declined in recent years to 66.5 percent (BI, 2005a) in favor of increased investment and, until recently, net exports. The relatively modest growth in private consumption in 2005 is due to the weaker purchasing power related to recent increases in inflation and credit interest rates, but is considered to rebound when macro-economic fundamentals improve.

Inflation, Prices and Interest Rates

CPI based inflation steadily came down to 5 to 6 percent since the post-crisis high of around 12 to 13 percent in 2001. However, during the first three quarters of 2005 inflation has increased and is estimated to reach over 15 percent by year end. This increase is attributable mostly to higher fuel prices.

Table 1 Inflation and Interest Rates, 1996 – 2005 (QII)

Year	Inflation Rate (%)	1-month SBI Rate (%)	3-month Time Deposits (%)	Interest Rate for Investment Credit (%)
1996	6.47	13.80	14.58	15.02*
1997	11.05	14.50	19.88	15.37*
1998	77.54	49.30	48.69	19.39*
1999	2.01	23.10	13.19	17.80
2000	9.35	12.50	13.33	16.62
2001	12.55	16.60	17.47	17.90
2002	10.03	13.50	13.65	17.82
2003	5.06	8.40	7.95	15.44
2004	6.40	7.43	6.99	14.05
2005 (Qtr II)	4.24	11.00	6.49	13.68
2005 (Sept)	9.06	11.00	8.51	14.17

**Un-weighted average of interest rates across all banks from Bank Indonesia*

Source: BI 2005 Economic Report on Indonesia 2004; BI 2005 Quarterly Report Vol 5, no.2 and BPS 2005.

Until 2004, food was the main driver of inflation. In 2004 non-food consumption exceeded food consumption for the first time since the crisis and CPI indices for housing, education and transportation showed higher CPI values than food. While the general CPI index for 2004 was 113.98 (with 2002 as base year), the housing index was 121.88, of which the cost of housing index was 120.91 and fuel, electricity and water was 137.68 (BPS 2005).

The greater economic stability and decreasing inflation from 2002 through 2004 caused interest rates to be adjusted downwards as well. However, the current increase in inflation has reversed that trend and the benchmark SBI discount rate increased from 7.43 percent in December 2004 to 11 percent in September 2005 and is anticipated to rise to well over12 percent before the end of the year. In response, banks adjusted the deposit rates and have recently increased the lending rate as well, including for mortgages.

Fiscal Policy

Current (2005) official estimates of the budget deficit are -0.9 percent of GDP, increased from earlier estimates of -0.7 percent. The increase was due to a quadrupling of fuel subsidies and, to a lesser degree, to the cost of rehabilitation of Aceh and Nias after the Tsunami disaster. Government has initiated a program to eliminate fuel subsidies in three phases, starting in March 2005 (29%), and again in October 2005 (126%) and the last increase in early 2006. Half of the subsidy savings were to be put into a compensation fund that is to benefit education, health and infrastructure and would provide a one-time income transfer to the poor. Disbursement form this fund has been slow however. The reduction in fuel subsidies is expected to decrease the budget deficit for 2006 and will allow Government spending priorities such as increasing civil servant salaries, increasing spending on infrastructure and implementing the fuel compensation program, to remain in place. No cuts in the current housing subsidy package are anticipated.

Trends in Income and Employment

Wages and per capita incomes. One of the critical impacts of the 1997 crisis was the decrease of real wages. From September 1997 to September 1998 real wages in the formal sector dropped sharply and came down to 1986 levels. Wage cuts were particularly severe in the urban sector

Table 2 Jakarta Provincial and National Average Minimum Wages 1998-2005

Year	MW/month in Rupiah* *Jakarta Prov*	% Change	Inflation y-o-y	MW/month In US$** *National Average*	% Change
1998	-	-	77.54%	$180	-66.60
1999	231,000	-	2.16%	$266	47.78
2000	245,000	6.06%	9.35%	$314	18.05
2001	426,250	73.98%	12.55%	$485	54.46
2002	591,266	38.71%	10.03%	$580	19.59
2003	631,554	6.81%	5.06%		
2004	671,550	6.33%	6.40%		
2005	711,843	6.00%	9.06%		

* National Labor Survey, 2005; **World Bank, 2005

and were concentrated at the bottom of the wage distribution. *Real per capita national income* began to rise again during 2004 from Rp7.4 million in 2003 to Rp7.7 million/year.[2]

Substantial real increases in minimum wage levels were approved in most provinces beginning in 1999. Table 2 shows the minimum wage adjustments for Jakarta province, and gives the national average yearly minimum wage in USD.[3]

Another indicator of a gradual improvement in consumption and incomes is the decrease in the proportion of the population living below the poverty line. This figure declined gradually from its peak of 24 percent in 1998 to 17 percent in 2004, which is the pre-crisis level (BPS, 2004).

Household incomes. Household income, rather than individual wages or per capita income, is the relevant base for the calculation of housing affordability. Interestingly, *household* consumption/income figures showed far less volatility during the crisis period than individual wage incomes and overall GDP. Households coped by having household members move to informal employment and by extending female labor force participation. As a result, the decline in household incomes was about half the size of the decline in individual earnings.

In October 2001 a detailed study of housing demand conducted for the Ministry of Housing and Public Works and the World Bank estimated the median monthly household incomes (50th percentile) for rural areas, urban areas including DK Jakarta and excluding DK Jakarta, and for DKIJ separately (Hoek-Smit, 2001). These estimates were based on the PBS Susenas survey of housing consumption and expenditures of 1999 (see Appendix 1). However, no household income figures are maintained by BPS and current median household income data can only be derived by assuming that household incomes increased in line with inflation since 2002 (like the minimum wages and other income measures appear to have done). Table 3 shows the estimates for the median household income levels of different groups for 2001 and 2004.

Table 3 Estimated Median Monthly Income Figures in Rp. And Monthly Payment for Housing and Loan Affordability

Housing Affordability	Rural	Urban	DKI Jakarta	Urban w/o DKI
Estim. Median Income/ month/2001	579,300	950,000	1,713,000	892,000
Estim. Median Income/ month/2004	712,514	1,166,500	2,106,917	1,097,122

Source: derived from Susenas 1999 and calculations by the author

These inflation adjusted median household figures are likely to be underestimated, since wages of formal sector workers rose by more than inflation during the 2001 and 2002 period to make up

[2] The average real growth in per capita income for the 1990-2000 period was 2.5 percent.
[3] There is some doubt, however, whether the current inflation hikes will be matched by minimum wage increases, since employers have to absorb the higher fuel prices and resist proposed increases in the minimum wage.

for real wage decreases of the 1998 to 2001 period. If it is assumed that informal wages tracked formal wages, total household incomes may, in recent year, have risen in real terms.[4]

Structure of the Labor Force. As a consequence of the crisis changes occurred in the labor force structure – labor force participation increased as well as the proportion of self-employed and family workers, mostly in the informal sector. Open unemployment increased as well and is particularly high in the age group of 15 to 24 years old (28 to 29 percent in 2004/05).

Table 4 Labor Force Participation Rates, Unemployment, Informal Employment 1997 - 2005

	1997	1999	2001	2003	2004	2005
Labor Force Participation Rate	66.3	67.2	68.6	*67.8*	*67.5*	*68.0*
Open unemployment	4.7	6.4	8.10	9,57	9,86	10.26
Proportion of workers in informal sector **	63%	65%	70%	74%	74%	

**Source: National Labor Force Survey, World Bank and Bank Indonesia, 2005*
*** In urban areas these figures were 43% in 1997, 46% in 1999 and over 50% since 2001*

Disturbingly, neither unemployment rates nor the proportion of informal sector employed have decreased after 2002. The low labor absorption, particularly in the formal sector, is due partly to a mismatch between the qualification of job seekers and the demands of the labor market. This is a longer-term structural problem linked to levels of education of the workforce. Closing of labor intensive industries such as textiles and shoes as well as repatriation of Indonesians working overseas further pushed up unemployed and increased the proportion of *informally employed* (mostly in agriculture and trade) to 74% of the national labor force in 2003 up from approximately 65 percent in 1999. However, the growth in formal sector jobs exceeded those in the informal sector in February 2005 for the first time since the crisis (mostly due to shifts in the retail sector) and labor force participation increased as well.

The impacts of these macro-economic trends on the housing market are considerable. First, the crisis and the related fall in real household incomes affected housing demand. While the crisis did not negatively affect *aggregate employment* it is likely to have caused an increase in the proportion of self-employed and family workers, informal sector employed and unemployed, which have persisted to this day. The potential pool of borrowers who can use conventional mortgage loans will be even smaller as a consequence, since lenders are reluctant to make loans to informal sector employed. Special savings and credit products will need to be developed to make sure that perceived lending risks to this group can be addressed (see below) and housing finance will be available for the majority of employed people. However, an increased sense of insecurity of future real income, higher fuel prices and rising interest rates will have a negative

[4] A back of the envelop calculation based on national per capita income figures for 2004 indicates that the *average national household income would be in the order of Rp.1.67million per month*, which would indicate a national median household income in the order of Rp.1.17 million per month, in line with the calculations of the median income above.

effect on the willingness of households to borrow longer-term for housing. Second, the crisis completely disrupted the mortgage finance sector and current macro-economic disturbances are a set back for the normalization of the sector which had just gotten underway.

B. STRUCTURE AND PERFORMANCE OF THE FINANCIAL SYSTEM

Development of the financial system

In 1988 Indonesia adopted a comprehensive deregulation of the financial and banking sectors, which was aimed at encouraging mobilization of funds, efficiency of banks and non-bank financial institutions and to develop capital markets. Until that time, the financial sector was dominated by government institutions and constrained by credit regulations. During the 1990s serious attempts were made to bring inflation under control which resulted in lowering inflation risk premiums in long-term interest rates. The banking system, non-bank financial credit and investment institutions, and capital markets saw considerable expansion and deepening as well as increasing international integration as a result. While the financial crisis brought this expansion temporary to a halt, it is quickly regaining momentum but now based on a more solid regulatory system. The main threat to the financial sector at this moment is related to increasing inflation.

Given the importance of the banking sector in Indonesia's financial system (see Table 5), the initial focus of regulatory reform rightfully focused on this sector. However, there is a growing awareness of the need for regulatory reforms of non-bank financial institutions such as finance companies, pension funds and insurance companies to expand the role they can play in unlocking financial resources and services for development. The newly established Indonesian Secondary Mortgage Corporation could play a critical role in this development related to the mortgage sector. Table 5 gives an overview of the financial assets of the banking and non-bank financial sector at the end of 2003.

Table 5 Assets of Banks and Non-Bank Financial Institutions in US$ and as Percentage of GDP 31/12/2003

Assets	US$ million	% of GDP
Commercial banks	138,360	56.0
Insurance companies	10,496	4.2
Pension funds	4,431	1.8
Mutual funds	8,231	3.3
Finance companies	5,933	2.4
Venture capital companies	246	0.1
Stock market capitalization	54,539	22.1
Funds raised through capital mkt	4,222	1.7

Banking Sector. The deregulation of the banking sector enabled the entry of foreign banks in the form of joint ventures and encouraged genuine competition. There was a proliferation of banks in the decade before the crisis. Banks had close ties with the real estate industry, which facilitated investment in the sector, but also caused less prudent underwriting of real estate projects. Nor was the expansion in the banking industry sufficiently monitored and supervised. These factors certainly contributed to the severity of the financial and real estate crisis of 1997/98. Many banks closed, others were recapitalized by government bonds and merged with other recapitalized banks. Government is gradually divesting from the banks it recapitalized and the number of state-owned banks has decreased as a consequence.

Table 6 Structure of the Banking System 1997 - 2005

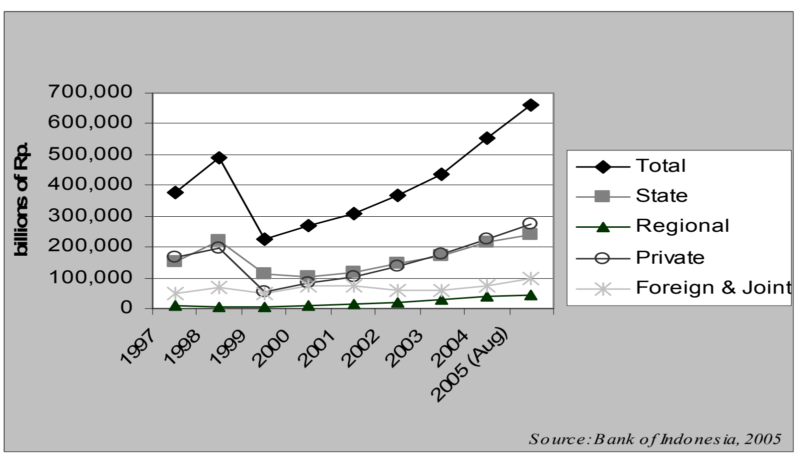
	1995	1997	2000	2005
State	7	7	5	5
Regional	27	27	26	26
Private	165	144	81	70
Foreign	0	44	39	30
Total	199	222	151	131

Source: Central Bank of Indonesia

Post-crisis, Indonesia has a well developed banking network of state, regional, private and foreign banks. There are 131 banks of which 5 are state-owned, including the only housing bank, Bank Tabungan Negara (BTN), and the largest micro-finance bank Bankk Rakjat Indonesia (BRI). Most Regional Banks are (partly) owned by local governments.

Since the crisis, government has sought to improve the safety and soundness of the banking system and has developed a policy package -- the Indonesian Banking Architecture (API) -- which is gradually being implemented. The position of banks has strengthened (See Table 7) and is, if anything, rather conservative with CAR positions mostly in the double digits (an average of 19.5 percent in 2005, while Bank Indonesia requires 12 percent).

Figure 1 Total Outstanding Credit of Commercial Banks in Economic Sector 1997-2005



Credits rose considerably during 2004, and were funded mostly by excess liquidity in the banks rather than through additional third party funds, i.e., there was a shift in earning assets from government and SBI bonds to credits when interest rates on government and SBI paper decreased in 2003 and 2004. Loan-to-deposit ratios (LDR) went up but are still low at 53 percent in June 2005.

Liquidity positions of the banks are sufficient as indicated by the high ratio of liquid assets to non-core deposits of over 98 percent. The blanket deposit guarantee issued after the crisis stabilized the deposit base. However, government and Bank Indonesia are preparing the establishment of a *Deposit Insurance Company*, capitalized initially by government, which will take over the deposit guarantee function and will limit its scope over time. The intention is to bring down the coverage to a maximum deposit of Rp100 million by March 2007, which may make large deposits less attractive. Another potential shorter –term risk to the liquidity position of banks is related to the current increase in interest rates, which induces large-scale depositors to move to shorter-term deposits worsening the duration position of the portfolio. Even if current mortgage portfolios are only a small proportion of total credit (approximately 8 percent) such outcome may in the shorter term have a negative impact on long-term mortgage lending.

Credit risk, as measured by the proportion of non-performing loans, decreased considerably for most banks since the restructuring, including for the state-owned banks, and was 4 to 5 percent in late 2004 and early 2005. The current increase in inflation and interest rates, and lagging real incomes, have increased non-performing-loans (NPLs), however -- gross NPLs stood at 7% in June 2005 for the banking sector in general and 13% for State Banks.[5]

NPL ratios differ markedly for different types of loans.[6] For example, at the largest state owned commercial bank NPLs in consumer credit were just over 2 percent in August 2005, compared to corporate credit NPLs of 41 percent and commercial loans of 16.4 percent. NPLs of BTN's mortgage portfolio increased from 3.2 to 5.3 percent between December 2004 and August 2005, mostly due to high NPLs on subsidized mortgage loans (see below). Expected interest rate increases may cause these NPLs to rise further since the great majority of mortgage loans are adjustable rate loans without caps (see below).

Banks profitability as measured by ROA and ROE increased gradually between 2001 and 2004 (ROA from 1.5 to 3.5 percent; ROE from 13.9 to 25.8 percent) , but has fallen during the second and third quarters of 2005 as a result of higher NPLs, foreign exchange impacts and smaller interest rate margins. The banks appear highly competitive both on rates and types of products they deliver. The main vulnerabilities appear to be macro-economic volatility, weak risk management systems and poor governance (corruption).

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[5] This latter figure is due mostly to a sudden increase in NPLs in one of the largest state-owned Banks.

[6] No up to date details were available on the breakdown in the period of loan delinquency. The 2001 HOMI study conducted an analysis of default/delinquency data of current mortgage portfolios (not originations) of a sample of banks (excluding BTN). It found that in 2000 11.17 percent of the mortgage loans were 1-90 days overdue, and 6.9 percent were more than 90 days overdue. These figures were 24.9 percent and 9.5 percent respectively in 1999. Loss ratios (over 12 months delinquent) on BRI mortgage loans were the lowest, 1.1 percent in 2000 and below 1 percent in 2001. However, LDR ratios at BRI were extremely low, a sign that BRI may have been too risk averse.

Table 7 Banking Sector Financial Indicators

	2001	2002	2003	2004				2005	
	Dec	Dec	Dec	Mar	Jun	Sep	Dec	Mar	June
Capital Adequacy Ratio (CAR)	19.90%	22.40%	19.40%	23.50%	21.10%	20.80%	19.40%	21.80%	19.50%
Loan to Deposit Ratio (LDR)	33.00%	38.20%	43.50%	43.70%	46.40%	48.10%	50.00%	51.20%	53.10%
Non Performing Loan (NPL)Gross	12.20%	7.50%	6.80%	6.30%	6.20%	5.60%	4.50%	4.40%	7.00%
Return on Asset (ROA)	1.50%	2.00%	2.60%	2.70%	2.70%	3.00%	3.50%	3.40%	2.20%
Return on Equity (ROE)	13.90%	15.00%	21.40%	29.20%	27.60%	25.80%	23.00%	25.50%	19.07%
Net Interest Margin (NIM)	3.60%	4.10%	4.60%	5.90%	5.80%	5.80%	5.90%	5.80%	5.75%

Source: BI and World Bank 2005

Rural Credit Funds and Village Rural Credit Institutions. There are a large number of non-bank credit institutions owned and controlled by provincial, district or village government (over 4500 in number), savings and credit cooperatives and credit unions (over 2000) and government pawn-shops (788 such institutions) that play an important role in providing short term credit, including for home-improvement/ expansion (according to spot surveys conducted by staff). Jointly with the large branch network of BRI, the micro-finance state-owned bank, (and the commercial bank network) these institutions make access to financial services widely available in Indonesia. All such institutions, with the exception of pawnshops, require savings accounts to be set up before credit can be issued. Unfortunately, no breakdown is available of the actual uses of the loans issued by these micro-finance institutions, nor is information about their performance easily accessible. However, performance of the local government and cooperative sector is generally considered weak. This sector is not regulated and supervised by Bank Indonesia but by the Ministry of Cooperatives, local government or BRI. New regulations are being prepared to strengthen their performance.

Finance Companies. There are 237 finance companies (FCs) in Indonesia, most of which are engaged in the provision of consumer credit (total outstanding loans of Rp42,600 in June 2005), and to a lesser degree in the leasing, factoring and credit card business. Total assets of FC increased to Rp78,900 billion in 2004 (MOF, 2005), an increase of 58 percent over the year before. These institutions fund themselves mostly with bank loans, domestic and off-shore (close to 40 percent of their funding in 2004)[7], other types of loans (9.5 percent of funding) and by debt issuances (9 percent of funding) and capital (11 percent).

The consumer credit business run by FCs has a high performance rate (only 0.7 percent of loans were "doubtful" and 0.9 percent was classified as bad debt in 2004 down from 1.6 and 2.1 percent respectively in 2001). Consumer loans are predominantly focused on motor bike and vehicle loans. Loans for housing comprised only 0.5 percent.

FCs are at the moment not allowed to make mortgage loans. However, with the recent establishment of the Secondary Mortgage Corporation (see below) it would be feasible to allow strong FCs to move into mortgage lending since they could gain access to longer term funding through the SMF or could be assisted to securitize their mortgage portfolios. This would diversify their risk away from consumer lending and increase competition in the mortgage sector. However, the SMF is only allowed to make liquidity loans for up to three years under its current mandate, which will be too short to entice FC to enter this market.

Insurance Companies and Pension Funds. There are currently 167 insurance (both life and non-life) companies in Indonesia (down from 178 in 1999), and several social insurance and workers' social insurance funds with investments of over Rp90,000 billion in 2005. In addition, there are several public and private pension funds with investments of approximately Rp60,000 billion in 2005. The largest of these is the public pension fund Jamsostek, which represents more than 40 percent of total investments of the sector.

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[7] Loans to FC comprised 66 percent of new bank borrowing in 2004.

Table 8 shows the breakdown of the investment portfolio of the insurance companies and pension funds in Indonesia during the post crisis period of 2001 to 2003. Currently (mid 2005), close to 40 percent of the funds are invested in various time and savings deposits in commercial banks and in Government or BI Bonds. This proportion has steadily declined from a high of 70 to 80 percent during the crisis years of 1998/99, when deposits were 100 percent insured. Investments in corporate bonds, on the other hand, have increased substantially with the growth in that sector since 2002 (see Table 9 below).

Table 8 Investment Portfolio of Insurance Companies and Pension Funds 2001-2003
(billions of Rp)

	2001		**2002**		**2003**	
	Amount	**% of Total**	**Amount**	**% of Total**	**Amount**	**% of Total**
Pension funds						
Total Investments	33,622	100.0	39,653	100.0	47,225	100.0
Bank deposits	23,139	68.8	27,521	69.4	26,815	56.8
BI bonds (SBI)	215	0.6	153	0.4	650	1.4
Government bonds	33	0.1	51	0.1	1,957	4.2
Corporate bonds	3,212	9.6	4,738	12.0	9,127	19.3
Shares	1,572	4.7	1,622	4.0	1,892	4.0
Mutual funds	357	1.1	503	1.3	1,702	3.6
Direct placement	2,319	6.9	2,334	5.9	2,351	5.0
Land &Buildings	2,379	7.0	2,363	5.9	1,534	3.2
Other	396	1.2	368	1.0	1,198	2.5
Insurance Co						
Total Investments	52,916	100.0	63,858	100.0	79,679	100.0
Bank deposits	31,013	58.6	37,141	58.2	35,150	44.1
BI bonds (SBI)	1,389	2.6	679	1.1	724	0.9
Bonds	4,748	9.0	9,984	15.6	21,209	26.6
Shares	1,319	2.5	2,796	4.4	4,274	5.4
Mutual Funds	3,817	7.2	1,310	2.1	3,221	4.0
Direct placement	3.870	7.3	4,003	6.3	4,752	6.0
Land &Buildings	1,200	2.3	1,882	2.9	1,981	2.5
Other	5,561	10.5	6,064	9.5	8,368	10.5
Tot Ins.&Pens. fd	**86,538**		**103,511**		**126,904**	

Source: Bank Indonesia and Ministry of Finance, 2005

These institutions are a source of long-term funds that could play an important role in mortgage lending given the size of their investment portfolio relative to the approximately Rp12,000 billion in new mortgages that is originated per year and the total outstanding mortgage portfolio of Rp60,000 billion (see below). Discussions with Jamsostek investors showed an interest in mortgage backed securities depending, of course, on their yield relative to risk free government paper. The increase in investments in corporate bonds bodes well for the potential appetite of long-term investors for mortgage backed bonds or equities. We return to this issue below.

The regulator, which is the Ministry of Finance, limits the proportion of total investments by pension funds and insurance companies in real estate related assets, i.e., land, buildings, mortgages or mortgage backed financial assets, which can not exceed 10% of the investment portfolio. Regulators are aware, however, of the potential role these long-term investors may play in the development of the mortgage sector. The regulator intends to review new mortgage-linked capital market instruments of interest to the insurance and pension fund industry before it will consider a change in the regulation to allow investment in this type of asset. There is a strong hesitation about investment in derivative instruments, since these are not well understood by either regulators or fund investors.

Capital Market Institutions. There are two stock exchanges in Indonesia; Jakarta which is focused on equity trading and Surabaya, which trades government and private bonds. Both markets performed well since the crisis, but recent economic instability slowed down growth.

Table 9 Capitalization Value and Percentage Increase of the Jakarta and Surabaya Stock Exchanges 1996 -2005 (billions of Rp)

Stock Exchange	1996	1999		2000		2004		2005 (Aug)	
BE Jakarta	215,026	451,815	110.1%	259,621	42.5%	679,949	161.9%	719547	5.8%
BE Surabaya	191,572	407,721	112.8%	225,802	44.6%	399,304	76.8%	404,985	1.4%

Source: BPS and Central Bank of Indonesia 2005

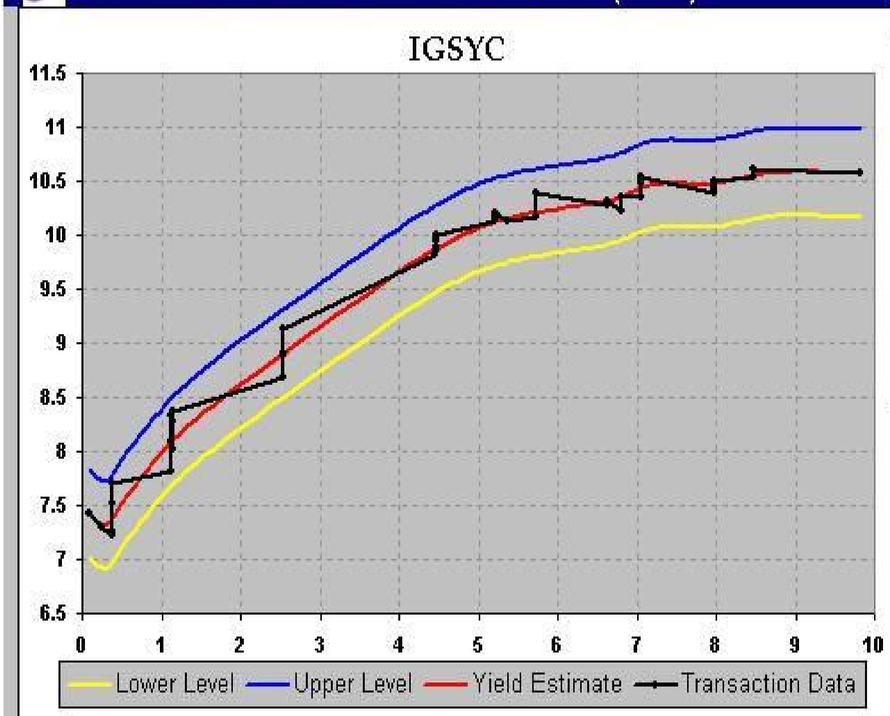
The number of companies listed in the stock market increased from 347 in 2000 to 428 in July 2005, and the number of companies listed in the bond market increased from 91 in 2000 to 157 in July 2005.

The ***government bond market*** had a capitalized value of Rp402,099 billion at the end of 2004, gradually coming down from its peak of Rp435,303 in 2001. Fifty five percent of outstanding government bonds has a variable rate coupon, 44 percent has a fixed rate and less than 1 percent are hedge bonds. The proportion of government bonds (capitalization value) held by recapitalized banks has decreased substantially, from 98 percent in 2000 to 64 percent in 2004. There was a rise in foreign investment in government bonds and government floated $1 billion in international bonds in 2004. However, worsening external conditions have increased yields demanded by participants in government bond auctions and several bond issuances were postponed in 2004 (BI, 2004) and 2005.

Since 2000, a well developed Indonesian Government Securities Yield Curve (IGSYC) is published by the Surabaya Stock Exchange, illustrating the yield to maturity of a composite of government securities derived from the Indonesian Government Securities Trading System, SBI rates, auctions of T-bonds and information from the electronic quotation system used by participants in the fixed-income securities market. This risk free yield curve goes currently out to a Time-to- Maturity of 15 years and will be extremely helpful in determining bid and offer prices of future SMF securities. Table 10 shows the IGSYC yield curves for 2004 and 2005 and Appendix 4 has the yield curve for August 2005.

Table 10 Indonesian Government Securities' Yield Curves December 2004, 2005 and August 2005.

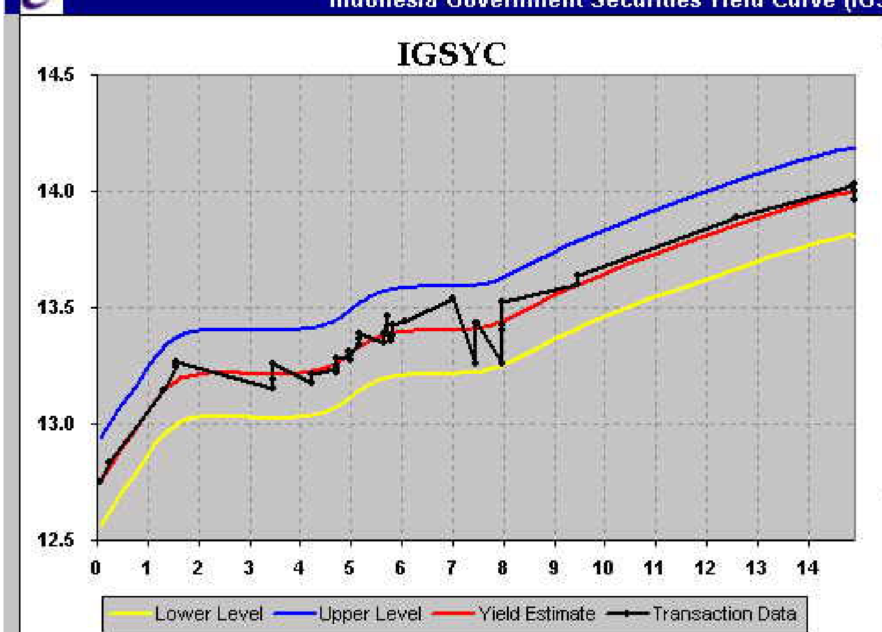
Indonesian Government Securities Yield Curve (IGSYC)



30-Dec-2004

Estimated Yield			
time	High	Median	Low
1	8.397%	7.992%	7.588%
2	9.025%	8.620%	8.215%
3	9.553%	9.148%	8.743%
4	10.064%	9.660%	9.255%
5	10.476%	10.071%	9.666%
6	10.646%	10.241%	9.836%
7	10.826%	10.421%	10.017%
8	10.886%	10.481%	10.076%
9	10.992%	10.587%	10.182%

Indonesia Government Securities Yield Curve (IGSYC)



29-Dec-2005

Estimated Yield			
time	High	Median	Low
1	13.243%	13.055%	12.868%
2	13.402%	13.215%	13.027%
3	13.403%	13.215%	13.027%
4	13.406%	13.218%	13.031%
5	13.492%	13.305%	13.117%
6	13.583%	13.395%	13.207%
7	13.591%	13.403%	13.216%
8	13.632%	13.444%	13.256%
9	13.739%	13.552%	13.364%
10	13.836%	13.648%	13.460%
11	13.921%	13.733%	13.546%
12	14.000%	13.812%	13.625%
13	14.074%	13.886%	13.699%
14	14.142%	13.955%	13.767%

Source: Surabaya Stock Exchange website

Not only did the yield curve flatten since December 2004 (and inverting briefly in August 2005) but yields increased dramatically as a result of changing macro-economic conditions (Bursa Efek Surabaya, 2005). Median yields for a 9 year TTM security were 10.587 percent in December 2004 and increased to 14.035 percent in August 2005 (and 13,552 percent in December 2005). These current risk free yields are an indication that yields required by investors on future mortgage-backed securities will be high relative to mortgage rates and cost of deposit funding by banks. See also Appendix 4 for the Government Bond Index and general bond market information (Bursa Efek Surabaya, website December 31, 2005).

The ***corporate bond market*** has grown rapidly since 2002, and stood at close to 14 percent of total bond market capitalization (or $55,000 billion) in August 2005 (up from 5 percent in 2002). Of the total value of *newly registered* bonds of Rp41 billion in 2004, 43 percent were corporate bonds (Bursa Efek Surabaya, 2005). The great majority -- *80 percent-- of outstanding corporate bonds has a fixed rate coupon*, 5 percent has a floating rate and 14 percent a mixed rate. Local ratings show that 62 percent of corporate bonds are rated A, while 32 percent has a B rating. Trading frequency in corporate bonds increased by 50 percent during 2004 (over 4000 transactions) since yields on corporate bonds compare favorably to low interest rates on savings accounts. Indeed, large investors such as pension funds and insurance companies increased their corporate bond investments relative to holdings in savings accounts (see Table 8 above).

The financial sector is the single largest issuer and has the highest capitalized value of corporate bonds followed by the infrastructure, utilities and transportation sector. Some reference prices of corporate bonds with different maturities of two state banks involved in mortgage lending BTN and BRI are shown in Table 11. Prices reflect the current increases in government rates and a similar uncertainty about long-term rate developments. Prices also show the relatively high cost of funding mortgages through corporate bonds compared to the costs of deposit funding.

Table 11 Reference Prices of Corporate Bonds of Selected Financial Institutions Surabaya Stock Exchange, December 29, 2005

Bond ID	Coupon	Maturity	WAP 7 days	WAP 14 days	WAP 30 days	Bid/Offer	Rating
BRI/500billion fixed rate bond/2004	13,5	9/Jan/2014	1.139	1.139	60.38		idA+
BTN/900billion/fixed rate bond/2003	12.5	2/Oct/2008	87.293	87.293	86.519	87/87.65	idA-
BTN/750billion/bond/2004	12.2	25/May/2009	0.975	0.975	55.553	86.5/87.25	idA-
BTN/250billion/bond/2004	12.6	25/May/2014	50.472	70.196	77.037		idBBB+

Source: Surabaya Stock Exchange website

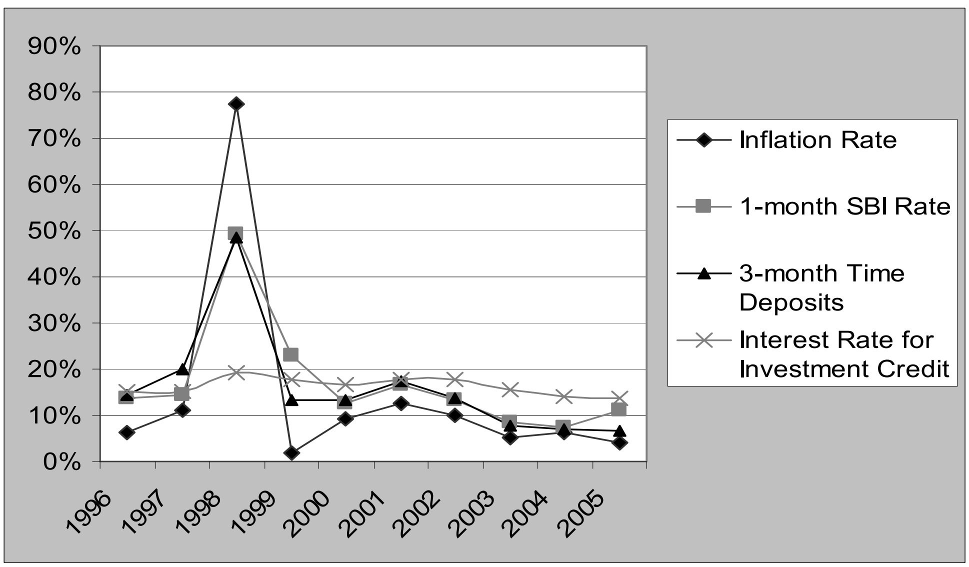
A ***Secondary Mortgage Corporation (SMF)*** was established by government in February 2005 by Presidential Decree No. 19/2005. The SMF will be discussed below.

Capital markets are supervised by the capital market agency, BAPEPAM, which was established in 1976. At that time is was both the organizer and champion of capital markets and their supervisor. Its dual function was eliminated in 1991 when it became the supervisory agency with tasks similar to the US SEC. BAPEPAM will supervise the capital market issuances of the SMF, while MOF is its overall regulator and owner.

Interest rates

Most banks use the 3 months time deposit interest rate to reflect their cost of funds. Some banks use the average time deposit rate (1 to 24 months deposits). However, pricing (repricing) of the credit portfolio is done by most banks on the basis of movements in the SBI rate, and the rates charged by their competitors. Current government and SBI rates are increasing because of inflation and increases in the US interest rate which makes the US more attractive for investment. The current (October 2005) BI reference rate is 11% and inflation is 9.06% (yoy), but both rates are expected to increase substantially when the effects are felt of further petrol subsidy cuts (inflation was 17 percent at the end of 2005).

Figure 2 Inflation and Interest Rate Movements of Selected Deposit and Credit Products from 1996 - 2005



Source: Bank Indonesia database

Figure 2 shows the interest rates of the 3 months deposit, the SBI rates and the interest rate of investment credit that closely reflects the rates for mortgage lending since 1996 (see Table 1 for actual figures). Most of the banks that were interviewed for this study had recently adjusted their interest rates on deposit and savings accounts and on their new and outstanding loans or were in the process of changing them. Mortgage portfolios had been repriced to levels of 16 to 18 percent. The typical mortgage instrument uses adjustable rate mortgages without short-term or life-time caps.

In summary, the financial system in Indonesia, while still dominated by the banking sector, is diversifying rapidly. In particular finance companies play an increasing role in credit provision. Capital markets are expanding not only in size but their equities and corporate bond markets are growing relative to the government securities market. A newly established Secondary Mortgage Corporation intends to facilitate access by primary lenders to long-term capital market funds.

Even within the banking sector the private banks have overtaken state-owned banks in the proportion of total outstanding credit, a trend that will continue with the ongoing move to bank privatization. Bank regulation and supervision has improved and regulatory reforms of the long-term investment sector are being considered. However, the current rapid increase in inflation and uncertainties in the macro-economy have a negative, but hopefully short-term, impact on these positive financial sector developments.

C. THE HOUSING MARKET

Population

Indonesia is the fourth most populous country in the world with 217million people in 2004. The 2000 census shows that 42 percent of the population lives in urban areas. While average population growth was only 1.49 percent during the last census period (1990 to 2000) it is focused on urban areas and is particularly high in the industrial growth areas of Riau, Belitung, Banten, and Maluku Utara. Rural areas show a negative growth rate. The average growth rate for urban households was estimated at 3.5 to 3.75 percent in 2001 given an average household size of 4 persons (Hoek-Smit 2001), or an increase of approximately 800,000 urban households per year.

Table 12 Population and Household Figures 1990 -2004

	1990*	2000*	2004**
Total Population	178.5 million	205.8 million	217,9 million
Annual growth rate	1.97	1.49	1.43
Average household size	4.5	3.9	3.9
Number of households	39.5 million	52 million	54.9 million
Percentage urban	30.9%	42.2%	42-45%
Estimated new urban households/ year			800,000

* *BPS Susenas 1990, 2000*
** *BPS Socio-Economic Survey, 2004*

Housing Stock

The great majority of households occupy a non-attached dwelling unit and the total stock is approximately 54 million housing units of which approximately 24 million in urban areas. Although the overall quality of the housing stock appears to be fairly good (using the household's own assessments the BPS Housing and Settlement Survey of 2004 indicates that 95 percent of the housing stock is in good to moderate condition), there are still over 2.5 million units that require urgent replacement. The State Ministry of Housing estimates a backlog of 6 million and a requirement for new housing of more than 1 million per year if the backlog has to be removed by 2020. This is the official policy goal and an enormous challenge for the GOI. There is great awareness that reaching this goal will require a major expansion of the micro- and mortgage housing finance systems.

Home-ownership is extremely high even in urban areas (70 percent). Importantly, the great majority of owner households hold legal ownership title to the land as a result of a massive campaign to improve land titles by the Land Agency (BPN). These rights are either full freehold title or a BPN certificate. This extension of property right clarification and registration is a major improvement over just 15 years ago when approximately 80 percent of urban plots were not formally registered. A 2001 survey of low-income housing areas in 10 cities showed, however, that in traditional settlements and informal areas a much larger proportion of owner households still had no title or certificate to the land (Hoek-Smit, 2001). Land titles are not guaranteed by government, but simply provide evidence of ownership.

Table 13 Housing Characteristics 2004

	Urban	Rural
Type of dwelling tenure		
Ownership	70	89
Lease	9	1
Rent*	7	0.5
Rent free	2	1.5
Parent/relative	10	7
Other	2.5	1
Property Right to Land		
Freehold (milik)	91	96
Right to build	8	3
Right to use	1	1

Source: BPS Housing and Settlements Statistics 2004
* Mostly private rental

Other *urban housing characteristics* can be summarized from the BPS Housing and Settlement Survey (2004) as follows:

- ✓ Close to 80% of urban housing is single storey non-attached and only close to 1 percent is multi-storey.
- ✓ Close to 50 percent of units is between 50 -100M^2 and 34 percent is between 20 – 49M^2.
- ✓ 40 percent of plots are more than 70M^2; 17.5 percent are between 55 – 70M^2 and more than 40 percent is smaller than 55M^2.
- ✓ 58 percent of households built their own house, 11 percent bought the house second hand and 8 percent bought their house from a developer.
- ✓ 41 percent inherited the land and 45 percent purchased the land separately or with the house.
- ✓ *65 percent of owner households paid for the house in cash, while 28 percent used a mortgage and 5 percent used non-mortgage credit.*[8]

[8] The finding that 28 percent of urban homeowners used mortgage loans for the acquisition of their homes appears high. Naturally, this figure includes owners who have paid off their loans. There are roughly 24 million urban housing units of which 70 percent, or 16.8 million, are owner occupied. If 28 percent of these owner-occupiers used a mortgage this would mean a total of 4.7 million mortgage accounts across all 2004 homeowners. Total mortgages outstanding (mostly new since the crisis) are approximately 1 to 1.5 million. That would require that 3 million pre-crisis mortgagors still live in their homes. It might be possible, but it is likely the survey has over-represented formal sector neighborhoods. See also the section on formal land-ownership.

- ✓ Close to half of owners with a mortgage had a loan term of 11-15 years and 11 percent had loan terms between 16 and 20 years.
- ✓ Only 5 percent of households live in a new settlement, 85 percent lives in an old settlement and more than 14 percent live along river or sea banks or in other disaster prone areas.
- ✓ 75 percent of houses are prone to regular flooding.
- ✓ 53 percent has no waste water disposal but 85 percent have a bathroom/ mostly a latrine.
- ✓ The great majority of houses is connected to electricity.
- ✓ Nearly 100 percent have access to "clear" water either piped or wells.
- ✓ More than 83 percent of households have TV.

The results show that self construction over time paid for by cash savings is the predominant mode of house acquisition (65 percent). The main problems related to the quality of the housing stock are lack of services and infrastructure, which cause regular flooding in most neighborhoods. Indonesia has excellent past experiences with comprehensive upgrading programs of poorly serviced urban neighborhoods or kampungs. These programs, combined with a campaign to provide tenure to those who occupy land without title, have improved living conditions. They have also increased the demand and potential for micro-finance credit for home-improvement.

House Prices and Affordability

In a large and diverse country like Indonesia, it is not easy to find reliable and meaningful urban house price data that capture clearly identifiable new and secondary housing market segments. There are two sources of information on house-prices that use a similar and well-understood typology of *formal sector housing markets segments*:

- ✓ Bank Indonesia (BI) tracks quarterly *new housing prices* in 14 cities. It started this survey in 2002 after the crisis had shown the dangers of a lack of housing market information. The survey distinguishes large, medium and small house types and compiles an index based on a survey of housing transactions.
- ✓ Pusat Studi Properti Indonesia (PSHI), a private real estate research firm, collects information on the housing sector -- prices of new construction and some resale transactions in a limited number of markets. It differentiates between high, medium, and low income housing market segments and further breaks down the low-income segments in three types according to the source of finance used -- houses that are financed by private banks, by BTN without subsidies, and houses that receive finance subsidies.

Table 14 and 15 show the price increases as measured by these surveys. Increases in price of newly constructed formal sector single family houses were well above 10 percent between 2002 and 2003, but the BI index shows a lower rate of increase of 5 to 6 percent (y-o-y) since 2004. In 2001 and 2002 house price increases were below inflation, while for 2003 and 2004 they increased faster than inflation, but not by an alarming proportion. Both surveys show that prices of larger houses have increased less than smaller ones. This is most likely a function of greater demand for small houses relative to supply, which appears in line with income distribution and housing affordability figures given below and in Section AII.

Table 14 Bank Indonesia House Price Index in 14 Cities

	12-2002	12-2003	12-2004	2005 Q.III
Composite index	106	117	124	127
Small type index	107	123	128	134*

* The third quarter 2005 index was 130 for medium and 123 for large houses.
Source: Bank Indonesia Residential Property Price Survey Quarter II 2005

Table 15 Average Prices of New Moderate-Income Houses and Percentage Increase by Type of House 2001 -2005 (millions of Rp)

	2001	2002		2003		2004		*2005*	
BTN Financed			%ch		%ch		%ch		%ch
$21m^2$ house/ $60m^2$ plot	22.1	25.1	13.6%	28.1	12.0%	31.8	13.2%	*35.7*	*12.3%*
$36m^2$ house/ $90m^2$ plot	35.6	40.3	13.2%	45.0	11.7%	51.6	14.7%	*57.2*	*10.9%*
Private Bank Financed									
$36m^2$ house/ $90m^2$ plot	60.5	67.5	11.6%	75.2	11.4%	86.5	15.0%	*98.6*	*14.0%*
$45m^2$ house/ $105m^2$ plot	73.4	81.7	11.3%	91.1	11.5%	105.1	15.4%	*120.8*	*14.9%*

Source: PSPI, January 2005 (2005 is an estimate by PSPI)

The cost of land is approximately 25 to 30 percent of the total cost of a formal sector new low cost house and somewhat higher for high-income houses. Land prices have increased by approximately 16% in 2001 and 2002 and 14 percent in 2004 and have contributed relatively more to house-price increases than have construction materials (see index in Table 16).

Table 16 Wholesale Price Indices (and % Increase) of Construction Materials for Residential and Non-Residential Buildings 1998 to August 2005

1998	1999	2000	2001	2002	2003	2004	2005 Aug
219	245	269	296	309	324	361	429
	11.9	9.8	10.04	4.4	4.9	11.4	18.8

Source: BPS 2005

An example of the differences in price increases across sub-markets, is provided by PSHI (2005) for different Jakarta suburbs for 2003 to 2004; price increases of the same house-types[9] were 16.6 percent in Bogor, 7.1 in Tangerang and 12.8 percent in Bekasi, reflecting differences in land prices related to locational desirability.

Assuming that the median monthly urban income for 2004 is Rp.1.2 to Rp1.5 (see Table 3), and the median price of a formal sector house is Rp.50 million (the price of a newly constructed $36M^2$ house on a $90M^2$ lot in 2004; and the estimated median price of resale properties), the

[9] Prices were standardized in Indonesia for the range of subsidized houses under the old subsidy scheme.

urban price- to- income ratio is 3 to 3.6 for formal sector housing, which is relatively modest for emerging economies. *Housing is, therefore, relatively affordable and standards are flexible* and, as has been argued in the HOMI study (Hoek-Smit, 2001) standards should in fact not be lowered (note the small size of new houses). *Both CPI and PTI data show that the housing market is not overheated and that supply is likely to be in relative balance with demand.*

Table 17 shows estimates of the monthly payments for housing a median income household could afford at a payment to income ratio of 30 percent of income, and calculates the affordable loan at current nominal interest rates of 17 percent on a 15 year loan. If a 30 percent downpayment is required, urban households at the median income level could afford a Rp32 to 33 million house.

Table 17 Estimated Monthly Payment for Housing and Loan Affordability

Housing Affordability	Rural	Urban	DKI Jakarta	Urban w/o DKI
Estim. Median Income/ month/2004	712,514	1,166,500	2,106,917	1,097,122
Mnth. Payment for Housing at 30%/inc	213,755	349,500	632,075	329,140
Aff. Loan at 17%, 15 Years	13,900,000	22,710,000	41,070,000	21,387,000

Source: derived from Susenas 1999 and calculations by the author

If mortgage interest rates would have continued to come down from 2004 levels to let us say 13.5 percent nominal (roughly 3 percent above the risk free rate of government paper at the end of 2004), this same household would have been able to afford a house of Rp38 to 39 million (a difference more than double the current subsidy amount at that price level, see Table 26). *Affordability problems are related mostly to the high costs and lack of access to medium to long-term finance to pay for a house upfront.* We come back to this issue in the section on mortgage lending below.

Housing Production

According to the PSHI survey, formal *developer produced house construction* reached 160,000 units in 2004 of which roughly one third were subsidized (see Table 18). This is close to the pre-crisis number of 204,000 units (1997). During 1998 only 119,000 formal developer built units were constructed (PSPI, March 1999) and in 1999 the number fell to 41,000 units, nearly all subsidized (BI and Kimpraswil, 2005).

The total amount of mortgage credit that was issued in 2004 was close to Rp12,000 billion, mostly for new construction, and could have financed roughly between 120,000 and 240,000 housing units (depending on the average price of a financed house). This is roughly matching the number of developer produced units. Reasons for this low level of developer produced housing units are likely related to: i) Constraints in land supply that drive developers to use their land resources for high return commercial developments rather than houses affordable for the broad middle and lower middle income groups. ii) Lack of construction and mortgage finance (see below).

Table 18 Number of Newly Developer Built Singe Family Houses 2002-2004 (projection 2005)

House Type	2002	2003	2004	*2005*
High Income	2,900	2,600	3,200	*3,500*
Middle Income	9,400	10,200	12,450	*14,800*
Low Income (Private bank financed)	35,000	42,150	46,790	*48,450*
Low Income (BTN financed/without subsidy)	48,080	44,020	41,500	*43,900*
Low Income (BTN financed/with subsidy)	25,920	32,540	55,200	*82,540*
Total	121,300	131,510	159,140	*193,190*

Source: adapted from PSPI, January 2005

These figures exclude the non-single family housing units produced by developers, i.e., shop houses and apartment buildings (high end). The capitalized value of these commercial developments -- close to Rp20,000 billion in 2004-- was higher than the value of all single family units produced by developers (see Table 19). The total number of individual housing units in such developments is not known; most are mixed developments.

More importantly, these figures *exclude all individual contractor and household built houses, both those with a formal building permit and unauthorized ones.* There is no national accumulation of data on formal permits issued for residential construction by local governments and this proportion of new construction is therefore not known. It is clear, however, that few houses produced in this way use mortgage credit. Since the registration of land titles has been expanded drastically in the last decade, it can be assumed that even if construction is not officially approved or may not comply to building codes and is therefore "unauthorized" most land on which units are built will likely be formally owned by the occupant or his/her relatives.

The number of new units required yearly just to house newly formed households (excluding Tsunami reconstruction and existing housing backlog) is approximately 800,000. Close to that number of housing units must be produced in order to have such modest increases in housing prices (relative to inflation). There are no figures, however, to show how many formal and unauthorized units are produced and of what price range and in what locations.

The Supply of Land for Housing

The supply of developable land is severely constrained and one of the most important reason for the low level of developer produced housing. IBRA (the government agency that acquired non-performing assets of banks recapitalized by the state after the crisis) has divested all of its land (and other) assets, yet large tracks of urban land are held by public agencies and private developer land banks and are not coming to the market in a timely way. Housing that is affordable to the broad middle income groups for which there would be a high demand is still considered less profitable by developers and a low priority for the use of their land. There are also significant numbers of small plots of land in urban areas that are undeveloped but serviced with secondary infrastructure and ripe for development (Lee, et.al. 2001).

This situation is made worse by the way development permits are issued by local governments and the lack of enforcement to make developers purchase land within the permit area and develop it in a timely fashion. While instituted to facilitate land development, developers are not penalized if they do not develop the land within the given period stipulated on the permit, and in fact can hold large tracks land off the market without costs to them. High costs and long delays in acquiring subdivision and building permits add to the inefficiency of the land supply systems. The result has been that much developable land in locations in need of residential development has been tied up, pushing actual development further to the outskirts of urban areas.

Housing Transactions

Most house sales are private sales without involvement of intermediaries and are not recorded. The improvement of the land registration systems has increased the recording of land –cum-house transactions, which were mostly informally conducted in the past. However, national compilation of such data is not yet available.[10]

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[10] The formal resale market as represented by the five major brokers in Indonesia showed a total of 10,000 to 11,000 transactions in the resale market per year in 2003 and 2004. Most of these transactions were for top-end houses and condominiums and do not represent the entire resale market.

Table 19 Value of Commercial Developments in Jabotabek and Other Regions
1999 – 2004 (billions of Rp.)

	m^2	Year							Total
		1999	2000	2001	2002	2003	2004	*2005*	
Shopping Centers/Jabotabek	3,498,053	1,469.00	2,756.09	4,484.30	9,828.00	15,937.90	21,368.02	*19,363.63*	75,206.94
Shopping Centers/Region	3,049,634	79.20	181.20	577.90	4,152.30	13,440.37	16,538.99	*13,367.96*	48,337.92
Office Developments/National	417,748	499.60	726.70	604.20	106.14	577.43	870.90	*1,066.25*	4,451.22
Hotel Developments/National	166,083	-	-	-	59.16	885.32	1,319.64	*1,327.70*	3,591.82
Shop Housing Developments/National	-	1,096.00	1,922.00	2,220.00	3,938.00	5,582.50	6,364.05	*7,812.15*	28,934.70
Apartment Developments/Jabotabek	3,107,644	271.15	797.95	915.89	1,484.00	4,064.58	7,909.72	*11,859.84*	27,303.13
Apartment Developments/Region	131,304	-	-	158.40	249.40	361.82	236.24	*311.19*	1,317.05
Housing Developments/National	-	1,993.00	3,495.00	4,037.00	7,129.00	8,708.00	11,571.00	*15,078.00*	52,011.00
Total Developments per year	-	5,408.00	9,879.00	12,998.00	26,946.00	49,558.00	66,179.00	70,187.00	241,154.00

Source: PSPI, January 2005

II. Structure of the Mortgage Industry

A. PRIMARY MORTGAGE MARKET

Mortgage Industry: Scale, Structure and Performance
Scale. Outstanding mortgage credit has more than doubled since 1997 from close to Rp20,000 billion in 1997 to more than Rp50,000 billion in mid 2005. Indeed growth in mortgage credit has exceeded growth in other types of credit. However, expressed as a percentage of GDP mortgage credit is still only 1.83 percent compared to 3.12 percent before the crisis of 1997. Also, mortgage credit comprises only 7.8 percent of total bank credit (Table 20 and Fig. 4). While this is an increase over 1997 when mortgage credit was 5 percent of total credit, it is still extremely low relative to housing demand and estimated actual housing construction (see above discussion).

For example, total new mortgage credit in 2004 is estimated to be in the order of Rp12,000 billion (Table 20), and new construction finance is estimated as roughly one third of that amount. Yet the market value of formal investments in commercial residential and shophouse developments alone stood at more than Rp26,000 billion (see Table 19) and this figure does not account for investments in all contractor built new houses. Several reasons present themselves to explain the discrepancy between the value of commercial developments and debt finance for development on the one hand and the discrepancy between new residential units being produced and the relative growth in mortgage credit on the other.

Mismatch of debt finance for construction and value of commercial developments:

- i) Developers may have bought land from IBRA at very low prices and market values of projects developed on that land are much higher than shown in debt or equity finance.
- ii) Black money (taken out of the economy during the crisis), may be entering the sector from local or overseas sources.
- iii) Lack of construction finance (see below) and the fact that many developers are undercapitalized has shifted the emphasis towards equity investment and banks may come into development projects as part-owners. Also, potential home-owners are asked to put down large upfront equity payments in order to finance construction of the house. There is some evidence of this happening, but it has not been quantified.

A combination of all the above factors is likely to contribute to the discrepancy.

The low level of mortgage finance relative to new house construction:

- i) Middle/low income housing developments, were in the past linked to finance subsidies at fixed interest rates that included both construction and mortgage finance in the package and were geared towards developer produced housing. The state housing bank, Bank Tabungan Negara (BTN) dominated this subsidized market and added implicit subsidies by accumulating high defaults. Private non-subsidized ARM finance for middle and lower-middle income housing, whether for developer built or individual contractor built housing, could never compete in that fairly broad market segment and never developed even though the demand was always larger than the limited supply of subsidies. Changes in the subsidy scheme that create a more level playing field are too recent and as yet too experimental to have shown effects.

ii) Informal land ownership (in the past) and informal employment and low incomes made mortgage loans inaccessible for the majority of households and the difficulty of accumulating savings for a down-payment excluded yet another group. Moreover there appears to be a cultural preference for individually constructed housing managed by the owner and financed from savings and short-term credit. However, increasing pressure on available serviced land is making this model of house construction more difficult.

iii) Banks have not developed the capacity to lend for the predominant individual house-construction process, rolling construction finance over into long-term mortgages. Also, it is difficult for financial institutions to make small mortgage loans profitable because of high transaction costs (see below) related to loan origination, credit risk management and servicing.

iv) Lastly, while government interest rates and real mortgage rates decreased gradually and made mortgage lending more profitable and less risky, increases in the CPI and in nominal interest rates have a negative impact on the expansion of long-term mortgage lending.

Each of these constraints will be discussed in more detail below.

Market Structure. Banks, whether state owned, regional or private, dominate the mortgage market since finance companies are not allowed to issue mortgage loans and pension funds and insurance companies only hold relatively small mortgage portfolios, mostly for their staff and selected members.

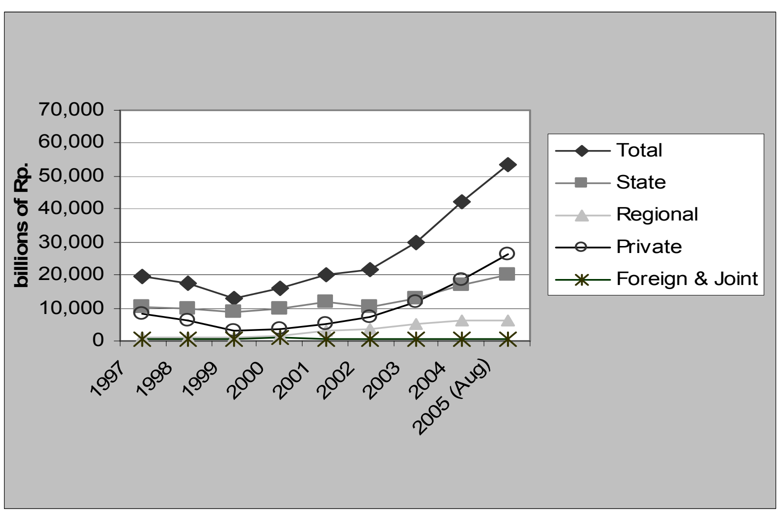
The crisis had a fundamental impact, not only on the structure of the banking sector in general, but on the structure of the mortgage industry. *First*, it caused the redistribution of mortgage credit across more and different types of banks. Before the crisis, BTN dominated the mortgage industry, holding approximately 80 percent of the mortgage accounts (then estimated at a total of roughly 1.5 million) and about half of the amount of outstanding mortgage credit. Bank Papan Sejahtera was the second largest mortgage provider, including of subsidized mortgages. Bank Papan was closed and BTN was restructured and recapitalized in the aftermath of the financial crisis. The mortgage portfolios of closed banks and the non-performing mortgage portfolio of recapitalized banks (as well as their non-performing construction and corporate loans) were transferred to IBRA, the government agency tasked with cleaning up the asset portfolios of these banks and selling them to the highest qualified bidders. Table 21 shows the relative proportion of mortgage credit held by the different types of banks since 1997.

Government continues to strengthen the banking sector through improved regulation, further mergers of banks it recapitalized and selective divestment of its ownership shares. BTN has so far remained as an independent state bank, but discussions of potential mergers have continued. Changes in the ownership structure and management of banks often lead to adjustments in credit strategies, and the current mortgage market structure may therefore still see some major changes. For example, Bank Danamon, the fifth largest commercial bank in Indonesia, was one of the recapitalized banks that went aggressively after mortgage portfolios offered by IBRA in 2001 and 2002 and became a major player in the mortgage market with more than 30,000 accounts and a mortgage portfolio of Rp2,500 billion. In 2003, Singapore based Asia Financial Indonesia Consortium acquired 66 percent of Danamon's shares. Its new foreign majority owners initiated a shift to consumer oriented micro-lending and stopped further expansion of the mortgage portfolio. Several other banks such as Bank Mandiri, Bank Lippo, BCA, Bank Permuta, and Bank Niaga have continued to make mortgage lending a priority business line and have expanded their mortgage portfolios. New management of Bank Rakjat Indonesia, with its expertise in micro-finance, intends to move aggressively into the mortgage market for the lower middle income segment, which is currently only served by BTN.

Most banks are expanding into consumer lending, which is the specialty area of finance companies, and large non-bank financial institutions intend to move into mortgage finance. In other words, former institutional specializations between micro- and mortgage lenders, universal banks and finance companies are increasingly blurred. The existence of the SMF may stimulate such diversification in the mortgage sector further, in particular, if finance companies would be able and allowed to move into mortgage lending.

Second, for the first time since the banking sector deregulation of 1988, private banks hold a larger share of total mortgage credit than state banks. This shift is not only a consequence of an increase in new mortgage lending by private banks but resulted from the sale of the sizable mortgage portfolios of the closed or recapitalized state banks by IBRA. BTN currently holds only a 25 percent share of the mortgage market, while the remainder is divided across several state, regional and private banks who actively compete for market share (see Table 21, Figure 3 and Appendix 2). At the end of 2004 BTN held Rp10,400 billion out of a total of Rp42,100 billion in outstanding mortgage credit. During 2004 it made Rp2643.4billion in new loans or 22 percent of the total new mortgage volume of Rp11.991.

Figure 3
Outstanding Mortgage Credit by Bank Type (Rupiah and Foreign Currency)



Source: calculated by author from BI data

Table 20 Total Banking Credit and Mortgage Credit relative to GDP 1996 – 2004 (billions of Rp)

	1996	1997	1998	1999	2000	2001	2002	2003	2004
Total GDP (Current Market)*	532,568	627,321	989,119	1,119,442	1,297,608	1,684,280	1,897,800	2,045,853	2,303,031
Total Bank Credit Outstanding	292,947	378,184	487,466	225,133	269,000	307,594	365,410	437,942	553,548
Total Bank Credit as % of GDP	55.01%	60.29%	49.28%	20.11%	20.73%	18.26%	19.25%	21.41%	24.04%
Total Mortgage Credit	15,049	19,547	17,471	12,838	15,976	19,912	21,773	30,108	42,099
Total Mortgage Credit as % of GDP	2.83%	3.12%	1.77%	1.15%	1.23%	1.18%	1.15%	1.47%	1.83%

** 2000-2004 from Bank Indonesia, Aggregate of four quarters; calculations by author*

Source: BSP and Central Bank of Indonesia

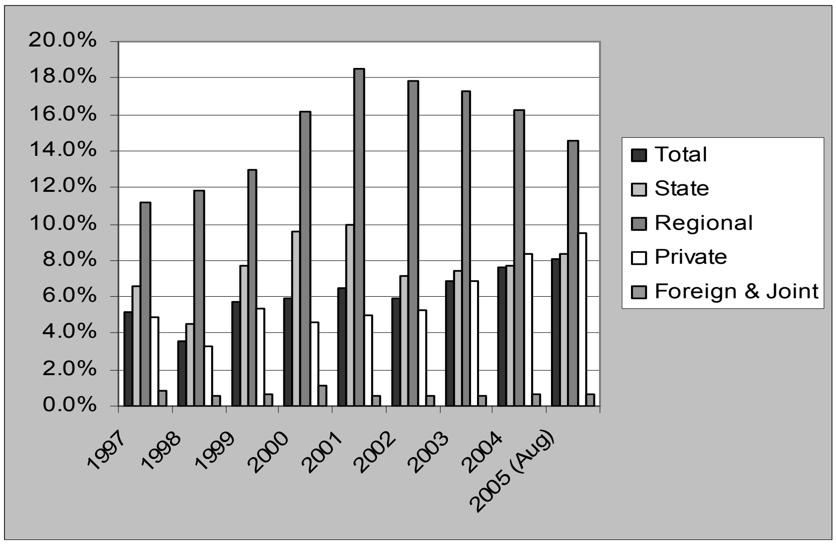
Table 21 Percentage of Total Mortgage Credit by Bank Type 1997 - 2005

	1997	1998	1999	2000	2001	2002	2003	2004	2005
State (%)	51.35	57.36	67.50	60.99	58.44	47.60	42.51	39.88	37.72
Regional (%)	4.32	4.45	6.85	10.23	14.33	17.67	16.76	14.40	11.80
Private (%)	42.33	35.99	23.27	23.68	25.32	33.25	39.59	44.56	49.14
Foreign & Joint (%)	2.01	2.20	2.38	5.10	1.91	1.47	1.14	1.16	1.25

Source: Central Bank of Indonesia

While for most banks the mortgage portfolio is only a small proportion of the credit portfolio (see Figure 4)[11], this proportion has increased steadily since 2002, particularly in private banks. Apart from BTN, the regional banks hold the highest proportion of mortgage loans (mostly to civil servants) relative to outstanding credit. Given the generally weaker performance of regional banks the increase in long-term mortgage assets requires close attention of regulators.

Figure 4 Outstanding Mortgage Credit as Percentage of Total Outstanding Credit for different types of Banks (Rupiah and Foreign Currency)



Source: calculated by author from BI data

Performance. There is no comparative information on the scale and performance of mortgage portfolios of individual banks, nor is there a separate organization of mortgage lenders that provides information on the sector. Equally, the Bankers Association of Indonesia (PERBANAS) does not have a special subgroup of mortgage lenders. In order to describe the history and performance of the mortgage sector, we will summarize the development of BTN and the context in which it operated until the crisis and compare its current position and practices with a sample of commercial banks that hold mortgage portfolios -- Bank Mandiri, Bank Danamon, Bank Permata, BRI.

Overview of BTN, the specialized housing bank

The state housing bank of Indonesia, was founded in 1897 as a savings bank, and was directed in 1974 to expand into delivering subsidized housing finance to low and moderate income households. Most of BTN's lending was financed out of low-rate funds from the Central Bank. In the 1980s and 90s, until the financial crisis in 1997, it was making from 50-100,000 subsidized fixed rate loans per year. In addition it made a small number of non-subsidized variable rate loans to higher income households. BTN was facing a financial crisis at the end of the 1980s because of poor recoveries. It improved its delinquency rate to 18% and focused its subsidized lending further downmarket. Between 1992 and the time of the crisis in 1997, it also aggressively expanded its corporate lending portfolio. The weaknesses in its capacities in this

[11] With the exception of BTN which has 82 percent of its total credit portfolio in mortgage credit.

area were clearly revealed during the crisis when 100% of its corporate loans went into default and 70% by loan volume had to be transferred to the centralized bad debt agency IBRA. Total loss was over USD 1 billion. It was recapitalized and permitted to continue as a state housing bank.

In the early years after the crisis BTN became the lender of last resort for the mortgage subsidy system. It also started to do more risky lending to maintain its level of activity when the old subsidy scheme was transformed (higher LTV ratios and increasing construction lending to 30 percent of new credit in 2001), with increasing NPLs as a result. It has since refocused on its core business of lower middle income mortgage lending, both subsidized and non-subsidized and its performance has gradually improved (Table 22).

NPLs on the new and cleaned-up mortgage portfolios are within the same range as for other banks, but have increased in 2005 as a result of recent shocks in household incomes. Not surprisingly, NPLs on subsidized mortgages are higher than those on non-subsidized mortgages and increased relatively more in recent months (from 4 percent in 2004 to 6 percent in August 2005, while non-subsidized mortgages went from an NPL of 1.8 percent in 2004 to 3 percent in the same period)(BTN interview). *Net interest margins have increased and are in the 5 percent range, and are approximately 50 basis points below the banking sector's averages*.

One of the main challenges BTN faces is expanding its *funding base*. *It received the last BI soft loan of Rp2 trillion in 2002 (a 14 year interest only loan) and will have to depend on its own funding base when disbursements from BI cease.* BTN is predominantly deposit funded, but its deposit base is expensive both in operating costs and in interest expenses (see Table 23). It has floated a number of bond issuances on the Surabaya Stock Exchange which received a rating of idBBB for the subordinate 10 year bonds and idBBB+ for the 5 year normal corporate bonds (see Table 11 for specifics). Such funding is expensive relative to the competitive rates on the mortgage portfolio. The establishment of a Secondary Mortgage Corporation (SMF) was partly motivated by the need to stabilize BTN's future funding position (when BI soft funding ends). *The SMF has to make sure that potential future risks in BTN's lending operation will not be transferred to government or government investors.*

With over 80 percent of its credit in mortgages, albeit mostly adjustable rate mortgages, it remains vulnerable to macro-economic volatility which causes interest rate risk and can increase credit risk. BTN is under considerable competitive pressure from other mortgage lenders with a more diverse credit portfolio and mortgage portfolios comprised of larger (less expensive) mortgage loans. It is reluctant to reprice its portfolio upward when inflation and SBI rates increase for fear of losing customers who prepay (a risk that currently affects both subsidized and non-subsidized mortgages) and take out a mortgage at a competing bank, even though prepayment penalties and other transaction costs are fairly high.

In short, the current lending environment is considerably more challenging for BTN than the pre-crisis period since it is competing in an adjustable rate mortgage environment without government support on the funding side, at least for now. Because of its improved performance discussions about privatizing BTN have become more relevant.

Table 22 BTN Performance Criteria 1996 – 2005

	1996	1997	1998	1999	2000	2001	2002	2003	2004	August 2005
Capital Adequacy Ratio (CAR)	72.20%	13.68%	-69.93%	-228.14%	8.65%	10.85%	11.39%	12.19%	16.64%	17.25%
Loan to Deposit Ratio (LDR)	91.23%	97.70%	214.10%	100.90%	48.10%	46.28%	51.31%	58.27%	67.90%	78.36%
Non Performing Loan (NPL) – Gross	9.36%	9.42%	47.99%	7.10%	3.27%	4.75%	4.76%	3.80%	3.21%	5.30%
Non Performing Loan (NPL) – Net	-	-	-	-	-	-	-	1.97%	0.22%	1.78%
Return on Asset (ROA)	1.81%	1.19%	-60.72%	-25.60%	-5.91%	0.49%	1.13%	0.82%	1.83%	1.76%
Return on Equity (ROE)	15.48%	12.09%	114.18%	-24.21%	369.99%	25.06%	31.31%	18.12%	40.93%	39.12%
Net Interest Margin (NIM)	4.01%	4.14%	-12.51%	-26.82%	-2.16%	1.24%	2.44%	3.35%	5.32%	5.25%
Profit Margin	11.98%	8.17%	523.84%	154.72%	-41.27%	3.86%	7.24%	5.04%	16.47%	16.00%

Source: BTN 2005

Comparing Mortgage Lenders -- a sample

Most of the 10 large banks are now offering mortgage loans for new or resale housing or for home improvements and some are actively growing this line of business. We compare the mortgage portfolios of different types of banks engaged in mortgage lending.

- ✓ Bank Mandiri, a merged state bank, is one of the four larger mortgage lenders with an outstanding mortgage portfolio of close to Rp7,000 billion (Rp2,591 billion in outstanding mortgages and Rp4,223 in home-improvement balances) and approximately 80,000 accounts at the end of QII 2005. It has built an infrastructure capacity to issue Rp1,000 billion of mortgages per month and grew its mortgage and home-improvement portfolio by close to 300 percent (year-on-year) in 2004.
- ✓ Bank Danamon and Bank Permata are examples of universal banks with sizable mortgage portfolios of approximately Rp2,500 billion with 25,000 to 30,000 accounts. Bank Permata, which now ranks number 6 in the mortgage market, invested in the necessary infrastructure to increase mortgage lending substantially. Bank Danamon, which did the same some years ago when it bought large blocks of mortgage loans from IBRA, will no longer expand its mortgage portfolio and focuses on consumer lending.
- ✓ BRI, the state bank focused on micro-finance, has currently only a small "boutique" mortgage program for fixed income earners which it runs through the Regional Banks (which are allowed to use payroll deduction). New management intends, however, to expand into the mortgage market with a new product – an average loan of Rp25 million with a term of 10 to 15 years, which makes it compete head on with BTN's core market product.

Table 23 shows some of the differences in the interest rate spreads, average mortgage amounts for new mortgages, mortgage rates and terms, and the interest rates charged for non-secured personal loans.

Some findings of this small sample of different banks are summarized as follows:

- ✓ Apart from BTN, there are as yet no lenders who serve the market for mortgages below Rp100 million. Yet the majority of households can only afford a house below Rp50 million and the median house price is approximately Rp40 to 50 million (US$5000 to US$6000).
- ✓ Sizable rate adjustments on ARMs have been made by banks during the last couple of months which partly explain the increases in NPL ratios on mortgages. For example, the NPL for BTN's mortgage portfolio increased from 4.12 percent in 2004 to 6.16 percent in August 2005. In Bank Mandiri, NPLs on mortgages increased from below 2 percent to 2.3 percent, but these were low compared to a dramatic increase in NPLs on their corporate and commercial loans.
- ✓ There is intense rate competition amongst banks, but interest rate spreads are still high and not well analyzed. Some banks have begun to put in place more sophisticated pricing and risk assessment systems. Future SMF funding may assist in this regard.
- ✓ Spreads in the personal loan business are substantially higher (and the risks are perceived as only modestly higher) and banks are expanding their non-collateralized consumer loan portfolios including for home-improvements, car and auto loans. Also short term loans are favored in the current inflationary period.
- ✓ BTN has amongst the lowest mortgage rates in the non-subsidized market and in a segment of the market where it does not yet have much competition.

- ✓ Prepayment is a constant worry and is as high as 15 percent per month in times of rate adjustments according to several banks, even though prepayment penalties are in the order of 1 to 2 percent of the outstanding balance.
- ✓ Cross-selling is actively pursued by the larger diversified banks where mortgages are introduced as one of several financial products offered by the bank.

The adjustment of mortgage subsidies away from the funding side of the banks directly to household subsidies has not yet resulted in the participation of a larger number of lenders in the low-income mortgage market but may do so in future when credit risk management systems improve. The current maximum income level qualifying for a subsidy is Rp1.5 million and a maximum house-price of Rp42 million.

Table 23 Mortgage Portfolios & Characteristics of Selected Banks October 2005

	BTN	Mandiri	Danamon	Permata	BRI
Mortgage Portfolio (Rps billions)	Rp11/12,000	Rp7/8,000	Rp2,500	Rp2,200	Rp500
# of Accounts	400,000 to 500,000	80,000	30,000	+/- 25,000	2,500
Interest Rates – Personal Loans	SBI + 7%	24-28%	40%	-	22-43%
Interest Rates – Mortgages	16% (from 14/ 15%	16.75% (from 14.75%)	18% (from 16%)	Moving to 18% (from 16%)	>20%
Deposit Rate	8-9%	7-8% blended av. cost	10-11.5%	-	8.5%
Average Loan Size	-Non-subs. Rp50 mill -Subs. Rp30 mill.	Rp100-200mill	Rp150-200 mill	Rp100 mill upwards	-Rp200 mill. -New mortg. product. Rp25 mill.
Loan-to-Value (LTV)	-Non-subs. 80% -Subs. 90%	70-80%	Based on risk: -Low risk 70-80% -High risk 40-50%	-Up to 90%/ high IR - 70-80% standard IR	
Payment-to-Income Ratio (PIR) before tax	35%	40% -2 inc.hh 30% -1 inc.hh	35%	-	
Typical Mortgage Loan Term	-Non-subs 10-15 yrs -Subs. 15 yrs	15 yrs.	Av. 8-9 yrs Max. 15 yrs	15 yrs	10 yrs.

Source: Author's Interviews with banks

Some conclusions can be drawn from this analysis of the performance of the industry:

- ✓ Recent trends in NPLs and profit margins resulting from current macro-economic shocks are a strong reminder of the critical importance of macro-economic stability for the mortgage sector.
- ✓ Policy measures have to be focus on the worrisome lack of access to loans below Rp100 million, e.g., assistance in credit and interest rate risk management, and

alleviating high transaction costs of making small loans (see discussion below), stimulating participation of finance-companies to increase competition.

- ✓ The lack of information on borrower's credit situation and performance beyond the bad-debt list maintained by BI and the lack of market wide information on house prices and price trends by geographical area does not allow a refined analysis of credit and collateral risk and causes interest spreads to be higher and LTV ratios to be lower than necessary.
- ✓ Standardization/infrastructure for mortgage underwriting, origination and servicing systems has just been developed in some banks and will likely begin to pay off in lowering transaction costs when these banks go to scale. Lower transaction costs may allow an increase in the proportion of smaller loans to be issued.
- ✓ There is a growing awareness that any mortgage based type of capital market funding will require standardized underwriting, origination and servicing systems. The SMF may assist in improving standardization of instruments, procedures and systems across banks.
- ✓ While regional banks were not included in this sample, their intended expansion in more risky subsidy programs needs special attention.

Mortgage Products

Instruments. Adjustable mortgage instruments are the only type of mortgage loans generated in the non-subsidized market. There are no caps on interest rate adjustments. Rates are adjusted at the discretion of the lender and are not linked to a cost of funds index. However, movements in the SBI rate are universally used to guide mortgage rate adjustments. Some banks use the SBI rate as a true index for the pricing and adjustment of short-tem consumer loans, e.g., BTN uses SBI plus 7 percent for its personal loan products.

Some banks have experimented with a 1 year fixed rate period after which the mortgage is moved to an adjustable rate regime. These loans are making a loss in the current inflationary environment and new origination has been stopped. However, the single focus on non-capped ARMs makes long-term mortgage lending extremely sensitive and vulnerable to short-term market rate fluctuations as is evident in the current inflationary environment. This concern could be alleviated to some degree by increased access to longer term funding.

The only single rate Fixed Rate Mortgages (20 years) are the old subsidized portfolios funded by soft loans form Bank Indonesia. This subsidy program has been eliminated and replaced by a subsidy that buys-down the interest rates or provides an upfront grant to individual households. While the upfront subsidy is linked to an adjustable rate loan, the *buy-down is linked to a prescribed multiple accrual fixed rate mortgage regime* and leaves, therefore, interest rate risk with the lender. BTN has preferred these buy-down subsidies becasue it binds the borrower to the institution and limits prepayment. However, this portfolio is exposed to high interest rate risk given the current increasing interest rates if the Ministry of Housing does not allow rates to increase on those subsidized mortgages. The reason for fixing the rate regime of these multiple accrual mortgage loans was a technical one (lack of capacity in the banks to calculate such regimes) rather than a principle one (see below).

There is also a concern that borrowers do not understand the implications of the adjustable rate mortgage regime well enough, particularly those borrowers acquiring a subsidized mortgage loan, since these carried fixed rates for the life of the loan in the past. *Consumer education is not required or encouraged and should be facilitated.*

Loan Conditions. Most mortgages are made for 8, 10 or 15 year terms with an average LTV of 75 to 80 percent. LTV ratios range between 90 and 50 percent and are often negotiated on the bases of the perceived *risk of the property*. In case a consumer needs a higher than average LTV ratio because of savings constraints, the interest rate on the loan is increased. While these risk pricing tools are fairly rudimentary, they can only be improved when more comprehensive housing market and borrower information will become available, and foreclosure procedures are further improved (see below).

Mortgage interest rates. Table 23 shows the range of mortgage rates charged across types of banks. The current rates vary from 16 percent to 18 percent for a 15 year loan. Most banks adjusted their rates upward to current levels during the months of September / October 2005. Mortgage rates steadily declined from approximately 20 percent in 2001 to 14 to 15 percent by the end of 2004. In 1998, during the crisis, rates peaked at 45 to 60 percent and mortgage lending, other than subsidized lending, stopped.

Mortgage Functions

Mortgage loan distribution channels. Indonesia is well banked and since more universal banks offer mortgage products access has expanded. BTN has a fairly extensive and valuable branch network focused in urban areas. It has approximately 45 branches and 35 sub-branches and there are several hundred cash outlets and ATM machines. The branch network is, however, costly even with the recent restructuring. The large universal banks have more extensive branch networks covering most main urban centers (e.g., Bank Mandiri with 20 to 30 percent market share in various banking areas, has more than 800 branches, more than 2500 ATMs). Several larger banks, including Mandiri, have connected all branches through the internet in real time, which makes it possible to have headquarters carry certain mortgage functions that cannot be done in the branches. However, the geography of Indonesia makes universal coverage difficult. If BRI would expand its mortgage offerings and would bring its major branch network (more than 4000) to bear on expanding mortgage credit or other housing finance products, the coverage of the population would be extensive.

On the consumer side, ATM machines are increasingly used in urban areas (e.g., Bank Mandiri has close to 300,000 daily ATM transactions), but they are not yet used for mortgage payments, nor are electronic transactions and nearly all mortgage related transactions are paper-based.

Level of unbundling. Banks conduct most of the functions related to mortgage lending; they originate, fund and service the loans. However, appraisals are sometimes done externally, in particular for main development projects. The only other part of the mortgage "food chain" that is unbundled is fire and life insurance which is commissioned to specialized insurance firms. There is a state owned credit insurance company (Askrindo) that has focused on Small-Scale-Enterprise credit and which is currently looking into establishing insurance for micro-credit for housing with a subsidy from the Ministry of Housing.

Transaction costs for housing units purchased with a mortgage loan

The transaction costs incurred by a residential buyer of a property are high in Indonesia. In most new moderate housing sales the bank and developer are the only parties involved with the customer and they coordinate title transfer and insurance with outside agencies. Whether this increases efficiency or, on the contrary increases costs, is not clear. It does facilitate the property transfer and loan origination process for the customer. BTN in particular has the ability to obtain titles and do the underwriting for large housing developments.

The example of BTN is indicative of the types and magnitude of transaction costs. It differentiates the upfront costs for subsidized and non-subsidized housing as shown in Table 24.

Table 24 Upfront Transaction Cost to be Paid by the Borrower (BTN)

Upfront charges	Subsidy package	Non-subsidized loan
Administrative fee (incl stamp duty)	0.5% of loan amount	1% of loan amount
Notary fee	Rp150,000	Rp250,000
Home-owners insurance (3d party)	Rp300,000 or 1% of sales price	1% of sales price
Life insurance (3d party)	Rp600,000	Dependent on age
Appraisal (3d party)	Rp100,000 (for development)	Rp200,000 (for development)
Land titling fee	Included in price	Rp1 million
Dedicated savings account (duration of amortization period)	Rp500,000	>1 monthly installment

Source: Author's Interview with BTN-October2005

The total upfront amount is in the order of Rp2.5 to 3 million in fees and required savings. For a median income household these transaction costs alone are 2 to 3 times the monthly income. On top of these upfront costs, a downpayment of 10 or 20 percent is required (e.g., Rp3 million for a subsidized house and Rp10 million for a median priced house of Rp50 million).

There are no additional taxes involved in this transaction. VAT taxes on building materials and house sales are 10 percent and 15 percent respectively (see discussion below). The latter tax is shared between buyer and developer. These taxes are added to the sales price (and therefore increase those fees expressed as proportion of the price or loan amount).

Construction credits to developers

There is a shortage of construction finance. Nearly all construction loans defaulted during the financial crisis and even after the crisis the defaults on construction loans were extremely high. In 2002 BI sent a circular to all banks to caution them against getting involved in construction lending.

One of the consequences of the lack of construction finance is that developers are shifting towards using more owner equity in development projects (including by banks). In the housing sector it has given rise to the use of a presale system whereby the developer demands upfront payments for a large proportion of the sale price from future owners. Such system focuses transactions on those who can save or access personal loans to pay upfront. Since consumer loans are considerably more expensive than mortgage loans this system is on the whole less efficient and will hinder expansion to moderate income groups.

BTN increased its construction lending from Rp416 billion (or just over 5 percent of its credit portfolio) in 2000 to Rp1,438 billion (or over 11 percent of its credit) in 2004. Most of that growth happened in 2001. However, 30 percent of construction loans went into default. BTN has since decreased the growth in construction credit. The lack of construction finance makes low-income housing development particularly difficult. For that reason BTN planned to provide a "new construction loan product" for developers of subsidized housing projects in 2004– a one year fixed rate construction loan that would be rolled over into mortgages for individual borrowers. They did not launch it because of rising inflation and interest rates. New systems of construction finance need to be explored with some urgency in particular for residential construction.

Credits for rental housing

The rental market is small and most new rental housing is supplied by the private informal market. There has been no commercial private sector rental development since 2002 (PSPI 2005) and the only formal commercial rental developments are undertaken by Perumnas (a state-owned developer) and some Local Governments. They are predominantly financed from own sources (often through regional banks). BTN and private banks typically do not lend for rental property development. The Ministry of Housing has committed a study of alternative systems to finance private rental housing.

Regulatory framework[12]

Mortgage lending, i.e., credit secured by a lien on real property, is regulated adequately in the mortgage law (Udang Udang Hak Tanggungan) No.4/1996 and several related government circulars.

Mortgage liens are routinely used not just for mortgage loans but to secure micro-loans made by banks as well (for example, Bank Rakjat Indonesia, requires a mortgage lien as surety for its micro-credit where-ever feasible), even though no foreclosure and sale of the underlying asset is ever carried out in those cases.

Savings accounts, for a specified amount related to the size of the loan and for the duration of the loan, are required as a form of surety by several lenders. However, potential borrowers cannot pledge their pension savings accumulated in their pension funds as collateral for a loan.

The law does not limit the type of mortgage instruments used by lenders nor is there a legal requirement to use specific reference rates or caps on interest rates. Prepayment of mortgages is allowed and so is the use of pre-payment penalties (see above). The right to prepay has influenced the type of mortgage subsidy instrument BTN prefers. By using a buy-down, the customer may stay with the bank longer, while prepayment is more frequent when an upfront grant is used.

[12] This section is based on an update of Lee et al, 2005.

Long-term mortgage lending is mostly confined to banks, since Finance Companies are not permitted to engage in long-term mortgage lending. Large non-bank financial institutions such as insurance companies and pension funds are permitted to provide long-term mortgage loans and some have recently expanded that area mostly to provide mortgages to their members; however, their total proportion of mortgage and real estate investment is bound by regulation (currently at 10 percent of total investments).

Banks are supervised and regulated by Bank Indonesia, while FC and pension funds / insurance companies fall under the regulatory umbrella of the Ministry of Finance (MOF). This split may lead to inefficiencies when non-bank financial institutions would move into mortgage lending.

The mortgage sector does currently not receive specialized regulatory attention. The same CAR requirements (12 percent minimum) and NPL provisioning rules apply for all banks whether there assets are composed mostly of mortgage loans such as BTN or not. Reserve requirements for mortgages have been lowered in 2002 from 100 percent to 50 percent, which is in line with international standards.

BI is, however, aware of the special needs of the industry particularly since the establishment of the SMF. Since 2002 BI has collected separate information on mortgage credit by type of financial institution and it has promised support in the areas of standardization, credit information to lenders and the development of a credit bureau and consumer education/ information in mortgage lending. This latter area is currently left to the individual lender.

Mortgage lending is not singled out for special taxation or tax benefits. Of course, tax on financial services and VAT apply to all housing related transactions. In the case of housing, this leads to many instances of double taxation which in turn increase the price of housing and may hinder the development of secondary mortgage transactions. On the real side both building materials and the sale of finished houses are subject to VAT (10 and 15 percent respectively). And on the credit side stamp-duty is paid on the mortgage credit contract and VAT will likely be applied in case of sale of the asset in a secondary market transaction. If the asset remains on the books of the financial institution and a debt instruments is issued against it no VAT will apply. This latter area is being discussed with government by the legal team of the SMF. These double taxation issues need to be addressed before new subsidies in the form of guarantees or tax breaks, are being considered for secondary mortgage market instruments.

Collateral efficiency[13]

Property Titles. The great majority of urban home-owners now hold title to their land, either in the form of Hak Millik (freehold) or by way of a certificate of BPN. The registration system does, however, not guarantee titles and, therefore, the possibility of latent claims, fraudulent practices and unpredictability of court decisions remain an issue. Many improvements have been made in streamlining forms of title evidence, Deed of Mortgage and Sales Purchase Deed and in registration requirements and process at the local level. Procedures are being improved by the National Land Agency who trains the local registries. The costs of titling are still high for many people, i.e., for a moderate property the titling costs are approximately Rp1 million.

[13] This section is based on interviews with Erica Soeroto, updating Merill and Soeroto, 2001.

Foreclosure. The mortgage law which was discussed above deals adequately with foreclosure in case of default. It was adapted from a 1848 Dutch Law, and its main weakness is that in case the occupant of a foreclosed property refuses to vacate the premises, eviction requires a court order, giving ultimate power to the chief of court. This has caused severe delays in the ultimate sale of the property in case of foreclosure.

The law also requires that the property be sold by auction in case of foreclosure, either private auction of through the government auction agency. In recent years this process has improved considerably. When private auction is allowed (e.g., by private banks) the entire foreclosure process can take as little as three months. When the courts have to be involved it often takes nine months. The advantage of using the court route is that the occupant can be ordered to vacate the premises.

Foreclosure costs vary for the different methods of auctioning and are difficult to assess since court involvement often means that informal payments have to be made.

Appraisals. The appraisal profession is self-regulated by two professional organizations who qualify their members. Financial authorities are not involved. Many banks have in-house appraisers but in case of large complex properties they hire outside appraisal firms or individual appraisers for second or even third opinions. The 2001 HOMI study found the methods used by the appraisal profession lacking. Too often the value of properties is based on "costs" or developer's sale prices rather than on real (resale) value.

Consumer credit information systems. Apart from the banks own records and the "bad debt" records of BI, there is no general information system on consumer credit. The bank relies on signed affidavits by borrowers that state their indebtedness and payment records. Absence of credit information makes borrowing more expensive for the customer since banks use blocked savings accounts and low LTV ratios to protect against credit risk.

Several studies have been made of the feasibility of establishing a credit bureau. It appears difficult, however, to convince all lenders to contribute information to a central bureau. Eventually, some push from BI may be necessary to achieve this. Without sound credit information, it will remain difficult to assess credit risk and hence price the risk upfront. Mortgage insurance, which may become more important when mortgages are used as a basis to acquire capital market funding, will be difficult to develop or will be more expensive without credit information.[14]

B. FUNDING SOURCES AND SECONDARY MORTGAGE MARKET

Current funding sources

[14] Based on historical records of pre-crisis mortgage portfolios a mortgage insurance expert made preliminary estimates of the price of mortgage insurance in Indonesia, based on partial coverage of the loan amount. With a 20 percent down-payment and a 30 percent MI coverage of the outstanding balance, upfront one time premiums would be in the order of 7.5 percent of the loan amount (Hoek-Smit 2001).

Most funding of bank credit is done through deposit and savings accounts. Table 23 shows that the average rates paid on deposits in a non-representative sample of banks ranges from 7 to 11.5 percent. There is currently a shift from time-deposits to savings and checking accounts because depositors want a shorter transaction time in an environment of rising interest rates. This shift has an impact on the liquidity position of the banks and their duration position. As a consequence some banks have moved towards personal and working credit as shown in a flattening of mortgage credit expansion, and may cause a return to increased investment in government bonds (which have a current yield of 20 percent compared to 17 and 18 percent mortgage rates). These trends may reverse next year if inflation decreases, but they show the volatile nature of the funding base for mortgages and the impact on supply. In addition, there is some uncertainty about the impact of imminent changes in the deposit guarantee system on the growth and stability of the deposit base which may have a negative effect on the stability of the funding base.

Funding other than deposit-based funding is limited and expensive. Several banks, including BTN, have issued corporate bonds (See Table 11). Such funding is costly relative to mortgage rates and deposit funding.

No mortgage bonds or securities have been issued in Indonesia to date. BTN had an assessment done for a mortgage bond issuance covered by part of its mortgage portfolio in the early years after the crisis when the subsidy scheme was under revision. However, the over-collateralization required as credit enhancement made the deal too expensive.

Indonesian Secondary Mortgage Corporation

Concerns about the funding mismatch in relation to long-term mortgage lending and limited access to alternative sources of funds by the banks (particularly in the case of BTN) gave rise to the establishment of a Secondary Mortgage Corporation.

The SMF was approved by government and parliament on July 22, 2005 as a fully government owned limited liability Co. under the Ministry of Finance. It was capitalized with Rp1 trillion. Its full capitalization is permitted to reach Rp4 trillion over time and MOF prefers to seek outside (and particularly multilateral) investors for all or part of the remaining investment. The CEO and directors were named by MOF and so was the Board of Directors. MOF is also the supervisor/ regulator. Technical assistance to the new institution will initially be provided by the Asian Development Bank and USAID.

The mission of the SMF is broad -- i) engage as a secondary housing finance facility with banks and other financial institutions that provide home-ownership credits, ii) raise funds from the public to provide secondary housing financing by issuing long-term and short-term obligations, iii) other activities that support both these missions. Equally broad are the possible *activities* it may engage in; i) purchase financial assets linked to mortgage cash flows or leasing contracts, ii) issue mortgage backed securities and/or promissory notes, iii) other activities such as providing mechanisms to improve credit quality (credit enhancement), engaging in training and education of the housing finance sector, and establishing housing finance data and information systems. However, SMF loans to mortgage lenders may not exceed *a term of three years*, at least initially. This may move its focus towards securitization even if that is more expensive.

The legal framework for all such activities appears to be in place; the mortgage law adequately deals with the sale of mortgages to an SPV or SMF and the capital market law (supervised and enforced by BAPEPAM, the Capital Markets Commission) regulates the sale of securities from SPV/SMF to investors. However, no mortgage securitization or mortgage bond issuance has ever been carried out in Indonesia and the first SMF transactions will be test cases for their efficiency. The precise nature of the capital market products or mortgage backed loans that the SMF will develop is not yet determined and will be the focus of the technical assistance it will receive in the coming months.

The SMF may extend its financial services to commercial banks and non-bank financial institutions. In particular, for Finance Companies such funding base may facilitate a move into long-term credit if regulatory change will allow them to do so. *However, loan-terms for liquidity funding will need to be expanded beyond the currently allowed three years.*

Current financial and fiscal sector fundamentals are, however, not inducive to secondary mortgage financing for banks:

- Banks are still very liquid and do not need additional third party funds.
- With government bond yields at 20 percent mortgages are simply not profitable.
- Without special guarantees that reduce the cost of funds raised by the SMF, or enhance the yield of its mortgage securities, the cost of funds to the banks will be high relative to mortgage rates and relative to deposit-based funding of mortgages. However, mortgage bonds or securities may yield a better rate than corporate bonds of individual banks if the quality of the underlying assets is high.
- True sale of mortgages is taxed by a 15 to 20 percent VAT, which may annul any advantage of securitization such as the reduction of reserve requirements (50 percent on mortgages) and the elimination of interest rate risk (which remains fairly limited because of the use of ARMs, but will become more relevant when banks want to move to part FRMs).

If liquidity positions in banks will become tighter and when the current macro-economic turbulence subsides, the extra liquidity and streamlined procedures to access capital market funding that a SMF can provide, may become more attractive and may assist to increase the volume of mortgage lending.

The business plan for SMF for the early years may include two types of activities:

i) Providing financial services at a fee: a) Securitize part of BTN's portfolio mostly as a pilot to see what legal and implementation issues need to be resolved, where and what type of credit enhancement should be provided by the SMF, what structure of securitization package is best suited and obtains the best rating. b) Work with finance companies and their regulator to develop appropriate liquidity funding that will bring high performing FCs into mortgage lending.

ii) Building up the infrastructure necessary to make the real estate and housing finance sector ready to develop investment grade assets that are attractive for long-term investors: The SMF could champion critical improvements in the following areas:
   - Standardization of underwriting procedures and documentation, and loan instruments

- Credit risk management and control
  a. The establishment of a credit bureau to improve information on borrowers
  b. Development of an initial credit scoring systems for the loans it accepts
  c. Development of mortgage insurance products
  d. Continued improvements of foreclosure systems
- Information Systems on the Mortgage and Financial sectors[15]
  e. Mortgage credit information by sector, type of house, value, location, type of financial institution
  f. Mortgage credit information by type of instrument, term, interest rate, prepayment, data on portfolio performance, NPLs by type of financial institution
- Exploring alternative secondary market debt and equity products and related credit enhancement systems.

C. MICRO-FINANCE LENDING FOR HOUSING

Most banks will not make mortgage loans to urban households with incomes much below the 60th percentile of the income distribution or to households with non-fixed incomes as their main source (roughly 75 percent of the labor force) at least in the shorter term. Also, because of high transaction costs mortgage loans below Rp25 million (US$2,500) are considered unfeasible by most commercial banks. Micro-finance institutions of all types (banks, credit unions, cooperatives, rotating savings institutions) are needed to provide both a vehicle for savings and non-mortgage credit for housing, and Indonesia has many such institutions (see above).

While commercial microfinance is widely available in Indonesia and is known to be used for home-improvements quite extensively (BRI interview), it has not been focused on housing. Special savings and credit products need to be developed to facilitate home improvement, home expansion, including for development of rental rooms, and new construction conducted on an incremental basis, i.e., loans with appropriate loan terms of up to 5 years that can be sequentially applied, feasible collateral and savings requirements.

However, until now, micro-finance for housing was mostly tied to housing projects. Credit is not provided on a commercial basis in such projects, but is considered part of the housing project and the participating MFI institutions and their credit policies remain weak. For example, Cobild, a donor funded community-based MFH system operated through the housing ministry and, typically, it did not survive the end of the project that funded it. Repayments remained a problem since households considered the credit part of the government project and there were no effective mechanisms to sanction non-payment. Such credit programs bring the wrong message to those who wish to strengthen the institutional structure of MFIs and provide commercially based credit.

The infrastructure is, however, available to move to a more commercial housing oriented micro-finance system. Micro-credit in Indonesia does not necessarily mean that lending is non-secured.

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[15] If the Ministry of Housing does not develop an Information Systems on the Housing Sector, the SMF may initiate such information system jointly with the Office of Statistics, including; # Housing starts and value by region and urban area, other RE starts and value, construction costs, land costs.

As mentioned above, households are often asked to provide the title to the property as "collateral" to the loan (a standard practice at BRI), even though the house will never be sold in case of default. It is rather used to provide an additional incentive to repay, but has not brought down the cost of credit. However, it is a relatively small step for micro-lenders such as BRI to move into the small mortgage credit or non-secured short term housing credit business.

The drawback of using non-secured lending for housing remains its high costs. Interest rates on MF credit typically range from 28 to 40 percent, and even personal loans for motorbikes and vehicles (which are the security by the property) come at interest rates in the high twenties. Such rates make these loans less feasible for new housing.

Nevertheless, smaller, shorter and non-property secured loan products for housing are important to develop. The HOMI project proposed several actions to prepare the MFI sector to play a role in housing:

- Build capacity through the micro-finance network or another training center.
- Change the way government and donors subsidize borrowers through the provision of cheap funds to micro-finance institutions for below-market on-lending to borrowers. Rather, subsidize the housing asset directly while strengthening the commercial base of MFIs.
- Establish a liquidity window for housing micro-finance, since the non-bank micro-finance lenders do not have access to adequate funds for MFH. At the same time, Indonesia's network of low income lenders is well positioned to enhance savings generation and this should not be discouraged. Such a liquidity window may be established as part of the SMF in order to keep institutional costs down. Such model is currently implemented in Mexico.

D. GOVERNMENT SUBSIDIZED CREDIT PROGRAMS AND DISTRIBUTION CHANNELS

The Old Interest Rate Subsidy

The cornerstone of the GOI housing policy was the KPR interest rate subsidy for loans for specific house-types. Under the system lenders, predominantly BTN (see above), received subsidized liquidity credit from BI for part of the loan amount and on-lent at fixed, below-market interest rates to qualifying households. The interest rates charged to borrowers and the proportion of liquidity credit to lenders varied per cost of unit. BTN was also the administrator of the program.

All subsidized lending was associated with specific housing developments, and the prices charged on those houses captured some of those subsidies (the typical interest rate subsidy was worth about 50% of the amount of the loan and the amount of the loan averaged about 80% of the value of the house).

The scheme provided between 50,000-100,000 subsidies per year from 1980-1997. Its PV costs were about Rp4.5 million per subsidy in 2001 (about USD 450), on an average loan of Rp20 million at 15% against a 20% market rate. The total costs in 2001 were approximately Rp500 billion or about 0.03% of GDP. To this amount needs to be added the sum of the inefficiencies related to lending through a state enterprise, plus the long-term costs of loan losses due to poor recoveries and entry into market-competitive sectors. Based on experience from 1980 to 1999, these costs could be more than Rp500 billion per year. This implies that the total explicit and implicit annual cost of the scheme may be about Rp1,000 billion or 0.06% of GDP per year (Hoek-Smit and Diamond, 2005).

Table 25 Nominal Value of Subsidized Mortgages and Total Number of Units Subsidized 1997-2003

	1997	1998	1999	2000	2001	2002	2003	Average
Total Nominal Subsidized Mortgages in Rp billion.	Rp1,429	Rp1,158	Rp427	Rp1,353	Rp564	Rp667	Rp359	Rp851
Total Number of Subsidized Units	175,659	130,677	41,717	97,057	39,613	39,979	16,578	77,326

Source: Central Bank of Indonesia and Ministry of Housing

The system remained unchanged for at least 20 years until the economic and financial crisis of 1997. However, the 1997 collapse was just the final straw for a system that had become untenable and had an increasingly negative impact on housing market and housing finance sector development. After the crisis, and as part of the IMF agreement, BI's liquidity funding for KPR subsidies was ceased and MOF had to carry the subsidy on its RDI budget. Several adjustments of the subsidy programs were tried out during 2001 and 2002, but it was phased out by 2004. BTN still has BI liquidity funding to compensate it for the remainder of the amortization period left on the subsidized mortgages on its book.

The New Finance-linked Subsidy Programs. The new subsidy programs introduced in 2004/2005 are of two types; one program subsidizes the moderate income mortgage borrower and the other intends to provide housing infrastructure and loan guarantees for micro loans for low-income households. These subsidies can be disbursed through all qualifying lenders. However, the loan guarantee component on the latter program is still being worked out. BTN is no longer the administrator of the new program.

The *mortgage subsidy program* has two options, an upfront subsidy and a buy-down on interest payments. Down-payments for both schemes are 15 percent for the top income group and 10 percent for the other groups. The maximum qualifying income level is Rp1.5 million per month which is around the median urban income and, as was noted above, a household at this income level will mostly not qualify for a mortgage loan without a subsidy. The lowest income group will only qualify for micro-credit for housing.

Table 26 New Housing Subsidy Scheme: Income Groups, House Prices, Subsidy Amounts

Income Groups	Max House Price	Max Subs. Amount
Rp1.5mill – 900,00	Rp42 mill	Rp3 mill
Rp900,000 – 500,000	Rp30 mill	Rp4 mill
Rp500,000 – 350,000	Rp17 mill	Rp5 mill

Source: Ministry of Housing 2005

The buy-down program runs for 4, 6, or 10 years on a 15 year loan depending on the income group. The main issue with the buy-down is that the multiple accrual interest rate regimes are fixed for the duration of the buy-down period and the lender therefore takes the interest rate loss when interest rates go up and reaps the benefit when interest rates go down (although recipients may refinance when the rate differential is negative). This feature is a weakness in the program and is supposed to be phased out when lenders can develop the technology to calculate the interest rate deduction on adjustable rate loans. However, the constraint of having a maximum buy-down subsidy amount in a variable rate environment will remain a design challenge.

About 70 percent of the new subsidies pledged in 2004 were taken up by BTN, and half had been implemented by August 2005. The Regional Banks (BPDs) have pledged most of the others but have not been able to implement them due to lack of funds. When the scheme is better known, lenders who want to move towards the below Rp50 million mortgage level may find the scheme of interest, particularly the upfront down payment scheme. BRI is one such Bank. In order to facilitate this move, government may consider providing some (smaller) subsidy incentives for housing units priced somewhat higher than the current cut off point of Rp42 million, but let us say Rp75 million, in order to gradually attract more lenders to the lower middle income market.

While the actual PV costs of the old and new scheme are not much different, the hidden costs of inefficiencies should be much less in the new scheme. It will also be much more attractive to banks other than BTN.

The Civil Servant Tax Fund

There is another subsidy scheme that needs brief mentioning. Civil Servants are taxed a small and progressive charge on their wages as a contribution to the Bapartarum fund. This fund is used to provide down-payment support to civil servants who buy a house and obtain a mortgage (mostly subsidized). The top income groups do not qualify for the scheme. Since the great majority of civil servants do not qualify for a mortgage, the subsidy still tends to be regressive. The subsidy amount is also very small and given the overlap with the new subsidy scheme it is no longer necessary.

E. CONCLUSION AND RECOMMENDATIONS

The mortgage sector was thoroughly disrupted by the financial crisis which hit Indonesia in 1998. Not only did the crisis stop non-subsidized mortgage lending, it also fundamentally altered the structure of the mortgage industry. The dominance of the Government Housing Bank (BTN) was undone when other banks bought mortgage portfolios from the government agency that was tasked with buying and then selling assets from closed banks and non-performing loans from banks that were recapitalized. Banks also began to make new mortgage loans when the macro-economic environment stabilized in 2003 and 2004. This expansionary trend has flattened in recent months because of rising inflation (expected to reach 17 percent by year's end) and government interest rates. As a consequence, nominal mortgage rates increased by 2 percent on average between the end of 2004 and October 2005, NPLs on mortgage portfolios increased and appetite for mortgage lending and borrowing decreased. In addition, this trend causes long-term investors to move their deposits to shorter-term holdings which in turn influences lender's attitude towards expansion of mortgage portfolios. These developments show the critical importance of macro-economic stability for housing finance sector development.

It is, however, expected that growth in the sector will resume when macro-economic stability returns during the next year. The liquidity in the banking system is still high and when government rates go down mortgage credit expansion would become attractive again since mortgage portfolios proved to be the most stable and well performing of credit portfolios both during the 1997/98 crisis and during the recent inflationary period. When mortgage rates come down demand is likely to pick up as well, depending on adjustments in real incomes. Also, some important changes were made after the crisis that will assist such recovery:

- **The banking sector has been strengthened and is better supervised**, and sustainable deposit insurance has been established and although not as generous as during the post-crisis year it will continue to stabilize the major funding base of the banking sector.
- **More banks, private and state-owned, have invested in building up the infrastructure for mortgage lending** and have created a competitive environment; the subsidized liquidity funding to the State Housing Bank, BTN, was phased out and BTN only holds and originates approximately 25 percent of total mortgage debt.
- **Improvements have been made in the legal environment for mortgage lending**; more households have ownership title to their land and foreclosure time has shortened.
- **There is a new more efficient and transparent subsidy scheme** that qualifies households at the margin of current mortgage lending and is available to all lenders.
- **A Secondary Mortgage Corporation has been established** as a catalyst to access capital market funding and allow a gradual move towards partly fixed mortgage instruments or capped ARMs, and to develop measures to improve the credit quality of mortgage portfolios. While rate structures and high liquidity in the banking sector limit its attractiveness as a liquidity provider at the moment, it will be able to develop a pilot securitization deal for BTN and iron out legal and administrative issues in the process. It also may be able to attract finance companies into the mortgage sector and open up currently underserved market segments and increase the competition in the mortgage market which is now dominated by the banking sector.

There remain serious gaps and weaknesses in the mortgage system that need to be addressed for it to continue to deepen and expand down-market:

- **Credit risk remains high partly as a consequence of the lack of credit information, and credit risk management mechanisms.**
  Recommended actions: i) BI facilitate the establishment of a credit bureau, ii) MOF and SMF take action to establish public/private mortgage insurance, iii) BI regulate consumer protection and the requirement for consumer education, iv) BI and SMF develop borrower education tools.
- **Lack of access to mortgage credit for households that are creditworthy and can afford a mortgage loan, but the market is not yet serving.** The top 30 percent of the income distribution will not have trouble accessing a mortgage loan, certainly households that have a main breadwinner in formal employment. Credit risk and high transaction costs relative to

loan amount and fees hinder lenders from moving down-market. The current subsidy programs may expand access to mortgage loans to the 40th percentile of the income distribution (the subsidy program can cover approximately 12.5 percent of demand for new houses with its current scale), but that leaves a large gap of creditworthy households not yet deemed mortgageable. Lack of finance to buy more affordable houses in the resale market further weakens upward mobility in the formal housing market. Some lenders may fill that gap, but may need some support.

Recommended actions: i) the Ministry of Housing and MOF/BI explore ways to tie requirements for saving for housing over a period of time to subsidized loans to establish lender confidence and increase owner equity particularly for borrowers who have non-fixed incomes, ii) expand (small) upfront subsidies to a level of income closer to the current margin of banks' willingness to lend (for houses of Rp75 million and below); if mortgage insurance is to be developed a subsidy for this group of borrowers at the margin could focus on the payment of the insurance premium to improve both lender confidence and borrower access to loans, iii) consumer education programs and consumer support systems focus on this group specifically, iv) allow part of the subsidy programs to be used for existing housing.

- **Inadequate housing market information creates inefficiencies.** BI has made a beginning to track house prices in 14 markets, but more comprehensive information is needed.

  Recommended actions: the Ministry of Housing and/or the SMF set up an integrated housing data base that includes price and appraisal information, information on building permits issued and housing transactions completed for different types of houses, consolidated information on housing finance, etc.
- **Successful operation of the Secondary Mortgage Corporation (SMF) requires clarification of tax rules and adjustments of the limit on its lending term.**

  Recommended actions: i) clarify tax regulations to avoid double taxation on securitization activities; ii) MOF explore the extension of the term for liquidity lending by SMF beyond the current three year limit.
- **Finance Companies can play a role in medium term mortgage lending with the availability of liquidity funding from SMF**, which could increase competition in the mortgage sector and improve the diversification of risk for the FCs.

  Recommended action: MOF explore lifting the regulations for certain categories of Financial Companies that prevent their expansion into mortgage lending.

Other improvements are required in areas that hinder the flow of affordable (below Rp75 million) mortgageable properties to the market:

- **The lack of supply of serviced land and tedious permitting procedures** make it unprofitable for developers to use available land resources for middle and lower-middle income houses.

  Recommended actions: the enforcement of the permit system, measures to release public land for residential development in suitable locations, improvements in the process and reduction of upfront and hidden costs to gain development and building approvals.
- **The lack of construction finance** provided by banks related to poor past performance causes developers to focus on projects where equity investments rather than debt can finance construction, and make contractor built houses dependent on owner funding.

Recommended actions: i) BI develop a circular with guidelines on prudent construction lending; ii) BI explore the establishment of special guarantees for construction lending (e.g., jointly with international development and investment agencies), although these could be expensive given the poor track record of such lending, iii) explore the establishment of an independent, fee-based housing quality guarantee program for new residential construction to ease the burden on lenders to conduct in-depth technical appraisals for moderate income housing and increase confidence to invest in this market segment, iv) eliminate the double VAT taxation on home sales for moderate income housing that impact affordability of developer built homes.

To complete the housing finance system for all types of households, access to shorter term, non mortgage based housing finance options need to be expanded. Irrespective of the exact numbers of households that can access a regular mortgage loan with or without a subsidy, at least 40 percent or more than 300,000 of the total new households formed annually will not qualify for such loans because of low or uncertain incomes or low collateral quality.

- **There is a need to focus specifically on expansion of smaller, medium term housing loans to finance new and existing homes and home-improvements** for this category of households. Several banks and possibly some Finance Companies and micro-lending institutions may target that market. A new subsidy program is being developed that intends to stimulate the expansion of this sector through the provision of guarantees for part of the loan. But there is as yet reluctance by insurance companies to buy into the scheme.

  Recommended actions: i) provide training in housing micro-finance and technical support to cooperatives and other such lenders which are technically weak, ii) provide liquidity support to micro-finance providers; such a function may be conducted by the SMF since it requires similar types of analyses as required for liquidity funding for finance companies and banks, iii) explore alternative risk guarantee subsidies for micro-finance for housing in the form of closed escrow accounts for missed payments, which may improve lender confidence. When such micro-lending for housing becomes better known as a separate product, and the risks are better understood, it may be easier to develop credit insurance products.

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APPENDIX 1

Monthly Household Income Distribution Based on Consumption, derived from BPS Susenas, 1999

Percentiles	Rural Household	Urban Household	DKI Jakarta Household	Urban w/o DKI Household
10th percentiles	238,000	355,600	661,900	343,800
20th percentiles	315,100	474,500	846,700	452,000
30th percentiles	372,300	577,600	1,037,800	551,000
40th percentiles	426,600	680,000	1,238,800	644,800
50th percentiles	**486,800**	**797,200**	**1,439,900**	**749,400**
60th percentiles	556,300	952,500	1,711,300	879,300
70th percentiles	640,100	1,183,600	2,022,000	1,071,100
80th percentiles	757,800	1,447,500	2,500,000	1,345,700
90th percentiles	972,200	2,169,700		1,817,900

Source: Hoek-Smit 2001

APPENDIX 2

Outstanding Mortgage Credit by Bank Type
(Rupiah and Foreign Currency)
Billions of Rp

	Total	Total Change	State	Regional	Private	Foreign & Joint
1997	19547		10037	844	8274	392
1998	17471	-2076	10021	778	6288	384
1999	12838	-4633	8666	878	2988	306
2000	15976	3138	9744	1634	3783	815
2001	19912	3936	11637	2853	5042	380
2002	21773	1861	10365	3848	7240	320
2003	30108	8335	12798	5047	11921	342
2004	42099	11991	16788	6063	18758	490
2005 (Aug)	53494	11395	20180	6357	26289	668

Source: Central Bank of Indonesia

APPENDIX 3

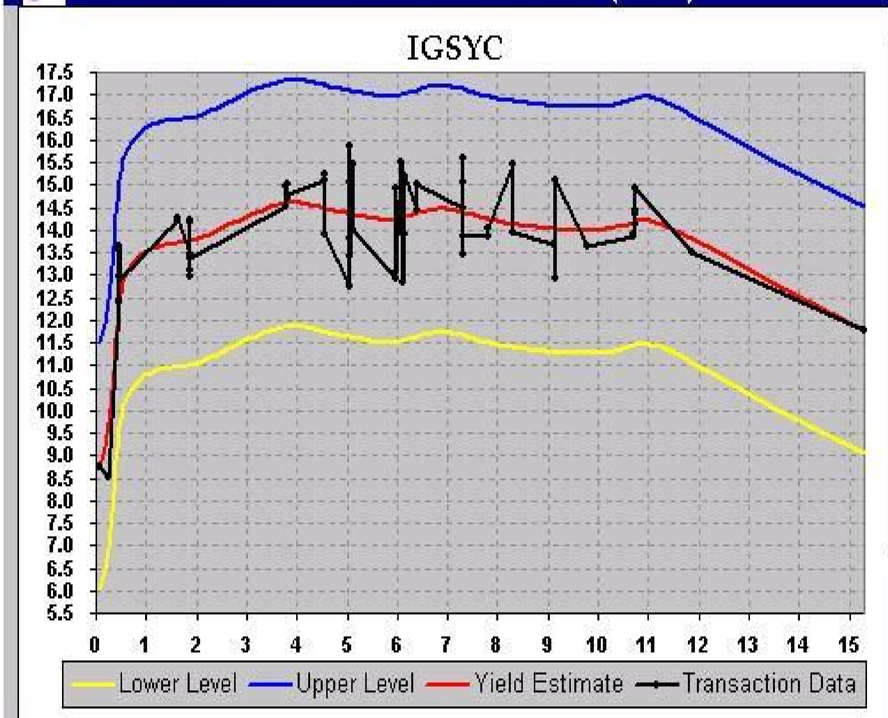
Composition, Actual Credit and Credit Position of BTN

	2000		2001		2002		2003		2004		2005	
	Rupiah	**%**	**Rupiah**	**%**	**Rupiah**	**%**	**Rupiah**	**%**	**Rupiah**	**%**	**Rupiah**	**%**
New Credit	1,824,069	100.00%	2,344,897	100.00%	2,975,439	100.00%	3,332,911	100.00%	3,984,426	100.00%	3,533,336	100.00%
Subsidized Mortgage	1,352,631	74.15%	564,116	24.06%	438,395	14.73%	722,039	21.66%	1,268,025	31.82%	978,756	27.70%
Unsubsidized Mortgage	68,613	3.76%	881,007	48.30%	1,289,651	43.34%	1,433,089	43.00%	1,375,401	34.52%	1,223,323	34.62%
Construction Mortgage	136,559	7.49%	552,343	30.28%	669,578	22.50%	602,487	18.08%	451,579	11.33%	473,353	13.40%
Multi-Purpose	228,994	12.55%	279,708	15.33%	540,452	18.16%	543,270	16.30%	816,629	20.50%	721,163	20.41%
Consumer Credit	37,272	2.04%	67,723	3.71%	37,363	1.26%	32,026	0.96%	72,792	1.83%	136,741	3.87%
Outstanding Credit	7,674,042	100.00%	8,411,916	100.00%	10,210,983	100.00%	11,160,966	100.00%	12,608,978	100.00%	14,192,768	100.00%
Subsidized Mortgage	5,891,648	76.77%	5,631,578	66.95%	5,430,661	53.18%	5,376,171	48.17%	5,832,504	46.26%	6,263,172	44.13%
Unsubsidized Mortgage	1,029,819	13.42%	1,641,164	19.51%	2,637,098	25.83%	3,730,396	33.42%	4,504,673	35.73%	5,252,361	37.01%
Construction Mortgage	416,679	5.43%	778,977	9.26%	1,141,754	11.18%	1,372,310	12.30%	1,438,004	11.40%	1,644,078	11.58%
Multi-Purpose	226,497	2.95%	288,728	3.43%	438,937	4.30%	519,257	4.65%	648,402	5.14%	791,915	5.58%
Consumer Credit	109,399	1.43%	71,469	85.00%	562,533	5.51%	162,832	1.46%	188,395	1.47%	241,242	1.70%

Source:BTN 2005, PSPI, December 2004

APPENDIX 4 Bond Market

Indonesian Government Securities Yield Curve (IGSYC)



31-Aug-2005

Estimated Yield

time	High	Median	Low
1	16.268%	13.532%	10.796%
2	16.532%	13.796%	11.060%
3	17.038%	14.303%	11.567%
4	17.330%	14.595%	11.859%
5	17.100%	14.365%	11.629%
6	16.988%	14.252%	11.517%
7	17.200%	14.464%	11.729%
8	16.922%	14.187%	11.451%
9	16.770%	14.035%	11.299%
10	16.747%	14.011%	11.276%
11	16.949%	14.213%	11.478%
12	16.463%	13.727%	10.991%
13	15.845%	13.109%	10.374%
14	15.251%	12.516%	9.780%
15	14.690%	11.955%	9.219%

Indonesia Government Bond Index
Thursday, December 29, 2005

Bonds	Indices					
	Clean Price	Change	Yield	Change	Total Return	Change
All Govt Bonds	91.508	0.177	**13.389**	-0.042	91.873	0.177
<= TTM < 5	93.994	0.019	**13.225**	-0.014	91.948	0.018
5 <= TTM < 7	90.653	0.105	**13.461**	-0.027	92.433	0.107
TTM >= 7	88.897	0.466	**13.542**	-0.096	91.328	0.478

BondIndex-20051229.csv

Source: Surabaya Stock Exchange website

Bond Market

Statistics Data as of August 2005

	2005		2004		2003		2002		2001	
	IDR	USD	IDR	USD	IDR	USD	IDR	USD	IDR	USD
Listed Issues (series) :										
Corporate Bond	264	2	243	2	180	2	111	0	98	0
Government Bond	50	0	48	0	52	0	51	0	25	0
Government Tradeable	50	0	48	0	52	0	51	0	25	0
New Listing :										
Corporate Bond	47	0	81	0	80	2	12	0	15	0
Government Bond	6	0	3	0	3	0	27	0	0	0
Number of listed bond issuer (companies)	106	2	107	2	92	2	55	0	54	0
Trading Volume (IDR in billion, USD in million) :										
Corporate Bond	18,010	4	15,776	1	13,511	6	6,092	0	1,115	0
Government Bond	464,432	0	512,989	0	314,059	0	130,787	0	66,222	0
Daily Average :										
Corporate Bond	97	0	65	0	56	0	25	0	5	0
Government Bond	2,510	0	2,129	0	1,292	0	534	0	269	0
Market Capitalization (IDR in billion, USD in million)										
Corporate Bond	59,523	105	58,791	105	45,390	105	21,520	0	18,831	0
Government Bond	406,398	0	399,304	0	390,482	0	397,967	0	64,654	0
Frequency of Reporting										
Corporate Bond	3,858	3	4,569	1	2,701	7	2,077	0	403	0
Government Bond	21,358	0	26,955	0	12,339	0	4,031	0	1,169	0

SSX Bond Index					
High	1,891.737	0.000	1,317.563	768.787	537.531
Low	1,660.698	0.000	883.401	532.132	437.364
Close	1,866.382	0.000	1,317.563	768.787	531.175

Source: Surabaya Stock Exchange website