

# Investing in an Emerging Mortgage Backed Securities Market: The Case of Korea Housing Finance Corporation<sup>1</sup>

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## Introduction

Korea Housing Finance Corporation (KHFC) is poised to change the structure of the Korean housing finance industry. KHFC is proposing innovative fixed rate long-term loans, which will fulfill an unmet demand among Korean homebuyers, and plans to offer long term Mortgage Backed Securities (MBS) in the bond market.

This article provides information on the emerging Korean mortgage market, a framework for establishment of this new Government Sponsored Enterprise (GSE) and characteristics of the KHFC MBS product. First, it presents current conditions of the secondary mortgage market in Korea. Second, it discusses the process and rationale for the establishment of KHFC. And finally, it introduces the KHFC home mortgage loan and the KHFC MBS.

## The Immature Secondary Mortgage Market

Although the MBS vehicle<sup>3</sup> has become an effective instrument in the Korean housing finance market during a very short period of time, the amount of MBS issuance has not increased substantially due to unfavorable market conditions<sup>4</sup>. One of the main reasons is that commercial banks with high deposit balances wish to keep profitable home loans in their portfolios and do not sell them to the secondary mortgage market. Therefore, the amount of MBS issuance is much smaller than that of Asset Backed Securities (ABS). In 2003, the amount of MBS issuance was 326.6 billion won<sup>5</sup>, a mere 0.83% of ABS issuance (please refer to Table 1 for further illustration).

**Table 1: ABS and MBS Issuance**

Unit: Billion Won

	1999	2000	2001	2002	2003
ABS (A) <sup>ψ</sup>	67,710	48,004	50,096	38,876	39,556
MBS (B)		1,379	838	952	327
B/A*100		2.87%	1.67%	2.45%	0.83%

Note: <sup>ψ</sup> The amount of MBS issued under the ABS Act is excluded

Source: Financial Supervisor Services (FSS)

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As the majority of MBS are composed of senior tranches, a MBS vehicle is a cheaper source of capital relative to an ABS product. Therein lies one of the important advantages of MBS products. For example, 99.7% of MBS issued in 2003 were composed of senior<sup>6</sup> tranches as compared to 84.2% for ABS products issued in 2003. Even the current small MBS market has profoundly affected the long-term bond market in Korea. Bonds with a maturity of above five years are considered long-term in the Korean bond market. The issuance of MBS with a 15-year maturity has spurred the availability of bond products with longer maturities.

The creation of a vibrant MBS market is beneficial for the Korean long-term bond market, but its current market size leaves little doubt that an MBS vehicle is not yet considered a leading financial instrument. In 2003 the amount of MBS issuance was a mere 2.7% of stocks issuance and 0.49% of all securities issuance.

The Korean government has addressed the lackluster MBS market by founding KHFC to help the housing finance market take-off. This is in many ways similar to the early years of the development of the MBS market in the US, which benefited from the support of GSEs like Fannie Mae and Freddie Mac. Before the formation of KHFC, Korea Mortgage Corporation (KoMoCo), a quasi-government entity, was the major player in the Korean secondary mortgage market. However, KoMoCo has not been able to stimulate the MBS market sufficiently. The government's National Housing Fund (NHF) is the largest shareholder of KoMoCo, but the majority of KoMoCo is privately owned. Government policy makers have concluded that a company owned and controlled completely by the government can develop the housing finance market faster than KoMoCo, which is trying to satisfy both private and public interests.

## **Establishment of Korea Housing Finance Corporation**

The Korean Government's aim in enacting the Korea Housing Finance Corporation Act (KHFC Act) and forming KHFC is to foster the secondary mortgage market as well as to reduce financial risks in the primary mortgage market. Launched in 2004, KHFC is a powerful entity equipped with many strong policy instruments to promote the secondary mortgage market. First, the scope of underlying assets for MBS has now been broadened so that more loans are eligible for securitization. Any mortgage loan classified as a general loan can now be securitized. In Korea, mortgages can be classified into two categories: the general loan or the mortgage loan. Second, the 'buy and hold' (so called 'portfolio investment') business has been introduced to reduce originators' financial burdens. Third, the new GSE is allowed to choose the optimal time for securitization. The GSE can hold mortgage loans in its portfolio if it finds that the market is not right for immediate issuance. Fourth, the guarantee limit of the new company has been expanded to 50 times the company's equity capital.<sup>7</sup> Fifth, with respect to mortgage loans purchased by the new GSE, when attempting to register itself as the authorized holder, it is regarded as a public entity. Again, this is similar to the low cost of capital factored in for GSEs like Fannie Mae and Freddie Mac, which are

widely thought to have an implicit government guarantee.

To create a higher level of public confidence, the new GSE is chartered by a more favorable act than the MBS Company Act under which KoMoCo was formed. First, the government and Bank of Korea (BOK) wholly financed the capital fund for the company.<sup>8</sup> Second, the account of the KHFC is kept separately from that of Housing Finance Credit Guarantee Fund (HFCGF). Third, losses resulting from the settlement of accounts are to be covered by a reserve account. When the reserves are insufficient, the government steps in to cover the losses. Also, the policy of putting MBS on the list of RP (Repurchase Agreement) transactions between the central bank and financial institutions is expected to be adopted soon. This should improve the liquidity of MBS in the bond market.

## The Emerging MBS Market

KHFC and the government announced their goal to originate home mortgage loans in the amount of 4.5 trillion won (approximately \$3.75 billion) and to issue MBS in the amount of 4 trillion won (approximately \$3.33 billion) in 2004. Their long-term plan is to issue MBS of about 70 trillion won (approximately \$58 billion) by 2008. If in fact this goal is reached, about half of the mortgage loan market in Korea will be securitized using MBS.

KHFC is originating home mortgage loans through nine financial companies, rather than buying mortgage loans already held by commercial institutions in their portfolios. This is in contrast to the strategy of KoMoCo, which was unable to obtain mortgage loans from commercial banks. KoMoCo issued MBS mostly backed by mortgage loans from National Housing Funds managed by the Ministry of Construction and Transportation (MoCT). As previously discussed, this did not stimulate the MBS market.

## KHFC Revolutionizes The Korean Home Mortgage Loan

KHFC home mortgage loan's interest rate is fixed for 20 years at 6.7% for the first issuance. This loan is very innovative because most of the mortgage products originated by other private financial companies are short-term, variable rate loans (please refer to Table 2). Commercial banks currently supply few fixed rate mortgage products and even if they do, these loans are very expensive with high spreads between variable rate mortgages and fixed rate mortgages.<sup>9</sup>

**Table 2: Loan Types (by interest features) originated by Commercial Banks**  
(Unit: %)

	1998	1999	2000	2001
Prime Variable Rate	76.3	72.2	53.1	52.5
Market Variable Rate	9.6	14.2	33.5	34.1
Others	14.1	13.6	13.4	13.4
<b>Total</b>	100	100	100	100

Note: Outstanding balance for eight leading commercial banks

Source: Bank of Korea (BOK)

KHFC is introducing these long-term fixed rate mortgage loans to fulfill borrowers' unmet demand and promote the primary mortgage market. With variable rate mortgages, homeowners bear the uncertainty of fluctuating interest risks. Currently, because banks primarily offer variable rate mortgages and fixed rate funding has a high financing cost, borrowers have no choice but to choose variable rate mortgage loans. The maturity of these loans is mostly less than 5 years, with just 13.1% of the outstanding balance of mortgage loans with maturity greater than 5 years (please refer to table 3). Banks prefer short-term mortgages to manage the maturity mismatch between short-term deposits and long-term mortgages. The demand from Korean borrowers for long maturity fixed rate loans is evident from a survey conducted by Kookmin Bank in 2003, indicating that 69.5% of respondents prefer fixed rate mortgages and 23.4% of them hope to borrow loans with a maturity greater than 10 years.

**Table 3: Maturity of Mortgage Loans**

(Unit: %)

	1 year or less	Greater than 1 year and less than 3 years	Greater than 3 and less than 5 years	Greater than 5 years
2001	21.2	52.8	7.6	18.4
2002	18.7	62.6	6.3	12.4
2003	27.7	50	9.1	13.1

Note: Outstanding balance of the end of each year

Source: FSS

KHFC will also enable a lot more borrowers to qualify for home loans. Current loan-to-value (LTV) ratios average about 30% in Korea, and these figures are lower than those of other countries. A lower LTV ratio indicates greater protection to the lender if the applicant defaults and it becomes necessary to repossess and sell the property (Fabozzi and Modigliani, 1999, p.42). Financial Supervisory Services (FSS) has recommended that lending institutions not originate mortgages with more than 50% LTV ratios, which is strictly followed by commercial banks (please see Table 4). Commercial banks do not have to consider borrower's risk profile in too much detail, as they are limited to such a low LTV ratio. Default risk is very low, and banks benefit from fines charged on late payments. FSS has allowed KHFC to originate mortgage loans with a 70% LTV ratio, which gives it an ability to reach out to many more borrowers. In turn, FSS requires that KHFC examine borrower's ability to repay the loan more stringently than commercial banks as KHFC has relatively much higher LTV ratios and consequently more risk.

**Table 4: New LTV Standards for Mortgage Loans as of June 2003**

Banks	LTV
Kookmin Bank	45% (mortgagor with low credit: 40%)
Korea Exchange Bank, Woori Bank, Hana Bank, Korea First Bank, Shinhan Bank, KorAm Bank	50%
Chohung Bank, Industrial Bank of Korea	50% (mortgagor with low credit: 45%)

## Introduction to KHFC MBS

KoMoCo had offered MBS with 96.6% composed of senior tranches as compared to 83.7% for MBS issued by other companies. A high percentage of senior bonds denotes a lower potential risk of loss from underlying assets, as losses from underlying assets are first absorbed by junior tranches. KoMoCo MBS are predominantly long-term with 59% of the bonds showing a maturity of more than five years, and 78% with a maturity of more than three years (please refer to Chart 1). As opposed to this long-term nature of MBS, ABS consists mostly of short-term securities. In ABS, the trend seems to be the opposite of MBS, with the percentage of ABS with maturity greater than five years decreasing from 5.6% in 1999 to lows of 2.1% in 2003 (please refer to Table 5).

Chart 1: Maturity of KoMoCo's MBS

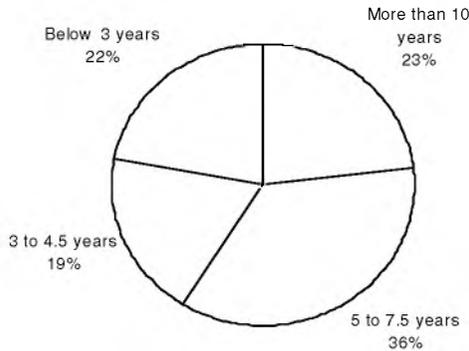


Table 5: ABS Maturity

Unit: Billion Won

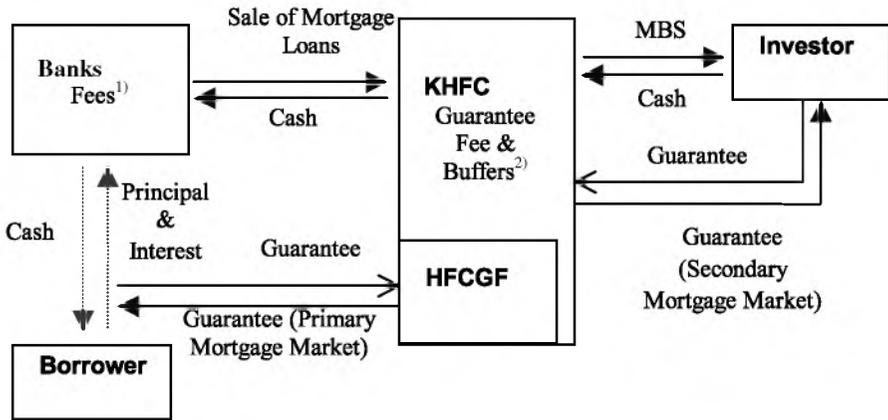
	1999		2000		2001		2002		2003	
	Amount	(%)	Amount	(%)	Amount	(%)	Amount	(%)	Amount	(%)
Below 1 yr	1,189	27.8%	10,833	35.2%	6,792	18.5%	15,830	55.0%	11,097	41.2%
1 yr-2 yrs	931	21.8%	13,174	42.8%	10,914	29.7%	3,541	12.3%	6,727	24.9%
2 yrs-3 yrs	1,084	25.3%	2,769	9.0%	9,498	25.9%	4,248	14.8%	6,027	22.4%
3 yrs-4 yrs	155	3.6%	902	2.9%	6,935	18.9%	3,806	13.2%	1,964	7.3%
4 yrs-5 yrs	680	15.9%	1,771	5.8%	1,286	3.5%	1,045	3.6%	572	2.1%
Above 5 yrs	240	5.6%	1,323	4.3%	1,299	3.5%	307	1.1%	576	2.1%
<b>Total</b>	<b>4,279</b>	<b>100.0%</b>	<b>30,772</b>	<b>100.0%</b>	<b>36,724</b>	<b>100.0%</b>	<b>28,777</b>	<b>100.0%</b>	<b>26,963</b>	<b>100.0%</b>

Note: Privately issued ABS were excluded

Source: FSS

The issuance of KHFC MBS would further nurture the long-term bond market. The structure of KHFC MBS is presented in Chart 2, while its major features are presented in Table 6.

Chart 2: Structure of KHFC MBS



Note:

- 1) Origination and servicing fees. Originators become servicers after sale of mortgages.
- 2) Buffers are types of fees that KHFC generates.

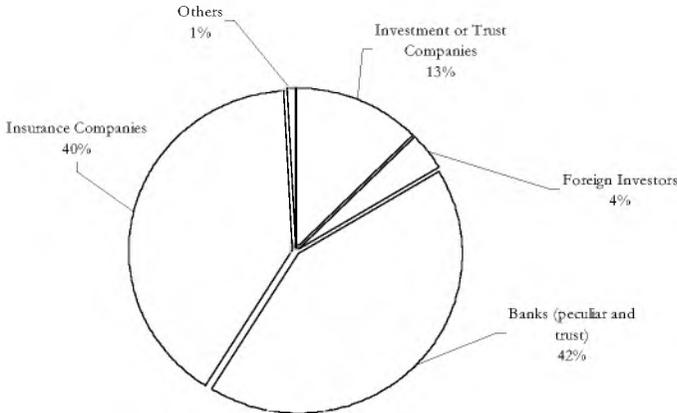
Table 6: Major Features of KHFC MBS

Underlying Asset	KHFC Home Mortgage Loan
Type of Loans	Fixed Rate Mortgages originated by 9 financial companies
Mortgage Rate of Underlying Asset	6.7%(First Program)
Weighted Average Coupon	NA (3 year Treasury coupon + mortgage yield)
Payment Date	Every 3 months
Pool Size(for investor)	About 300 Billion Won (Approximately 250 Million Dollar)
Structure	Sequential CMO (Pass-Through Type MBS)
Issuer	KHFC (Government Sponsored Enterprise)
Guarantor	KHFC (Senior MBS)
Guarantee	Full and timely payment of interest and principal of senior MBS
Servicing Spread	50 ~ 65 basis points
Servicer	9 financial companies who sold underlying assets

It is expected that large financial institutions managing long-term portfolios will be major KHFC MBS investors. This is similar to KoMoCo MBS whose major investors were banks and insurance companies<sup>10</sup> as shown in Chart 3. Kim and Heo (2004) claim that the Korean long-term bond market has the capability to absorb KHFC MBS without any negative impact due to the root shortage of long-term securities.

A few problems that may still cause inefficiency in the MBS markets are the lack of adequate infrastructure such as extensive industry data or Information Technology systems for analysis, and the lack of a developed long-term bond market in which investors can effectively analyze and price the MBS market.

**Chart 3: Investors of KoMoCo MBS as of Feb 2003**



## Conclusion

A thriving MBS market will advance Korean financial markets, including the long-term bond market. One of the main objectives of establishing KHFC was to prevent the primary mortgage market from being exposed to systemic risks due to the expansion of short-term mortgages with a variable rate after the Korean financial crisis. Until now, commercial banks have led the structural change in the primary mortgage market, and banks have tried to keep profitable mortgage loans in their own portfolio rather than transfer them to the secondary mortgage market through KHFC. Obtaining these mortgage loans from commercial banks that have a stronghold on loan origination will be one of the main challenges for the successful operation of KHFC. KHFC's progress in revolutionizing the housing finance market of Korea is worthy of a close watch.

## Endnotes

<sup>1</sup> This article is an updated version of “Establishing a New Government Sponsored Enterprise, Korea National Mortgage Corporation” on Housing Finance International, December 2003. It provides information beginning April 1, 2004.

<sup>3</sup> There are three laws that govern mortgage securitization in Korea: The Asset-Backed Securitization Act (ABS Act), the Mortgage-Backed Securitization Company Act (MBS Company Act), and the Korea Housing Finance Corporation Act (KHFC Act). Whereas the ABS Act was established in September 1998 to promote the restructuring of firms and financial companies, the MBS company Act was enacted in January 1999 under the rationale that mortgage loans could be more effectively securitized by a reliable permanent entity rather than by a Special Purpose Vehicle (SPV) with a limited life. (Lee (2003)) The KHFC Act was enacted on December 23, 2003. The KHFC Act states that the mission of KHFC is to contribute to the development of the national economy and to promote the housing welfare through the long-term and stable supply of housing funds through securitizations such as mortgage-backed securities and credit guarantee business.

<sup>4</sup> Lee (2003) studies in depth issues for promoting mortgage securitization.

<sup>5</sup> After the second quarter of 2004, when the government announced KoMoCo's merger with KHFC, KoMoCo could not issue additional MBS.

<sup>6</sup> For more detailed information, see You (2003).

<sup>7</sup> The guarantee limit of the MBS Company was previously 30 times the equity capital

<sup>8</sup> Although legal capital funds shall amount to two trillion won, the initial paid-in capital is 320 billion won.

<sup>9</sup> As of October 14, 2002. Kookmin Bank's spread between the 1-year term variable rate mortgages and 3-month term variable rate mortgages was 188 bps., and Woori Bank's spread was 92 bps.

<sup>10</sup> IFC bought KoMoCo MBS in the amount of 106 billion won.

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