

MORTGAGE FINANCE IN THE POST-LIBERALIZATION ERA: GLOBAL TRENDS AND THEIR RELEVANCE TO KOREA

By

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CONFERENCE DRAFT

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INTRODUCTION

How has the role of government in mortgage finance changed in the post-liberalization era? What might be relevant to Korea in the experience of other high income economies, especially in the European Union (EU) and the US? To address these two questions this paper first outline the framework for development of competitive mortgage credit markets that reflects a broad international consensus. Within that framework, the paper highlights some current issues in the development of Korean mortgage markets.¹

Others might wish to attempt a full exploration of the present Korean mortgage market and to canvass the full scope of further reform needs during a major transition. However, to fully understand where priorities and policy opportunities are today it would be necessary to analyze three distinct markets: the housing market, the mortgage market, and the fixed-income securities market, all three of which have been changing rapidly since the financial crisis of 1997. This paper focuses only on the core components of residential mortgage market development as they appear to apply to Korea.

¹ This paper is a conference draft. Some of the data are subject to revision as indicated in the paper. Do not quote this draft without prior permission from the author. Please contact the author at bertrand.renaud@att.net. The author would like to thank Dr. Man Cho and Professors Kyung-Hwan Kim and Kwan-Young Kim for information and very productive exchanges on current developments in the Korean mortgage markets, and Mr. Hans Joachim Dübel for his valuable comparative studies and comments on the EU mortgage markets. He has also benefited from recent discussions with Professor Dwight M. Jaffee. Any error of omission, commission or misinterpretation is the author's alone.

Before proceeding, a clarification may be in order. This paper distinguishes between “housing finance” and “residential mortgage finance.” “Housing finance” might be defined as the total flow of funds that finances the production of new housing units and the trading or upgrading of existing ones. This total flow of funds includes as a subset financing that is secured by a lien on the housing unit, which is actual ‘mortgage finance’. “Housing finance” includes unsecured financing akin to consumer finance that is not collateralized by a lien on the property. Such fund flows are still quite large the case in Korea where “Chonsei” funds continue to form a major component of the total flow of funds financing housing.² The total flow of housing fund also includes significant central and local fiscal resources.³ This paper focuses on the efficiency, completeness and stability of private residential mortgage markets, issues in their retail and secondary market components, and how these components interact within the system.

The paper is organized in three parts. Part I provides a historical and global perspective for the discussion. In particular, Part I discusses how the financial liberalization policies that started in the early 1980s have lead to the progressive disappearance of ‘special housing finance circuits’ in high-income economies. These special circuits are being replaced everywhere by competitive mortgage finance systems accessing capital markets and fully integrated with the overall financial system. Part II discusses the core functions of a mortgage finance system that underlies the framework of comparative mortgage finance within which we explore where the Korean system appears to be today compared with high-income EU and US systems. In closing, Part III raises two policy questions regarding the relationship between the current mortgage finance system and macroeconomic stability in Korea.

I. IMPACT OF FINANCIAL LIBERALIZATION ON MORTGAGE FINANCE

Direct contribution of financial development to economic growth and poverty reduction

A growing body of new research shows that financial markets do make their own contribution to growth and that improvements in financial systems precede growth. Sound

² It is worth mentioning that since the liberalization and opening of Korean non-residential real estate markets in mid-1998, the continuing use of Chonsei contracts in commercial real estate markets is meeting with strong resistance from potential international investors and partners as an undesirable form of lease. The full disappearance of Chonsei contracts from at least the A-grade real estate sector seems to be merely a matter of time.

³ An example of the ambiguity of the term “housing finance” is the UK study by John Hills *Unravelling Housing Finance* (Oxford University Press 1991) that has for subtitle “Subsidies, Benefits and Taxation.” That UK study is not about private financial markets, but about the public flow of funds to housing through British local governments.

financial systems also contribute to poverty alleviation by promoting economic growth and reducing economic volatility.⁴ After decades of debates, the cross-country evidence is emerging rapidly that the relation is a causal one. These findings are considerably at variance with widely held views during the post-World War II reconstruction era that finance was not really an economic sector of its own and should be used as an instrument of industrial policy. The policy rationale for government dominance of financial markets was based on concerns with market failures, which led to the critique by Nobel Laureate George Stigler that preferring the government to markets on those grounds was “reminiscent of the emperor who, when judging a contest between two musicians, gave the prize to the second musician after hearing only the first one.”⁵

The pre-liberalization era of directed credit limited financial market depth

In the pre-liberalization financial era, the growth of housing finance systems was often stunted by inappropriate public policies. Alternative non-market devices then developed for financing and subsidizing the housing sector, creating negative externalities for the rest of the financial system. On the other hand, well functioning mortgage markets will provide large external benefits to the national economy. The potential for real estate collateral to secure large amount of secured debts can also be an engine of innovation for the rest of the financial sector: the securitization of residential mortgages and other types of mortgage securities are now major components of the capital markets in OECD countries.

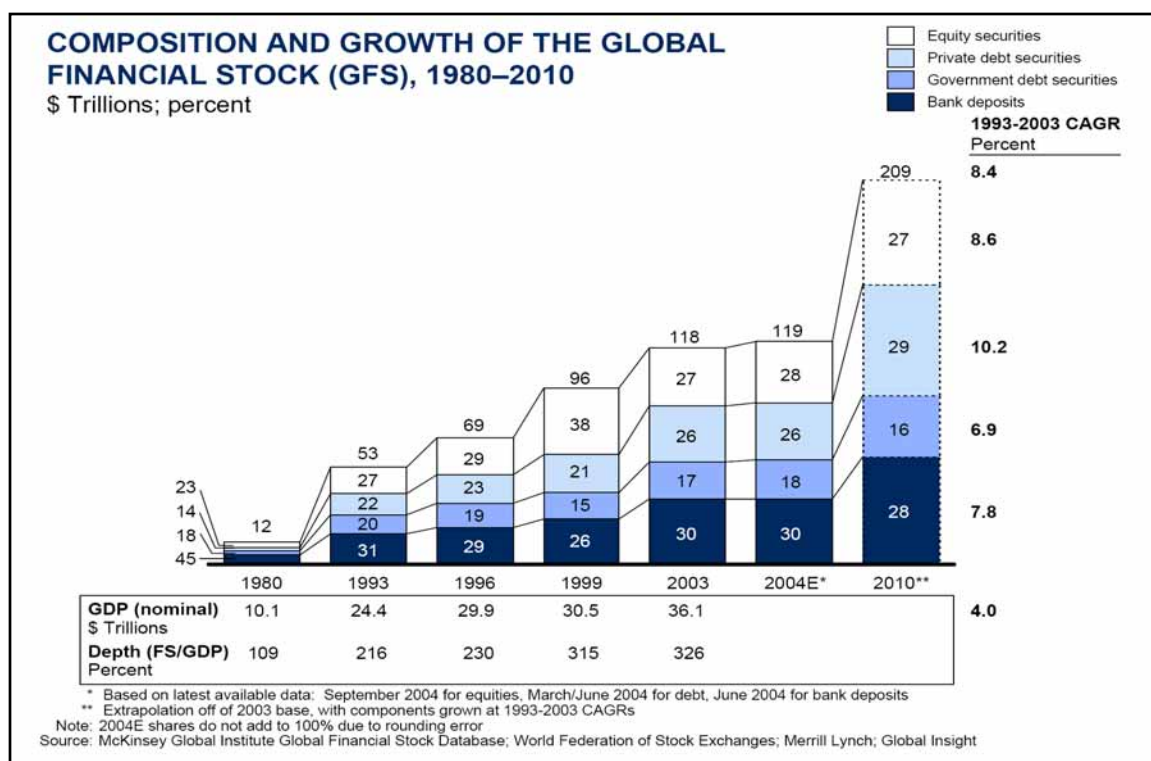
The era of financial liberalization began globally in the early 1980s. It had evolved gradually during the 1970s with the demise of the Bretton Woods Accord followed by the free-floating exchange rate system officially mandated by the IMF in 1978. The information technology revolution together with a rapid rate of financial innovations have led to a considerable deepening of financial markets and an increasingly rapid cross-border transfer of innovations. A new study estimates that global financial markets have grown from USD12 trillion in 1980 at the start of the financial liberalization era to USD 118 trillion in 2003. (See McKinsey Global Institute, April 2005). Financial markets have grown more than twice as fast as the global GDP leading to a rapid deepening of financial systems with financial assets expanding

⁴ See Asli Demirgüç-Kunt and Ross Levine [2001], and Caprio, Gerard and Patrick Honohan [2001] for important syntheses of research findings on the contribution of financial development to economic growth.

⁵ For the sources of this Stigler remark, see Calomiris [2001] p. 91. During the present post-liberalization era the pendulum has swung vigorously toward dominant concerns for “government failure.” For a recent review of these two contrasting positions in the financial policy context, see “Should the Government be in the Banking Business?” in Inter-American Development Bank [2005], *Unlocking Credit*. Chapter 11, pp. 141-160.

from 109% to 326% of global GDP in less than 25 years. As Figure 1 shows, the most rapidly growing component of financial markets has been private debt securities, of which mortgage securities are a major component in high-income economies. In country after country “there has been a striking shift within the global financial stock from *bank intermediation* to market intermediation and from *non-tradable bank loans* to tradable debt and securities” (MacKinsey, 2005, p.16).

FIGURE 1



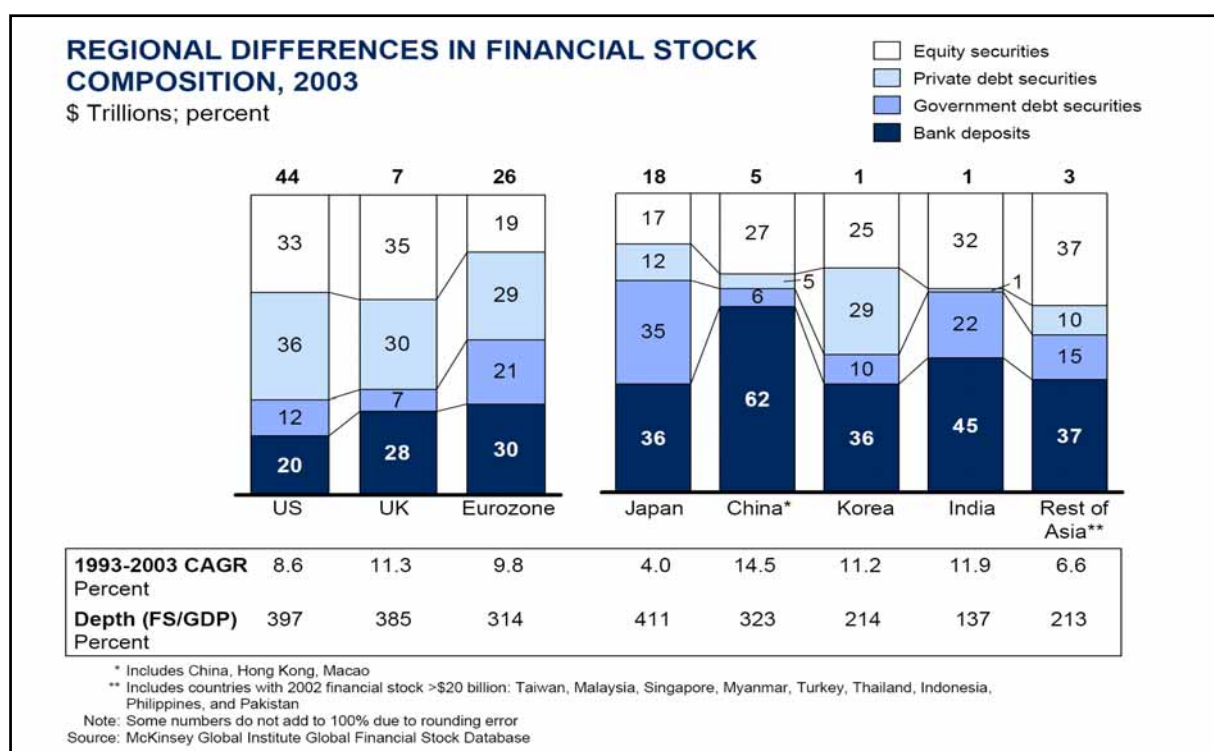
Korea’s share of Asia’s financial assets currently places the country in third place after Japan and China as shown on the top line of FIGURE 2 (McKinsey, 2005, p.132). But Korean financial assets have grown less rapidly than those of China and India during the period 1993-2003 at a CAGR of 11.2% compared with 14.5% in China and 11.9% in India. The estimated Korean share was 1% of the global financial markets and 5% of the Asian financial stock in 2003.

⁶ The broad structure of the Korean financial system differs significantly from that of other Asian countries. It can be said that since 1997 Korea has already achieved a better financial macro-structure between bank-based and capital-market-based activities than the systems of

⁶ Korea’s share of the global financial market may appear small, but it is not so if one considers that the McKinsey study estimates the share of the entire Latin American region at less than two percent of the global financial system.

Japan, China or India. Korea has a large and rapidly modernizing private debt market in contrast with Japan where public debt has crowded out private debt for the last decade. Korea is also less dependent on bank deposits than China. Yet, Korea is still coming out of its long period of financial repression and government directed credit. The depth of the Korean financial system is still considerably lower than that of the US, the EU and the UK. In contrast, China's financial system has reached a much higher debt after only two decades of market reforms, even if much of that comes from the banking system. FIGURE 2 also reveals the considerable degree of heterogeneity across Asian financial markets compared to Western systems.

FIGURE 2



The post-liberalization era: financial deepening and end of special circuits for housing finance

The post-liberalization era has been marked by a very significant deepening of mortgage markets in OECD countries. Mortgage finance systems have also become less volatile in high income countries since the early 1980s as the result of significant changes in the structure of their mortgage markets, especially the expanded access to capital markets.⁷

⁷ A discussion of global trends in housing finance, especially in high income countries has recently been presented to a large Korean audience. It is not repeated in the present paper. See Renaud [December 2004].

However, many mortgage markets still appear to be credit constrained with a large population of under-served borrowers. Like in other parts of the world, the financial systems of East Asia are moving away from predominantly bank-based financial systems to better balanced systems. In mortgage finance, this development is leading to a greater focus on risk management and on the diversification of financial instruments that can permit a diversity of retail lenders to better manage their risks through access to investors in the capital markets.

Since the 1997 financial crisis, there has been a significant liberalization of the financial markets and to a lesser degree the real estate markets, the Korean mortgage finance system has grown quite rapidly at a CAGR of 35%. Such a growth rate is extremely high by international standards, even compared with the very rapidly emerging mortgage markets of Portugal, Ireland and Spain at the periphery of the EU.

TABLE 1: GROWTH RATES OF MORTGAGE FINANCE SYSTEMS			
Economy	Growth (CAGR)	Rate	Period Covered
Korea		35.0%	1996-2003
Greece		23.5%	1992-2002
Portugal		22.5%	1992-2002
Ireland		18.0%	1992-2002
Spain		17.0%	1992-2002
Germany		6.0%	1992-2002
France		4.0%	1992-2002
Finland		3.5%	1992-2002
Sweden		2.5%	1992-2002
EU-15		8.2%	1992-2002
US		8.3%	1993-2003
<i>Korea: KDI housing markets study, Chapter 6, 2004 as reported by M.Cho</i>			
<i>European Union: Mercer Oliver Wyman Study 2003, Hans-Joachim Dübel</i>			
<i>US: Economic Report of the President 2005, Table B-75</i>			

In 1996, the depth of the Korean mortgage system measured by the ratio of outstanding housing finance depth to GDP was very low at 4.8% of GDP and reflected decades of financial repression. The small and very basic Korean special housing finance circuit had remained practically unchanged for almost three decades until the change of charter and privatization of the Korea Housing Bank in 1997. By 2003, however, the depth of the Korean mortgage finance system is reported to have grown to 24.3% of GDP. Two intervening factors behind this rapid mortgage market deepening have been the government policies to revive the economy by encouraging consumer finance after the 1997 crisis, as well as the reluctance of impaired commercial banks to resume their corporate and SME lending.

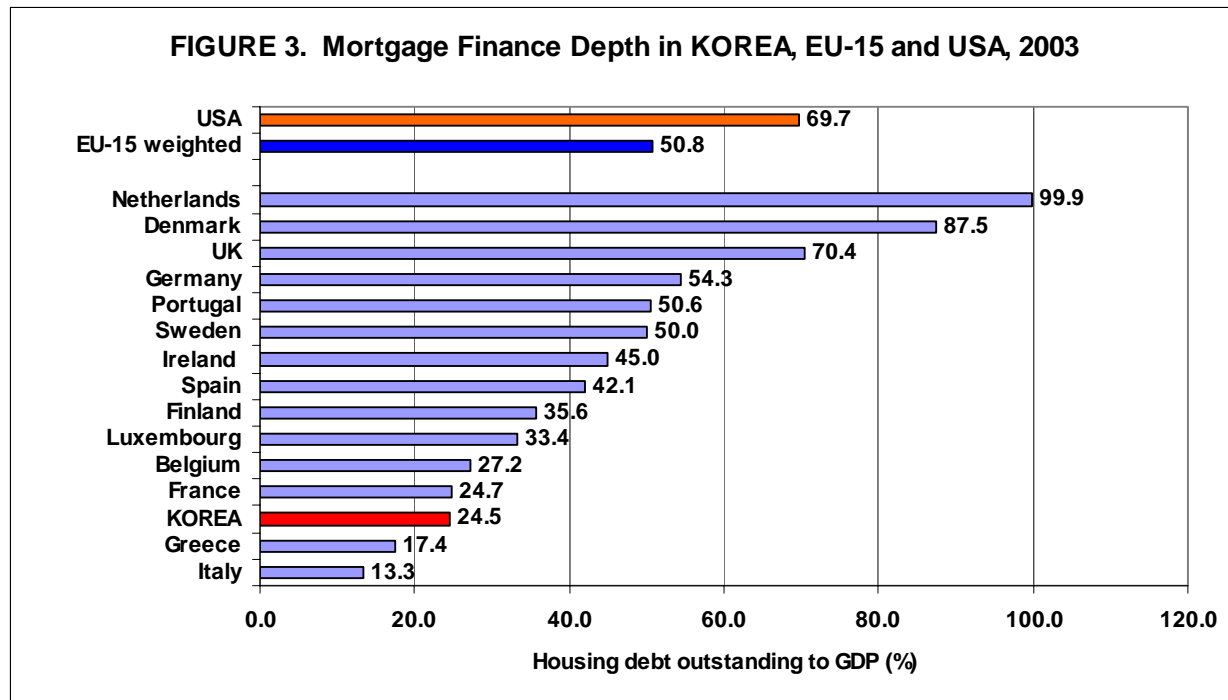
FIGURE 3 compares Korea with other OECD economies and shows that Korea's mortgage market depth remains well below average among OECD countries. Equally significant, FIGURE 3 reveals the wide dispersion of mortgage market depth ratios across countries of comparable income levels, which raises the central question for this paper of the structural and public policy factors that contribute to these wide differences.

A comment appears to be in order regarding the value of 24.5% for the ratio of outstanding mortgage debt to GDP in Korea in 2003 used in FIGURE 3. This ratio differs very significantly from previous historical data collected and published by the Korea Housing Bank for many years. For instance based on KHB data, K.H. Kim [2004] reports the MDO/GDP ratios since crisis year 1997 as follows:

TABLE 2: KOREA MORTGAGE MARKET DEPTH, 1997-2002			
(Trillion won, %)			
YEAR	Outstanding Balance	GDP	MDO/GDP ratio
1997	53.0	453.3	11.7
1998	55.5	444.4	12.5
1999	61.3	482.7	12.7
2000	67.6	522.0	13.0
2001	72.9	545.0	13.4
2002	n.a.	596.4	n.a.
2003	170.0	721.3	24.5
Source: K.H KIM [2004], Table 5, p. 331, J.H. LEE [2003], M. CHO [2005]			

One source of these discrepancies is the way the total amount of outstanding NHF loans were previously reported as residential mortgage loans when they were actually builder-developers loans for the construction of new social housing rental units. Other non-residential loans were

also wrongly included.⁸ The difference for every year is quite large. For instance in 2003, the KDI data shows the actual NHF residential mortgage loans as Won 6.7 trillion out of total outstanding NFL loans of Won 41.2 trillion, which is 16.25% of what was previously reported. After this correction, the depth ratio in 1996 prior to liberalization was a very low ratio of 4.8%. Market deepening since 1997 is that much more fast.



Housing sector strategies across East Asia in the 20th Century and their 21st Century Legacy

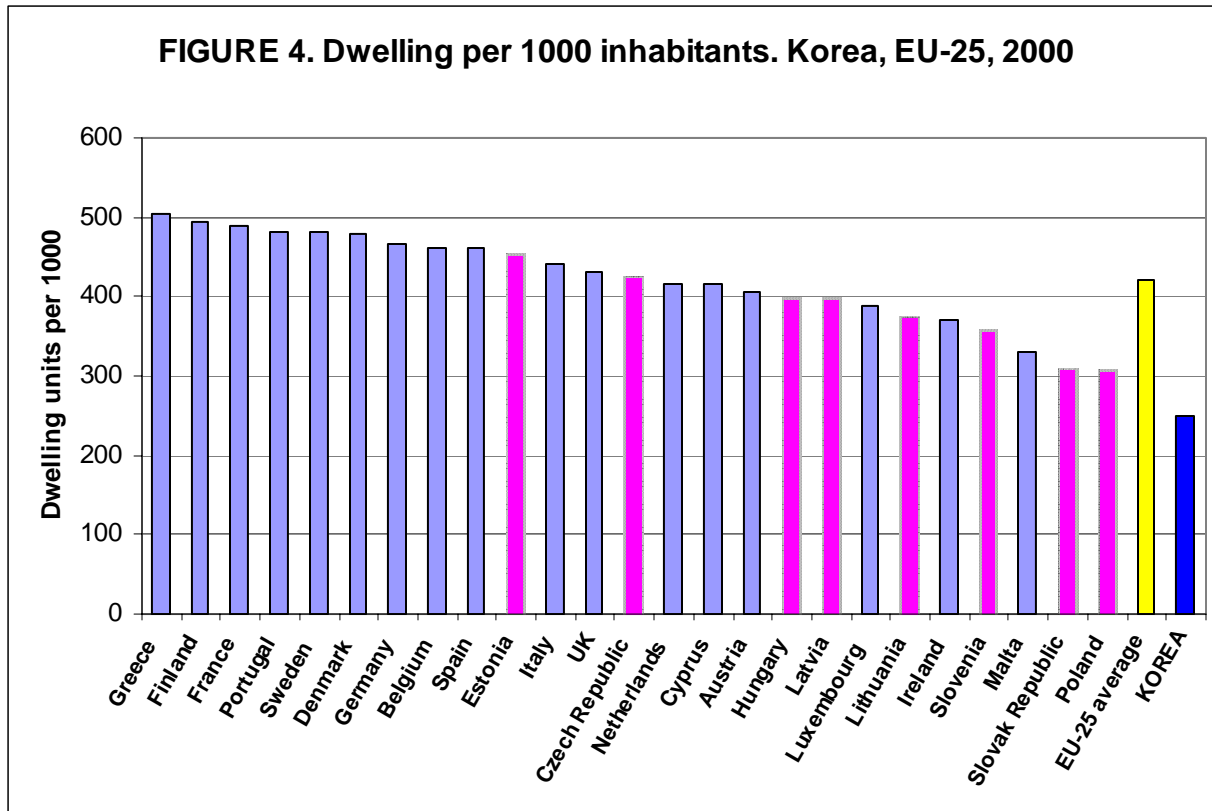
The performance of a country’s mortgage finance system is not only shaped by its internal organization and structure but also by the organization of its housing market, and the state of development of the fixed-income securities market. It is beyond the scope of this paper to look at the Korean bond market, but Korean housing policies can at least be contrasted briefly with those followed in other East Asia economies because these policies had a direct bearing on the growth of mortgage finance given the rapid growth of Korean incomes.

⁸ The corrected MDO data source is the 2004 KDI housing market research project directed by Dr. Moonjoong Tcha. I am grateful to Dr. Man Cho for pointing out these important data corrections.

The second half of the 20th century was the period of the urbanization take-off around the world. In East Asia, four very distinct types of housing sector strategies were adopted in the late 1950s and early 1960s and continued for several decades. There has been the central planning's view of housing as a social good to be distributed by the state in the socialist economies of China and North Korea.⁹ Since the late 1980s the transition to markets in China has led to massive privatization changes in the housing sector, especially in the coastal provinces; but in North Korea, housing reforms have not yet occurred. A second strategy has been associated with the push toward rapid industrialization that led to the suppression of consumer finance and to attempts to redirect household savings to designated "priority sectors" 1, which resulted in significant under-investment in housing in Japan and in South Korea in a context of rapid economic growth. A third strategy has been the creation of large-scale public housing programs to support the labor force of a small open market economy (Hong Kong, Singapore). The fourth and most successful strategy is the least frequently discussed: it is the set of non-interventionist, market-based housing policies based on income equality and a balanced growth path in Taiwan where the state has played a very limited direct role in the supply of housing.

The legacy of decades of under-investment in housing during the second half of 20th century is a Korean housing stock that remains quantitatively less developed than those of the EU-25 countries. A simple initial physical indicator is the number of housing units per 1,000 inhabitants. This ratio is much lower in Korea than in the Eu-25, even compared with the Central and Eastern European EU-10 members who joined the EU in May 2004 and have considerably lower per capita incomes than the EU-15 members.

⁹ East Asian housing and urban development strategies followed during the second half of the 20th Century are discussed in see Renaud [2004]. That paper also reviews in some detail the status of market housing reforms in China since the historically significant 1998 State Council Directive on housing market reforms. The nature and intensity of housing and urban problems in North Korea are discussed in Renaud [2003].



Over the last two decades, a number of studies have tested and confirmed the hypothesis that Korea has underinvested in housing as a result of government policies. In the most recent review of housing and the Korean macroeconomy, Kyung-Hwan Kim still concludes that “the gap in the rate of return for housing and that for non-housing capital is found to have narrowed but has not been completely eliminated” ([2004], p.326). By international standards Korean housing policies have remained interventionist until today. One notable feature is that Korea appears to be the only OECD country where government policies aim to regulate directly the price of housing.¹⁰

Late emergence of market-based housing finance in Korea: the special circuit legacy

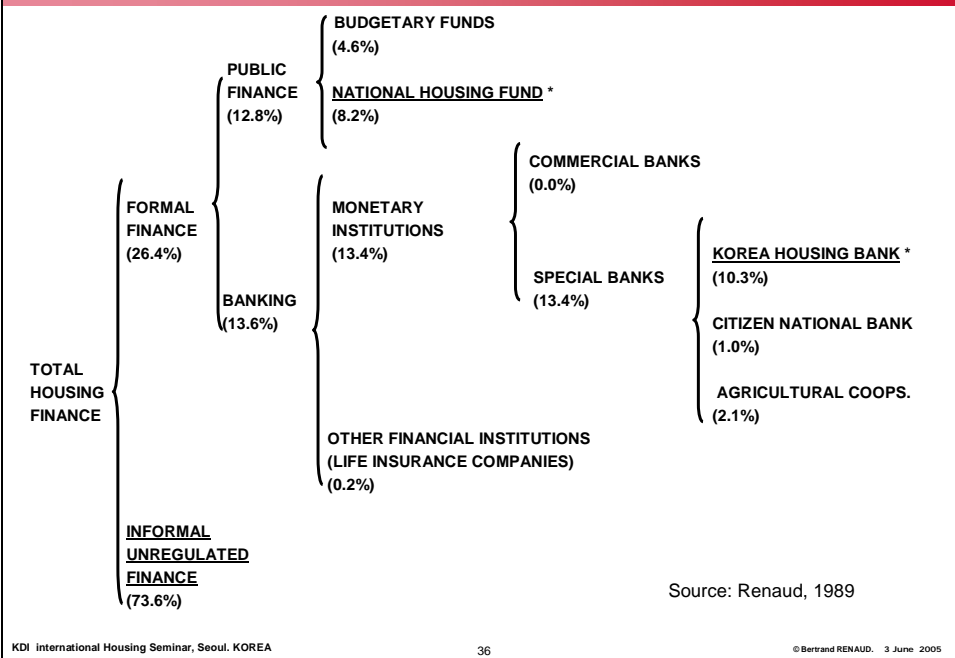
Until the mid-1990s Korea presented a rather extreme form of “special housing finance circuit” (see Diamond and Lea, 1992) under the close control of financial authorities where the allocative role of interest rates was subordinated to direct administrative techniques. The primary

¹⁰ For a discussion of the negative equity and efficiency aspects of the Korean price controls imposed on new housing units see Chung-Ho Kim and Kyung-Hwan Kim [1999]. For comments on the distorting effects of using housing prices as a direct policy target see S. Wachter [2004] and Renaud [2004].

mortgage market was dominated by the National Housing Fund (NHF) providing loans below market to low to moderate -income households and the Korea Housing Bank serving an overlapping if higher income clientele with 10-15 year amortizing loans. The entire system was subject to a very significant level of credit rationing. To manage the queue of potential borrowers, the supervisory authorities imposed a combination of very low loan-to-value ratios below 30% and restrictive administrative criteria based on the socio-economic characteristics of households and housing floor area and price. There was no genuine secondary mortgage market: the resources from the NHF came from the mandatory sale of housing bonds at coupon rate below market imposed on purchasers of new units. This process that contributed its share to the significant fragmentation of the Korean bond market until 1997.¹¹ As a result of these financial policies, informal financial markets provided most of the financing for housing during the peak period of urbanization of Korea. Estimates of the flow of new funds in the year 1984 indicate that over 75% of new financing came that year from informal markets as shown in FIGURE 5. The combination of strong credit rationing with a rigid urban planning system that made housing supply very inelastic goes a long way in explaining why the number of housing units in Korea is significantly lower than in comparator countries in Figure 4. Korea had one of the simplest and most concentrated housing finance special circuit with the Korea Housing Bank completely dominating the distribution of mortgage credit and having a monopoly on the distribution of loans from the National Housing Fund.

¹¹ For an overview of bond market development issues in emerging markets see Ph. Turner [2002]. For introductory views of the capacity of the Korea bond market to support the development mortgage securities prior to the financial crisis of 1997, see Joong-hee Lee and Sohan Lee [1998] and Pyongho Shin [1999]. For a discussions of bond market reforms in Korea after 1997 see S. Kim and J.H. Park, [2002] and World Bank [2004]). More recent updates on Korean bond markets are also available from the annual capital markets conferences held by OECD in Paris. Rating agencies also report on on-going developments.

FIGURE 5: Pre-liberalization Korean Housing Finance System, 1984



The financial liberalization plans of the mid-1990s which saw the partial privatization of the Korea Housing Bank in 1997 were both disrupted and accelerated by the 1997 crisis.¹² The public policy paradox today is that Korea is liberalizing and modernizing its mortgage credit system only after the country has already become fully urbanized. In fact, statistics show that Korea is the most urban member of OECD based on the share of its population living in cities.

The dominant perspective of the liberalization era is that financial policies are more effective when they focus on developing and strengthening the financial infrastructure rather than relying upon direct interventions into the financial market itself through banking regulations, interest rate guidance, taxation and state-owned banks. Global financial markets have been deeply restructured by revolutionary changes in information technology, the creation of new markets in financial instruments for risk management, and major innovations in credit information techniques. This applies to mortgage markets where securitization and structured finance have originated in the US. In this changed context for Korea what kinds of government policies are needed and how does the Korean mortgage finance system compare with other high-income OECD markets?

¹² For an analysis of Korean financial reforms prior the 1997 crisis, see Joon-Ho Hahm "The Government, the Chaebol and Financial Institutions before the Economic Crisis," Chapter 4 in Haggard, Lim and Kim eds. [2003].

II. GLOBAL TRENDS IN MORTGAGE MARKETS AND THE KOREA CASE

What are the core building blocks of a competitive mortgage market today? What are their functions in reducing financial risks, lower costs and improving access to mortgage credit for different segments of the consumer population? Reviewing the risk mitigating functions that each of these building blocks perform is one way to present the basic structure of a competitive mortgage credit market – and to define the elements of well integrated mortgage finance public policies. Aggregate indicators are then used to compare the performance of the Korean mortgage credit system with more fully developed systems.

2.1 The three core functions of a mortgage credit system

In a mortgage credit market one should be prepared to encounter legal issues, collateral issues, insurance and guarantee issues, industry organization and loan distribution issues, loan product issues, transaction costs and taxation issues, consumer education and protection issues, as well as the funding and capital market issues that are central to the entire industry's dynamics. To avoid being overwhelmed by such complexity it is helpful to keep in mind the three core functions that a mortgage lender must perform. (See Jaffee and Renaud, 1998 and Renaud 2004):

- Mortgage loan origination is the process through which mortgage debt is created, comparable to the underwriting function for other capital market securities.
- Mortgage loan holding refers to the activity of institutions and other investors who own or hold mortgage debt. When the mortgage originator and the mortgage holder differ, it is necessary to transfer mortgage ownership. The high risk, high information costs, and small size of individual mortgages complicate the mortgage transfer process.
- Mortgage loan servicing refers to a series of activities, including (1) collecting the monthly payments from the borrowers and transmitting the funds to the holders, (2) confirming that the borrower maintains property insurance and pays property taxes, and (3) carrying out the foreclosure process in cases of default.

From a financial risk management point of view it is the mortgage holding function that is the strategic function in any mortgage system. While there are important *operating risks* associated with the mortgage origination and the mortgage servicing functions, it is the mortgage holding function that carries the four typical *financial risks* encountered in mortgage lending: (a)

borrower default risk; (2) liquidity risk and (3) interest rate risks associated with the long maturities needed in mortgage lending; and (4) prepayment risks triggered by movements in market interest rates, in housing prices and the circumstances of individual borrowers. Credit risk can cause costly loan origination and servicing issues, liquidity is the most immediate financial risk, but for a lender it is the interest rate risk that is potentially high and typically exceeds default risk. The coverage and pricing of prepayment risks has gained in technical prominence with the growth of secondary mortgage markets and the sale of mortgage securities to capital market investors.

The financial liberalization era is seeing a trend toward separating or unbundling these mortgage market functions. As a result, market operators, market analysts as well as regulators and public policy makers need to gain a deeper understanding of the critical features as well as the pricing of each of these functions. This unbundling trend has progressed particularly far in the US where mortgage markets are the largest and among the deepest in the world.

What characterizes mortgage markets among developed and emerging economies in the current era is the rapidly growing significance of secondary market systems (SMM). These are markets in which mortgages are originated by one agent (a depository institution or a specialized mortgage originator), but are then transferred to a capital market institution or another investor who serves as the final holder. The rise of SMMs is playing a major role in reallocating mortgage risks to those best able to bear them, which leads to deeper, more liquid, and more stable mortgage markets with lower spreads. Another differentiating feature between the two eras is the shift in policy focus from the creation of often public specific financial institutions to the development of different mortgage securities that can be freely issued and traded by various types of financial institutions according to the specific economics of their individual circumstances. For instance depository institutions greatly differ in the economics of their funding from non-depository mortgage finance companies, and so will their use of different types of securities. (See Chiquier, Lea, Hassler [2004] and Mercer-Oliver-Wyman [2005])

A powerful rationale for the systematic development of SMMs for government facing constrained fiscal resources is that access to SMMs creates a significant fiscal space by expanding access to market loans for a much larger share of the middle-class through lower lending spreads thereby leaving on-budget resources to social housing programs for the most

vulnerable members of society.¹³ In this new environment of risk reallocation and mortgage securities trading, the performances of the retail markets and SMMs interact intimately. What is often missing in emerging markets is an integrated policy view of the functional interactions between primary (retail) and secondary (capital) markets. Piecemeal approaches to mortgage market development by financial authorities in the absence of an overall strategy integrating secondary mortgage market development objectives and bond market development objectives can lead to significant delays in modernizing the systems.

Korea: The need for an overall, stable mortgage market strategy in Korea is suggested by the opportunistic incorporation of Komoco under a mixed public-private ownership model in 1999 followed almost immediately by a change in policy direction with the incorporation of the fully public Korea Housing Finance Corporation in December 2003, which took over the business of Komoco.¹⁴

2.2 Retail mortgage market performance: Why are loan-to-value ratios so low in Korea?

In spite of the rapid growth recently of the mortgage market, LTV ratios remain very low in Korea by international standards as seen in FIGURE 6¹⁵:

¹³ From the viewpoint of housing policy, the development of efficient SMMs has a very high social impact because the total monetary benefits a lower spread of say 100 basis point on mortgage markets is usually *a multiple* of the on-budget resources available to fund all social housing programs in the country.

¹⁴ Korea National Corporation Act of 23 December 2003. KHFC has been inappropriately described as a “GSE” along the US model as KHFC does not meet the legal and financial characteristics of these US models. (See S.D. You, 2003.)

¹⁵ Source for FIGURE 6 are: Mercer-Oliver-Wyman [2003] for European countries and K.H. Kim [2004] for Korea. Note that K.H. Kim [2004] reports somewhat lower LTV values than does J-H Lee [2003].

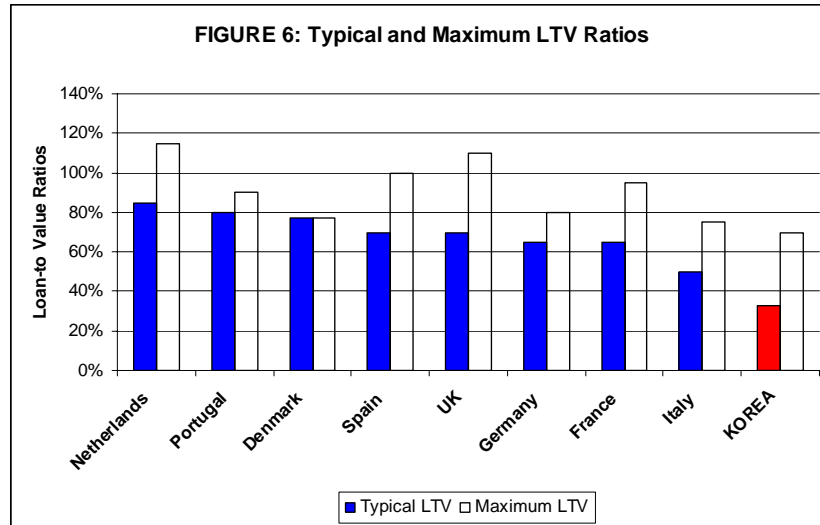


TABLE 3 also shows that in spite of the deepening of the mortgage market, the average LTV has not improved significantly between 1997 and 2003.

	1997	1998	1999	2000	2001	2002	2003
Average LTV	28.%	33.2%	30.4%	28.5%	31.6%	32.1%	32.4%
New loans with LTV > 50%			9.6%	6.9%	9.9%	10.7%	11.4%

Source: S.D. YOU [2003] and K.H.KIM [2004]

Aligning better the interests of creditors and debtors is based on the fact that a contract is not a zero-sum game i.e. George Akerlof's 'lemon' argument applies to mortgage finance. The greater the degree of information asymmetry between creditor and lender, the stronger is the incentive for lenders to engage in defensive credit rationing, especially in the form of low LTV ratios. We now review the core elements of a complete mortgage credit market for their risk management benefits.

(a) Collateral efficiency and its legal foundations

Collateral efficiency has the greatest ability to mitigate credit risk. The organization, structure and performance of a mortgage market always determines how efficiently at what cost the three core mortgage market functions are actually performed. The legal foundations of the retail mortgage market are critical to the entire system and have a direct bearing on the mortgage origination function. These legal foundations have five main dimensions:

- Clear title and ownership rights;
- A property registration and cadastre system that is up-to-date, reliable, complete, transparent in terms of liens, and readily accessible to the public;
- Efficient foreclosure procedures [in terms of monetary costs and time delays] to seize the property collateral after a default has occurred.
- The ability to evict the defaulting debtor after foreclosure
- The appropriate priority ranking of the mortgage lien for payment disbursement from foreclosure proceeds.

Lenders have to evaluate the strength of the legal framework to assess their credit risk. What happens when there significant imperfections regarding any of this five points? When the legal framework is weak, creditors will compensate by charging higher rates of interest, offering shorter loan terms, offering only low LTV loans, they may ask for additional guarantees or security. Banks will tend to have small selective loan portfolios or may even choose to stay out of that business line, which has not been the case in Korea after 1997.

The specific contents of the legal framework itself can have a major impact on mortgage market depth, loan costs and industry profitability. For instance, the mortgage as the legal instrument to secure the loan should have a lifespan that meets at least the point at which the loan matures.¹⁶ An important factor limiting the growth of mortgage markets in France is that the duration of a mortgage is limited by law. This legal weakness has led to the development of a mitigating substitute loan insurance (*credit logement*) that lenders prefer to offer to lower risk i.e.

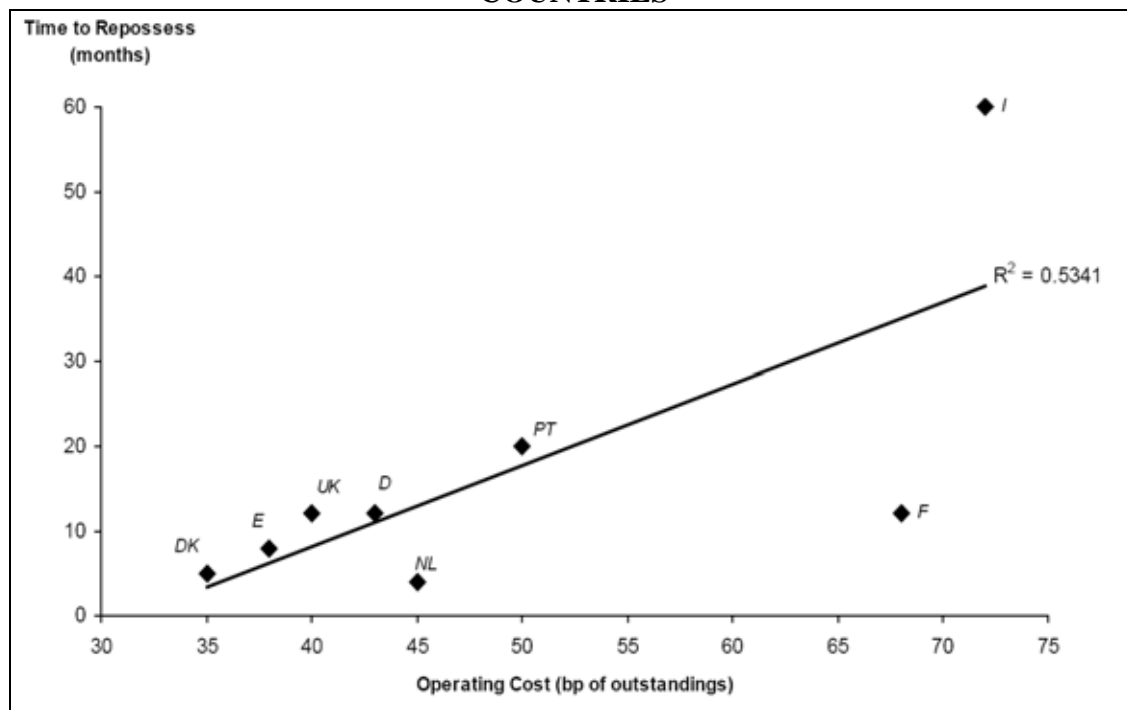
¹⁶ As Jaffee and Renaud [1998] note: “strictly speaking, real estate loans generally consist of two documents: the bond (or note) which documents the terms of loan repayment; and the mortgage which provides the collateral. In common usage, the term “mortgage” refers to both sets of loan documents”. In some markets, the collateral power of the mortgage lien and/or the cost of that lien can be an issue that affects the structure and efficiency of the entire market. For a comparative review of the power of the mortgage collateral across European mortgage markets, see European Mortgage Federation [2002]

higher income borrowers.¹⁷ This mortgage law is contributing factor to the relatively low depth of mortgage markets in France as shown in FIGURE 3. What may have been historically an attempt to strengthen property rights is proving difficult to correct due to an accumulation of related legal decisions. This example illustrates the frequent path-dependency of legal systems where “the path of the law shapes the law” in modernizing mortgage laws.

Other factors are the lingering legacies of strong directed credit policies until the liberalization of the financial system in the early 1980s, which may compared with the Japanese or Korean legacies.

More commonly, we expect that operating costs will be negatively affected as the exercise of foreclosure and actual disbursement to the lender take more time. The findings of the 2003 Mercer-Oliver-Wyman study of eight European markets bears this out as seen in FIGURE 7.

FIGURE 7: TIME TO REPOSSESS AND OPERATING COSTS IN EIGHT EUROPEAN COUNTRIES



Source: Mercer-Oliver-Wyman, Financial Integration of European Mortgage Markets, 2003, p.61

¹⁷ For a valuable, up-to-date inventory of structural issues in EU mortgage markets carried out by major market stakeholder groups, see the report of the EU Forum Group on Mortgage Credit [2004]; and for legal issues its Chapter 2.

FIGURE 7 shows that both the Italian and French mortgage markets are outlier markets where operating costs are high in the early 2000s. However, the reasons are quite different. In Italy, the weak foreclosure process is clearly an important contributor to high operating costs, but in France the repossession process compares well with the other European markets. Other factors are at work such as the legacy of directed credit policies and the impact of social housing finance programs on bank operations. Globally, the Danish market is the most efficient market in practically every dimension of mortgage credit in addition to foreclosures that are very uncommon and promptly completed.

The quality of the legal infrastructure also has a direct bearing on the development of secondary mortgage markets irrespective of the types of mortgage securities traded whether they are predominantly covered bonds like in Europe or residential mortgage backed securities (RMBS) like in the US. Weaknesses or gaps in the five building blocks of the legal system prevent access to SMMs. The quality and pricing of a covered bond or a RMBS will be determined by the past performance of loans and the effectiveness of loan recovery procedures. Bond rating agencies methodologies place a heavy emphasis on the legal framework in force in the market. Due diligence work on a new mortgage security issue always includes an evaluation of the legal framework currently in place. The other major component of the rating process is the use of stress tests. Because of its immediate impact on pricing and liquidity, work toward perfecting the legal framework of mortgage markets is a constant process of discussion between the mortgage industry, rating agencies and regulators.¹⁸

Korea: It is well established internationally that some forms of consumer protection laws that aim to provide relief to narrowly defined categories of individuals by limiting foreclosure rules or changing the rank of the mortgage lien can have the perverse effect of lowering access to credit to a wider segment of population. In the case of Korea, the mortgage liens of landowners are ranked below ‘Chonsei’ reimbursement claims of tenants when their Chonsei deposit ranges ‘from 14 million won to 40 million won per room’ depending on local housing markets. This risk factor encourages Korean banks and other potential lenders to offer only relatively low LTV loans. (S.D. You, 2003, p.26)

¹⁸ Rating methodologies for RMBS and covered bonds are readily available on the websites of the three major international rating agencies Standard & Poor, Moody’s and FitchRatings. These rating agencies usually post also the credit default models that they apply to mortgage securities issued from major markets. A new consolidated source of information on covered bonds is the EU Covered Bond Council whose activities are initially reported on the European Mortgage Federation website. As stressed recently by the Chief Executive of the Hong Kong Monetary Authority, Asian financial markets remain fragmented and region-wide rules on market securities are still some distance away. See Joseph Yam: ‘Asian Finance’, November 2004.

(b) Property valuation

Property valuation at the time of loan origination and changes in value over the life of the loan is the second part of collateral efficiency. Conceptually, there is universal agreement on the three approaches to valuation (cost approach, income approach and sales comparisons approach). In practice there are considerable implementation differences across countries and over time so that LTV ratios such as those presented in Table 6 should be properly understood. Some of these country ratios represent a percentage of market value. However, Germany and Holland use ‘assessed value’ and ‘foreclosure value’ that aim to anticipate the impact of real estate cycles over the life of loans. These values are below market value at loan origination, which explains why maximum LTV values in the Netherlands can be so much greater than 100%. In these two countries valuation rules are not left to professional associations; they are part of the regulations monitored by bank supervisors. Valuation rules are also an explicit component of the legal framework for covered bonds.

The reliability of housing price indices for public policies is an issue related to valuation, especially for mass valuation techniques. The lack of a good housing price index is a rather common gap in the public information infrastructure for the sector, even among OECD countries. The monitoring of housing and other real estate prices has very recently become an official concern of central bankers related to financial stability and asset price inflation; see Bank of International Settlements [2005].

Korea: As noted, Korea stands out among OECD countries with government policies that attempt to work outside market mechanisms and to regulate housing prices directly rather than working on underlying causal structural factors. Do policies that attempt to regulate housing prices also contribute to regressive housing market outcomes and mortgage market distortions? (See Kim and Kim [1999]). What will be the short-term and long term impacts of the current administration’s decision to double property taxes by raising both tax rates and property assessments?¹⁹ How reliable are Korean market valuations across the country’s housing markets, and where are improvements feasible?

¹⁹ See *Korea Herald*: “Property taxes likely to double”, 5 May 2005 (English).

(c) Consumer Credit Information

Efficient loan origination requires effective underwriting procedures to evaluate a potential borrower along interrelated dimensions: (a) the legal characteristics of the property offered as collateral, and its valuation; (b) the income characteristics and equity contribution of the borrower, and (c) the type of mortgage loan selected by the borrower among those on offer. Credit information can be described as the second leg of the modern risk-based three-legged stool of mortgage finance.

Rather than merely mitigating information asymmetries and credit risk like the property collateral, consumer credit bureaus and credit scoring can significantly lower information asymmetries between creditors and debtors and thereby lower the cost of credit and improve access to finance to all good borrowers. Using a model of adverse selection, Jappelli and Pagano (1993) have shown why and how exchanging information on borrower types decreases default rates and reduce average interests. In a later paper they have shown empirically in the European context that the credit information infrastructure has been a significant factor in widening differences in the depth of mortgage finance systems at the lower end of the spectrum; see Jappelli and Pagano [2000].

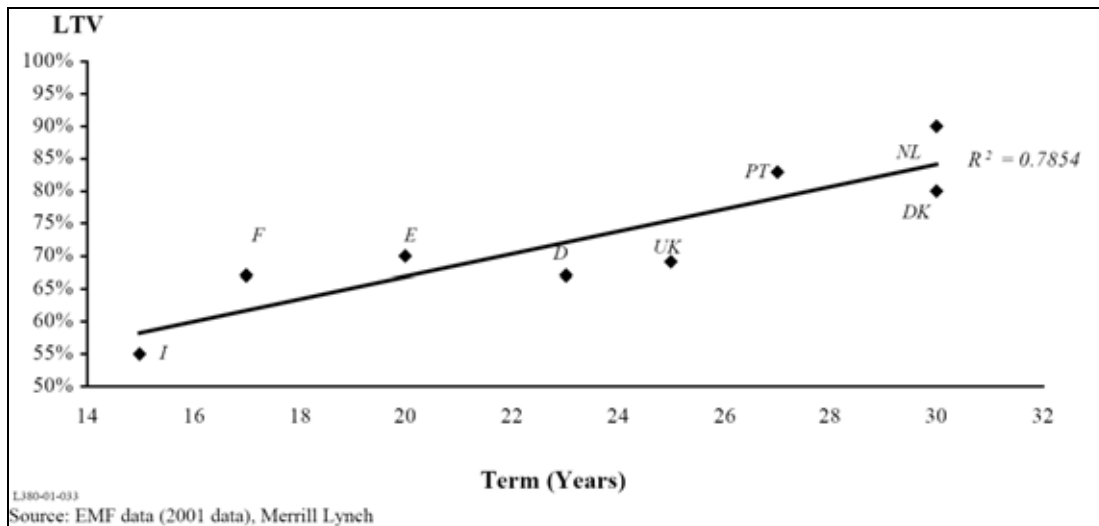
The public policy question is under what conditions information sharing will and will not occur. “As there are almost certainly increasing returns to scale in this industry, and hence there is likely to be market power, less than optimal service provision and higher than competitive pricing, an important question is whether there should be public sector intervention to enhance credit information sharing and, if so, what form that intervention should take.” (Power, Mylenko, Miller and Majnoni, 2004, p.2) The first multi-country review of public credit registries (PCR) done by the World Bank argues that PCRs and private credit bureaus are complements and not substitutes. Three significant empirical findings are: the importance of collecting both positive as well as negative information on borrowers; small banks benefit even more than larger banks from sharing credit information; bank rating is important as ratings are highly predictive in determining default. Not surprisingly, given the governance constraints inherent in public institutions, this World Bank review also finds that private credit bureaus can collect new information and produce higher-value services faster than public bureaus. These two forms of credit bureaus are better at different things, especially when it comes to sharing information.

Korea: The disastrous and widely commented experience with consumer finance and credit cards between 2002 and 2004 has revealed that financial authorities as well as banks and

credit cards subsidiaries were not prepared for the abrupt transition from an environment of strong directed credit to that of competitive consumer finance. (See for instance the FitchRatings Special Report of April 2003). The full range of possible consequences from the banks' flight to safety away from corporate loans to chaebols into consumer loans were apparently not fully anticipated by decision-makers and regulators. A fresh public policy toward effective credit bureaus appears to be a significant priority for the consumer finance market.

In the specific case of mortgage finance, the very low LTV ratios used by all lenders, and the subject of guidance by regulators, are forestalling the need for individual consumer credit information. But, as already discussed, this is done at the regressive costs of rationing potential good customers out of the mortgage market and of substantially delaying access to home-ownership for first time buyers. As is very well-known, access to loans of longer maturity and higher LTV ratios - and therefore housing affordability, others things being equal- are functionally related as shown by the EU markets in FIGURE 8 taken from Mercer-Oliver-Wyman[2003], p.25.²⁰

FIGURE 8: LOAN TERMS VS. TYPICAL LTV RATIOS ACROSS EU MARKETS, 2002



²⁰ Jappelli and Pagano [2000] also show that low LTV ratios delay access to first-time home-ownership to older age cohorts in Europe, and there are no analytical reasons to expect a different outcome in East Asia. Figure 3.10 of the Mercer-Oliver-Wyman 2003 study shows how higher LTV ratios and mortgage loan maturities are strongly correlated across European mortgage markets.

(d) Mortgage Default Insurance

If the foundation of mortgage finance is the risk-reducing role of the property mortgage collateral, the second structural way to mitigate information asymmetry problems without resorting to rationing is mortgage default insurance (MI). MI is a specialized form of credit insurance that protects both residential mortgage lenders and investors in mortgage securities against potential losses caused by a borrower's default. The potential benefits of mortgage default insurance are multiple:

- A major obstacle to taking a loan to buy a house is the large-down payment. Well designed mortgage insurance can significantly reduce non-price credit rationing. MI mitigates significantly the “lemon problem” as potential good borrowers are no longer penalized by lenders' inability to differentiate between good risks and bad risks.
- Mortgage insurance is not a subsidy but a financial market instrument that contributes to the public goals of improving housing affordability and giving better access to home-ownership to young first-time buyers without the expenditure of public funds.
- To protect itself against the risks that it covers, the MI provider has to be proactive in monitoring the market and the performance of its participating lenders. As a result, a mortgage insurer can be expected to have a very positive catalytic impact on the management of the mortgage lending process by introducing a risk-based standardizing of loan underwriting and servicing. Three areas of the housing finance system that will be positively affected by the development of mortgage insurance are property valuation, credit information system, and delinquency management systems.
- The design of mortgage insurance products can vary. Typically the types of risk faced by the insurer include: a borrower's inability to repay, a borrower's unwillingness to repay, defective property valuation, loss of the market value of a house, real estate market risk, adverse risk selection, economic catastrophes. Some default risks may be excluded. Uninsurable risk such as natural disasters, environmental risk and political risk might be covered by backup government guaranties.

International experience shows that default mortgage insurance can be private, public or through a public-private partnership. Historically, the introduction of mortgage insurance in a new market has often been by a public mortgage insurer, for instance in Canada or in the

transition economies of Eastern Europe. However, in Hong Kong mortgage insurance is provided by a private insurer in partnership with the public Hong Kong Mortgage Corporation. The depth and scale of the mortgage market is a factor. A private mortgage insurer may be reluctant to enter a market for one or more reasons: threshold business volume issues, the specialized regulatory framework may not be fully in place, and there may remain ambiguities or gaps regarding the treatment of insured mortgage loans by bank regulators. Also, initially, a private MI may not be feasible for lack of capital, or because the existing private insurance companies are subsidiaries or affiliates of banks that would be facing conflict of interest if they entered the MI business.

Creating a viable public mortgage insurance institution requires a strategy of risk minimization to insure that the institution will not turn into a provider of subsidies and that it will have a charter that will permit it to operate on a commercial basis regarding its premia and reserves. The regulatory framework of the public MI should be insurance-based and the institution should be regulated and supervised by the insurance supervisor, not by a line ministry. The MI charter should also provide for a future transition to a private company.

Korea: Some of the mortgage insurance decisions recently made in Korea raise the question of whether they result from incremental administrative decisions taken over a limited time horizon or are the fruit of a strategic view of the default insurance needs of the rapidly growing Korean private mortgage market. The public Housing Finance Credit Guarantee Fund which used to operate as a separate financial institution has been merged into the new Korea Housing Finance Corporation that started operating in 2004. This merger places KHFC into a situation of conflicting fiduciary responsibilities since KHFC has been created to develop the secondary mortgage markets by purchasing long-term fixed rate mortgages and then issuing RMBS.

Mortgage insurance which can be an important credit enhancement for the issuance of RMBS to improve the functioning of the secondary mortgage markets should be provided by a independent third party, as is the case for instance in Hong Kong.²¹ Mortgage insurance which should be available to the entire mortgage market could then place KHFC into direct competition with its insurance clients in the RMBS market.

²¹ Also, it is not readily clear why informal ‘Chonseil’ contracts benefit from the possibility of government guarantees (see KHFC Law No.7030, December 2003, Article 2, item 8 and Chapter 6). Is this merely a legacy of the serious social problems associated with ‘Chonseil’ contracts that could not be met during the 1997 financial crisis, without implying a long-term government support to a flawed informal financial instrument that financial economists expect to disappear over time as dynamic mortgage markets develop. A long-term financial strategy for winding down the Chonseil system seems needed since “Chonseil” still “represents about 60% of new rental contracts in Seoul.” (K.H. Kim 2004, p.330).

Current proposals to expand the insurance activities of KHFC into student loan insurance would add further complexity away from the KHFC strategic mandate of developing the secondary mortgage market.

2.3 Industry Organization and Loan Distribution

The main question regarding the organization of the mortgage industry is whether the structure of the mortgage lending industry encourages competition and product innovation? The 2003 comparative study of European mortgage markets shows that there is strong inverse correlation between mortgage market size and concentration indicating significant economies up to a certain size. This finding is consistent with banking industry studies.

The MOW study and Dübel [2003] report that “EU concentration is below that of the nearest comparable market, the US.” In the US the market share of the top five lenders was 37% in 2002 and only 24% in the EU. Dübel attributes the lower concentration of retail lenders in Europe compared to the US to the division of retail markets into differentiated national territories. He also finds that the impact of government involvement on these national market structures is large in three ways: direct lending by state lenders, regulation, as well as taxes and subsidies.

Korea: Prior to liberalization and the privatization of KHB in 1997, the structure of the mortgage industry in Korea was highly concentrated with the Korea Housing Bank distributing 91% of all mortgage loans made in Korea through its branch network. Those were KHB’s quasi-commercial loans as well as the social loans from the National Housing Fund. As already reported, the depth of the mortgage market was quite low in 1996 with a MDO/GDP ratio of 4.8%. This outcome was the result of government policies. Within the banking sector, KHB was a medium size bank in terms of assets, but one that totally dominated its specialized market, which permitted KHB to achieve adequate economies of scale and efficiency. (See Renaud, 1997)

Given the flight to quality away from corporate and SME loans in the aftermath of the 1997 crisis market deregulation has led to a fierce price competition by other banks, as well as non-price competition through a lowering of bank fees; but rather their rising market share was not at the expense of Kookmin but at the expense of non-bank lenders whose share of the private sector fell from 10% to a minimal 1% by 2000. The dominance of Kookmin has continued at least through 2001 at the same concentration level of 91%

(J.H. Lee, 2002). With the competition of new banks as well as the steady decline of the overall interest rate level after 1997, the mortgage lending for public loans by NHF became higher than private loans in 2001.

In the liberalized mortgage market environment, an interesting question is why the government has not pursued a policy of creating a “level playing field” among retail lenders by allowing any other consumer finance institution than Kookmin Bank to distribute loans from the National Housing Fund, if that institution chooses to do so? Is it for lack of commercial interest on the part of other banks as the NHF loan portfolio has grown less rapidly than the overall mortgage market from Won 22.9 trillion in 1996 to Won 41.2 Trillion 2003 for a CAGR of 26% instead of 35 % for the total mortgage system.

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2.4 Diversification of Loan Products and Consumer Mortgage Choice

What is the degree of completeness of the mortgage credit market?

The degree of market completeness is a major dimension of industry performance. The others are costs, prices and competitiveness. Is the mortgage credit market seriously credit constrained? How good is the coverage of the mortgage credit market? Do all the main segments of the population with their different risk profile have access to suitable loans or are some groups rationed out of the system? What are the loan distribution channels? Are mortgage information and advice available for consumers to reliably compare products on offer?

From both a public policy and a market monitoring perspectives, the completeness of the market has to be evaluated according to the risk profiles of different social groups and by loan purpose. Market coverage along these two dimensions varies from country to country and within a country from market to market. The degree of social segmentation also varies. The 2005 MOW study of the market response in the EU to changing mortgage credit demand settled on six major consumer risk profiles: standard prime borrowers with relatively low loan to income ratios, prime borrowers who are relatively stretched with high loan to income ratios, borrowers older than 55, standard borrowers with low equity, risky borrowers forming the sub-prime markets, and investment borrowers.

²² I am indebted to Dr. Man Cho for communicating these figures from the KDI 2004 study by Tcha et al.

From the perspective of a private lender and policy evaluations of market completeness, the loan purpose also matters: is it a first mortgage? Is it a second mortgage? Is it a home equity loan? Is it a loan for a secondary residence? Is it an investment loan into a rental unit?

Korea: Given the high degree of market rationing prevailing in Korea prior to 1997, risk-based measures of market coverage and completeness were not used but only administrative criteria. Policy studies available only refer to simplistic administrative classifications based on basic income data and a few social criteria, not on demand and risk-based criteria. However, given the rapid growth of the market it is expected that lenders are already developing such risk management measures to evaluate market opportunities and gaps. Financial supervisory authorities and policy makers dealing with mortgage credit certainly need such risk-oriented information.

Lender incentives and diversification of the supply of loans

From a lender's perspective, the leading concerns of are: the quality of the collateral and the level of default risk for specific market segments, the availability of long-term funding, the difficulty of hedging prepayment risk, the enforceability of early redemption compensation, and consumer protection laws such as usury laws. Commercial banks and non-bank mortgage lenders typically face different funding and risk management issues as analyzed in the new European study by Mercer Oliver Wyman 2005; (see Table 3.2)

In addition to strongly stimulating the demand for mortgage finance, the world wide decline of interest rates has caused shifts in the supply of mortgage loan types. This decline has generally led in Europe and in the US to: an increasing diversification of loan products; an increased share of floating rate loans; longer reset periods for fixed rate mortgages with reset periods; the introduction of hybrid products with an initial fixed-rate period followed by a period of variable rates; and shorter periods for initial fixed rate loans. As interest rates are reaching bottom after this long period of declining interest rates fixed-rate mortgages are increasing again. However, in local housing markets where housing price-to-income ratios have risen to high levels during this exceptional global housing boom, the demand for ARMs and very risky interest-only loans has risen to worrisome levels.²³

²³ A survey of new lending by the US Mortgage Bankers' Association finds that interest-only mortgages accounted for 17% of the value of loans originated in the second half of 2004 and 46% of loans were adjustable-rate loans that don't carry an interest-only feature. In California, where home price growth has been very rapid, interest-only loans accounted for 61% of the

Korea: In Korea, loan diversification has taken an unanticipated turn. Immediately after its privatization in 1997, Kookmin Bank has massively shifted its new loan production from almost 75% of 20-year FRM loans to over 75% of 3-year variable bullet loans in 2002 as shown in TABLE 4. This shift clearly suggests that KHB's liquidity and interest risks under public ownership were not fully covered by KHB's own capital, but were implicitly guaranteed by the Korean government.

TABLE 4: KOOKMIN BANK'S MAJOR SHIFT IN LOAN PRODUCTS AFTER PRIVATIZATION

Term of new loans	1998	1999	2000	2001	2002
3 years or less	4.1%	55.4%	62.6%	70.8%	75.6%
3 years to under 10 years	12.7%	19.5%	20.5%	12.4%	9.3%
10 years to under 20 years	9.1%	3.7%	4.4%	4.9%	1.7%
20 years or more	74.1%	21.5%	12.5%	11.8%	13.4%
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%

Source: J.H. Lee [2002], Table 5

What is the dominant mortgage lending rate regime in the system?

The degree of interest rate risk protection for borrowers varies widely across countries. Given the sophistication of current IT technologies lenders are able to offer a very wide range of products and the former relatively clear distinction between fixed-rate mortgage loan products (FRM) and adjustable rate products (ARM) has made way a greater continuum of products mixing fixed-rate periods with variable rate periods over the term of the loan.

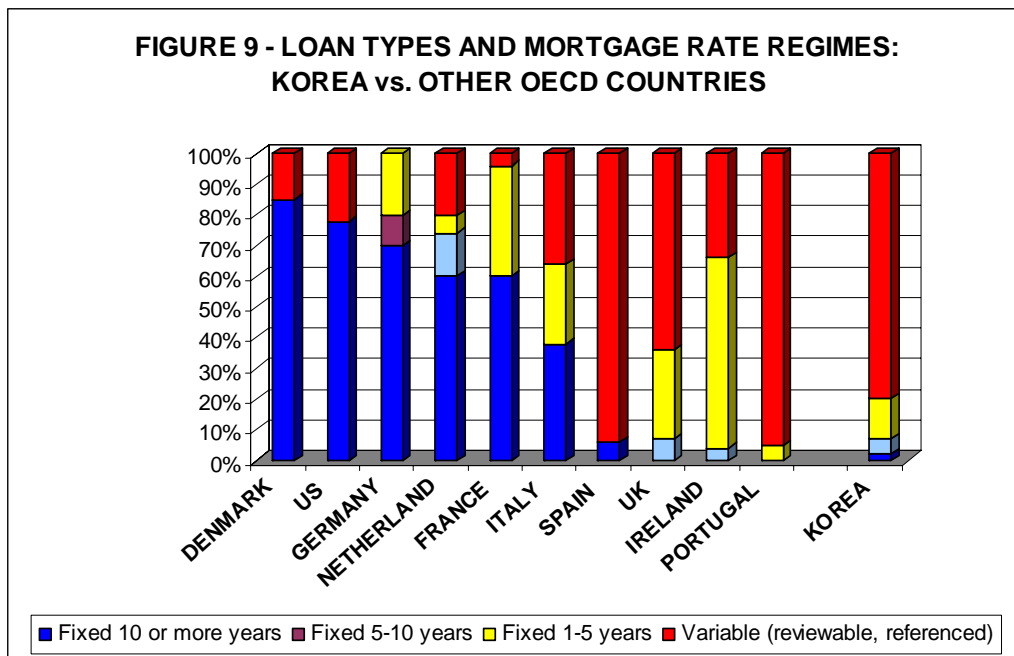
How does the interest rate regime in the Korean mortgage market compare with other OECD countries? FIGURE 9 compares the market shares of new loans in Korea with selected OECD countries. The EU data are based on an MOW survey in 2002, the Korea data is for 2003. Various classifications of loan products are possible. The Miles 2004 study adopts a classification into four major groups in order of increasing variability of lending rates as follows:

mortgages taken out to buy homes in the first two months of 2005, up from 47.1% in 2004 and less than 2% in 2002, according to an analysis prepared for The Wall Street Journal. (*Wall Street Journal*, May 17, 2005, page D-1).

- Fixed rate to maturity or initial fixed period over 10 years
- Initial fixed period between 5 and 10 years
- Initial fixed period between 1 and 5 years
- Variable rate under one year (either reviewable or referenced)

Broad patterns are readily apparent in FIGURE 9. The emerging mortgage markets of the EU such as Ireland, Portugal and Spain are dominated by adjustable rates. The deep and very competitive UK mortgage markets also have a variable rate interest regime, This UK regime is a legacy of the importance of the Building Societies who have relied on member deposits and whose regulations restricts their ability to issue debt. The countries dominated by fixed rate loans are also those that have developed access to capital markets, which lenders can use to manage their funding risks: Denmark, Germany and France with covered bonds, the US with RMBS.

Only the emerging EU markets such as Spain, Portugal and Italy are highly incomplete in term of loan product diversification and coverage of risk market segments. Not surprisingly, Korea is closest to the emerging markets of the EU. Like them, Korea faces the issue of developing access to capital market funding in order to diversify its product range and develop funding source for fixed-rate instruments. This is the long-term strategic issue for Korea that KHFC aims to address.



Mortgage choice and borrower risk myopia

Consumer mortgage choice behavior is a central to understanding a mortgage credit market.²⁴ Consumer myopia may lead borrowers to take more risks than they can really assume because they focus only on the short term and base their loan choice on initial mortgage payments rather than the long-term affordability of debt service. In competitive market where the supply of loans is very diversified, many borrowers have a poor understanding of the risks involved with different mortgages.²⁵

Korea Short-term, interest-only bullet loans with maturity of less than three years dominate the market. However, private banks and insurance companies are also offering a small volume of long-term hybrid products with fixed rate periods up to five years and theoretical maturities up to 30 years. Non-price rationing through low LTV ratios is strong: maximum LTVs range from 60% for loans under three years in market areas defined as ‘non-speculative’ by the government to a maximum of 40% on loans with maturities under 10 years made in an ‘speculative area’. Comparing the effective lending rates and risks on these different products is not within the ability of most potential borrowers. Only lenders participating in the public KHFC programs are able to offer FRM loans with 10, 15 or 30 year maturities with LTV values up to 70% for apartment and 65% for other properties. The maximum payment-to-income ratio is 33% and total debt-income ratio is 40%. These loans carry pre-payment penalties and a current lending rate of 6.25% that is marginally adjusted for loan origination fee.²⁶

Are high levels of household mobility and the short duration of home ownership contributing to the heavy dependence on short-term variable rate loans? Or is the causation in the other direction and is the structure of the mortgage market stimulating high mobility in order to meet the repayment of the bullet loan principal after 3 years?

Should there be a future for the Chonseil system? Should we expect that the rapid development of a modern mortgage finance system in Korea will lead to the disappearance of the antiquated Chonseil rental system that owes it origins to a high

²⁴ The best analytical policy study to consult on this issue is Chapter 2 “Optimal Mortgage Choice” of the Miles 2004 report to the UK Treasury. www.hm-treasury.gov.uk/miles

²⁵ For instance the UK survey of mortgage pricing for the Miles report identified 261 mortgage products, only two of which were 25 year fixed-rate products. (Miles report, Table 5.1, p. 45, www.hm-treasury.gov.uk/miles).

²⁶ Data based on a survey of five major Korean lenders by KHFC as of April 2005.

inflation environment and the very strong directed credit policies aiming to suppress consumer credit in favor of ‘priority sectors’ in the pre-liberalization era? Financially and socially, this informal contract has significant undesirable features for both parties in terms of risks and implicit costs. In addition, Chonsei is income regressive: Korea is an exceptional housing market where a young renting family has to be rich or have rich parents to provide the required lump-sum deposit in lieu of rent. This deposit represents a large percentage of the value of the unit often of the order of 65%.²⁷

The expansion of fixed rate mortgages is a financially more sound way than Chonsei to achieve forced savings through the amortization payment mechanism– and at the same time lower wealth requirements for achieving ownership. In general the development of higher LTV mortgage credit is also a way to de-link the savings market from housing market, thereby improving their financial efficiency and probably their equity as well. This raises the important issue of the conditions under which a financial system can switch mortgage finance regime from predominantly variable rate mortgages to fixed rate mortgages, which is one of the rationales for creating KHFC as discussed below.

2.5 Transaction Costs, Transparency and Consumer Protection Issues

The demand for mortgage loans can be significantly affected transactions that can usually be divided into three groups: (a) fees and discount points associated with the origination of the loan by the lender, (2) Third party charges such as appraisal fees and other services, and (3) registration and transfer taxes. There are considerable variations across countries for these costs. The available evidence suggests that purchase transaction costs in the Korean mortgage market are currently of the order of 7.2% of the value of the property purchased, which is somewhat above average compared to EU countries as shown in FIGURE 10 below.²⁸ Once again,

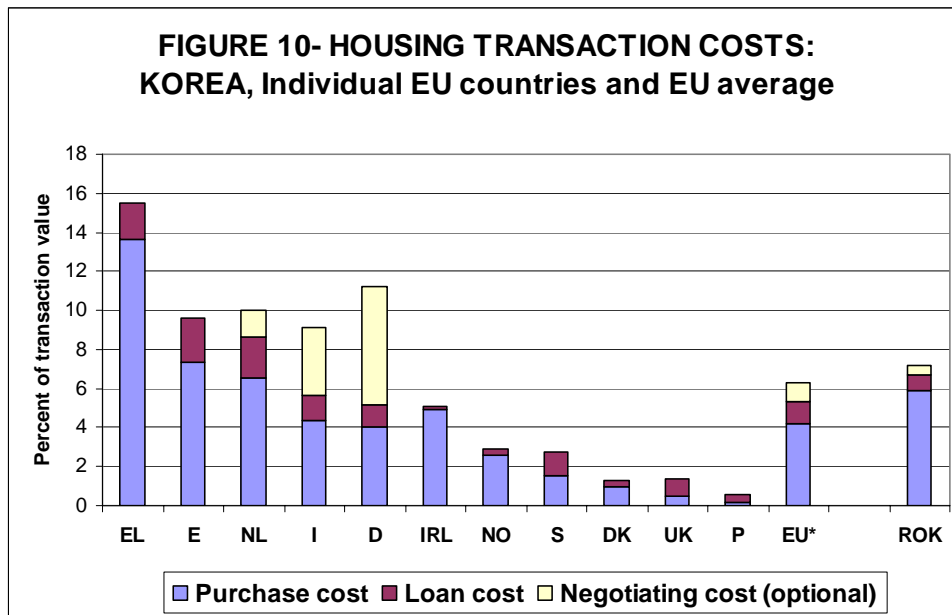
²⁷ Since the Chonsei deposit is a substitute for cash rent, its ratio to the value of the house will fluctuate over housing cycles. Behaving like housing rents or price-earning ratios for stocks, the Chonsei amount relative to the housing unit’s price will decline during housing boom periods. Asset price inflation is also more likely during periods of low interest rates. It is therefore odd to assert that lower rents relative to the cost of housing assets in a boom period or in the case of Chonsei the relative decline in implicit rents compared to asset prices ‘can be interpreted as a transfer of wealth from Chonsei tenants to house owners’ as Dongchul Cho has recently argued. (Cho, 2005) Such an assertion can lead to wrong-headed policies when in fact the user cost of renting vs. owning is shifting in favor of renting, which is a point frequently made in the international financial press lately. A Chonsei renter has no claim on the housing asset, but only on the flow of services from that asset for the typical two-year period of a contract. During that contract the value of the lump-sum deposit does not change and therefore neither does the price of housing services. This is one of the major reasons why Chonsei contracts emerged during the hyperinflation that followed the Korean War. Cho attributes the origin of this misinterpretation to Ambrose and Kim (2003).

²⁸ Current 2005 data provided by the staff of KHFC.

Denmark scores very well on this efficiency measure and so does the UK, while Greece has very high transaction costs of the order of 15.5%.

In the US, a recent two-year effort to reform the notoriously complex Real Estate Settlements Procedures Act (RESPA) did not succeed. This effort aimed to insure the comparability of loan offers, lower transaction charges for buyers as well minimize if not eliminate the process of sequential pricing and overcharges associated with a residential purchase. (See Markison, 2005). Two critical consumer protection instruments under RESPA are the Good Faith Estimate form, and the “HUD-1 settlement form.

Across the EU, the lenders’ Code of Conduct was developed on a voluntary basis following the principle of self-regulation of the mortgage industry and 3,600 lenders have signed commitments to abide by this code.²⁹ On the other hand, a 2003 survey revealed a weak implementation of the ‘European Standardized Information Sheet’ or ESIS that is designed to insure full comparability of offers by different lenders across the EU. It should be noted, however, that national standards of comparability and information disclosure are usually in force already.



²⁹ See the report of the EU Forum Group on Mortgage Credit [2004].

2.6 Managing Funding Risks with Access to Capital Markets

Access to capital markets to improve risk sharing and risk management by retail lenders

After financial liberalization, one of the most strategic issues for the development of a mortgage market is retail lenders access to capital market investors. They need this access in order to improve their financial risk management. Related to that question is the choice of capital market innovations that would permit the transition from a variable mortgage rate regime toward a fixed rate regime.

As we have just seen, a complete mortgage credit market is one that can offer a variety of FRM and ARM products that fit the needs of different individual borrowers. There are at least three reasons in favor of a transition from a variable mortgage lending rate regime to a fixed-rate one. From an economic and social welfare point of view, long-term FRM loans can improve access to home-ownership and also provide a built-in savings mechanism through the amortization schedule. Of course, an important factor in the demand for FRM loans will be the magnitude of the risk premium in the FRM loan cost compared to ARM alternatives. The two other reasons are of a macroeconomic nature. First, recent research by the IMF across 16 countries over three decades finds that in countries where longer-term, fixed loans are dominant housing prices tend to be less sensitive to changes in short-term interest rates. Second, housing markets dominated by variable loans can become an important channel of monetary policy in a way that may interfere with the objectives monetary policy. These two issues have been the drivers of the recent Treasury consultation in the UK that resulted in the Miles and Barker reports in 2004 some of whose findings are now being reviewed by the UK government for implementation.³⁰

What kind of mortgage securities: RMBS? Secured Bonds? Others?

Considerable policy progress has been made during the past decade.³¹ In discussions about what mortgage securities to encourage for the development of fixed income securities markets, there is a growing understanding that no mortgage security is intrinsically superior to the others:

³⁰ These two issues have been the main focus of a presentation made in Korea in December 2004. That presentation highlighted the problematic interactions between the variable UK mortgage lending regime and a highly inelastic housing supply caused by rigid urban planning, and it drew attention to a parallel situation in Korea. Please refer to Renaud [2004] for further details.

³¹ For the most recent and relevant review of these policy issues and of international experience in emerging markets, see Chiquier, Lea and Hassler [2004].

some investors may prefer RMBS products others may prefer covered bonds. Similarly, the economics of security issuance may lead some lenders to prefer funding through RMBS; those are more likely to be non-depository lenders. Others may focus on secured bonds, and those are more likely initially to be depository lenders. The type of target market also matters for the choice of funding.³² And the economics of mortgage funding is also likely to change over time as a financial system deepens and moves from being purely bank-based to having a substantial capital market, as shown earlier in Figure 2 if we compare the broad financial structure of China with that of the US. Another important intervening factor will soon be the implementation of the Basel II Capital Accord starting in 2006 that is expected to affect the relative economics of issuing RMBS or covered bonds for different lenders.

What is highly desirable if not essential to the long-term success of efforts to develop a mortgage securities market is that such work be solidly integrated within a country's broader plan to develop its bond market, and its private bond market in particular. For instance, the pioneering success of Malaysia in creating its mortgage securities market two decades ago contrasts with the very mixed experience of other emerging markets that Chiquier et al. [2004] report. False starts in other countries have often owed a great deal to policy coordination failures and to a lack of appreciation of some important market or infrastructure pre-conditions. One important role that capital market regulatory and supervisory authorities can play is to insure that the legal and regulatory framework does not tilt the field in favor of one type of securities and that all types of quality securities can be issued as market conditions will permit or demand over time. At the end of the day, and trivial as it may seem, the two key determining factors in the take-off of a mortgage securities market are whether there is a demand for them and whether there is an issuer need for capital market funding. When overlooked by wishful thinking, these two prerequisites have led to misdirected skills and resources as well as time wasted.

What has been tried and where?

Are centralized second-tier public institutions needed for efficient mortgage securities markets? Not necessarily. There are very successful examples of mortgage securities markets without centralized issuers in high income economies such as securitization in Australia or the very efficient and deep Danish market that is increasingly studied? The same is true also in the case of middle-income emerging markets.

³² For an illustration of how the type of lending institution and the targeted market interact with financial market conditions to shape funding choices see "Current risk and funding approaches", Chapter 5 in Mercer Oliver Wyman [2005].

The range of experiences accumulated by middle-income emerging markets in developing mortgage securities market is quite significant as shown in TABLE 5 taken from Chiquier, Hassler and Lea [2004]. Some of these experiences have been quite successful and sustained over time, others not. The table is not exhaustive as markets keep evolving. Another important point that could be missed in TABLE 5 is that several channels and several types of mortgage securities can coexist in markets where a level playing field exists, such as in Colombia and in Chile.

TABLE 5: MORTGAGE SECURITIES EXPERIENCES IN EMERGING FINANCIAL MARKETS				
Mortgage bonds	Pass-through Securities	Structured Finance	Mortgage Conduits	Liquidity Facilities
Bulgaria Chile Colombia Czech Republic Hungary Poland	Hong Kong	Argentina Colombia Chile India Korea Mexico Panama Philippines South Africa Trinidad	Argentina Brazil Colombia Hong Kong Korea Thailand	India Jordan Malaysia South Africa Trinidad

Source: Chiquier, Hassler and Lea [2004], Part VI, Section A.

Korea: the Komoco experience

Korea’s experience with the creation the Korean Mortgage Corporation or Komoco with a mixed public-private ownership in 1999 in the aftermath of the 1997 financial crisis could be described as a false start in developing the Korean mortgage securities market.³³ As implemented, Komoco functioned as a short-term solution to the Korean government’s serious fiscal problems in the aftermath of the 1997 financial crisis when it faced very large budget expenditures to restructure the banking system. Komoco securitization of the high quality, high yield social loan portfolio held by NHF was quite successful. But Komoco did not lead to a structural improvement of the mortgage market because Kookmin Bank that was dominant lender had not

³³ For descriptions of Komoco and its operations see J.H. Lee [2002] and S.D. You [2003]. Descriptions from rating agencies are available from rating agencies. For an evaluation of the Komoco experience see Chiquier et al. [2004] Part VI.

need to issue mortgage securities to manage its funding risks, once it has restructured its loan production toward very short-term, variable rate bullet loans as seen in TABLE 4.

On the other hand, there is an interesting parallel between the positive role that Komoco has played in creating fiscal space for the Korean Government in the aftermath of 1997 and the Finnish experience in the aftermath of Finland's own banking crisis and the collapse of trade with the Soviet Union in the early 1990s. At that time, the Finland Housing Fund successfully securitized parts of its seasoned, low LTV portfolio of social housing loans to replenish its social housing budget with two large dollar denominated FINICA RMBS issues in 1995 and 1996. An important difference is that Finland did not create a special conduit like Komoco but simply relied on a special purpose vehicle (SPV) incorporated in Ireland to maximize international visibility and investor interest. As government budget relief operation, Komoco was a success.

Korea: the new Korea Housing Finance Corporation

The Korea Housing Finance Corporation was created by a special law in December 2003³⁴ and started its operation in March 2004. What can be the benefits of KHFC as an instrument of public policy? What corporate management challenges might KHFC face as a public financial institution? An evaluation at this time would be both premature and inappropriate. But as an instrument of public policy, the following standard questions may be asked about KHFC:

- KHFC is expected to become an instrument for better risk allocation across the mortgage market. But can it be more than a backup funding option during a business cycle downturn for well rated, diversified commercial banks that ordinarily fund their loans from retail deposit? What will be its role for non-deposit taking specialist mortgage lenders? Are there other options for these specialist lenders?
- What can we expect from KHFC for the standardization of mortgage lending and greater liquidity in the mortgage market?
- In what manner can KHFC contribute to the diversification of mortgage products to meet the different demand of borrowers in different risk segments of the mortgage market?
- A major need of a mortgage credit market is the availability of a benchmark mortgage product to improve the transparency and efficiency of risk pricing throughout the market. What could be a KHFC strategy to fill that need?

³⁴ Korea Housing Finance Law No.7030, December 2003

- Should KHFC be prepared to act as lender of last resort in the even of a crisis to prevent a shutdown of the mortgage market and the costly impact on the wider economy?

As a public financial institution KHFC faces a duality of financial and social objectives. As a financial institution, KHFC is expected to develop and grow its “franchise value” i.e. to raise its implicit commercial value thanks to the quality and desirability of the services it provides. Yet, at the same time, KHFC might be called to meet the non-commercial objectives of social policies and as a result KHFC might achieve ‘non-commercial results’.

- Do the KHFC governance structure and managerial incentives facilitate good governance i.e. high quality decision making?
- Are the channels and instruments for defining KHFC’s public policy objectives supportive of strong financial management?
- The recent GSE debates in the US lead to asking the question whether the internal risk management structure is appropriately strong to face financial risks.
- Is the level of capitalization of KHFC appropriate with the risk it is taking and with contingent liabilities eventually face by the public?
- Can KHFC mitigate the lack of development of the Korean financial markets and the limits on buying hedges to manage financial risks properly?
- KHFC faces a quasi-monopolistic retail mortgage credit market dominated by Kookmin Bank. What are good strategies to develop and diversified distribution channels?
- The structure of KHFC 2003 charter combines mortgage lending with various insurance functions that might be better kept separated because they imply different risks and different corporate cultures. In addition there is a conflict of interest between the securitization programs of KHFC and the provision of mortgage default insurance by KHFC also since mortgage default insurance is one to credit-enhance a securitization. Should KHFC become a diversified group of specialized financial companies in order to achieve greater transparency and provide more management flexibility?

III. MORTGAGE FINANCE AND THE MACROECONOMY

In closing, two structural questions about the impact of mortgage finance on the macroeconomy seem to deserve the attention of Korean analysts and policy makers. One relates to the structure of the mortgage credit market and financial stability. The other relates to the current variable rate regime of the mortgage system and public concerns for housing price stability.

Mortgage credit market structure and financial stability

What can be done with the very high percentage of Korean loans that are variable rate, interest-only loans of extremely short maturities? Does this market structure create significant systemic risks for Korea like those faced in the US in the 1930s? Interest rates have declined globally due to a very high level of liquidity in the world economy. Interest rates reached their lowest level in 40 years for the US in 2004. Are interest rates in Korea likely to rise and become more volatile at the same time? The volume of loans rolled over in 2004 was estimated at Won 42 trillion or over 5% of GDP. By some estimates the volume of housing loans that will need to be refinanced this year could rise as high as 9% and 12% of GDP. What could happen to the Korean portfolio of outstanding mortgages when real and nominal interest rates rise again? Is the problem really mitigated by very low LTV ratios? A very high share of these risky loans is held by only one bank? In a worst case scenario, could problems at Kookmin bank lead to a massive contraction of the aggregate mortgage loan supply? Would KHFC be ready to act as a lender of last resort? In what way? On what terms?

FIGURE 9 that compares the composition of loan supply between Korea, the EU and the US might suggest that systemic risks in Korea and in Spain are very similar. However, three major structural factors appear to differentiate Spain from Korea and suggest that Spain is much less prone to a systemic shock related to its loan composition. First, Spanish loans are amortizing ARM loans of long maturity and not very short, variable rate bullet loans. Second, this portfolio is not concentrated into a single bank but is dispersed across a diversity of national and provincial institutions with diversified lines of business. Therefore the likelihood that a single bank may fail is lower and the possibility that the failure of one bank could lead to a housing market shut down is even more remote. Finally, acting on the well-known fact that bank lending to the real estate sector is strongly pro-cyclical with rising asset prices, Spain is the first country to have implemented 'dynamic' provisioning regulations for banks and other lenders, see Jaime Caruana [2003].

Is the continuing dependence of the Korean mortgage market on short-term, variable interest rates creating significant problems for the conduct of monetary policy in the same manner that the housing channel is a problem for monetary policy in the UK? What are possible actions in Korea? On the financial side? On the urban planning side?

CONCLUSION

This paper has reviewed the risk mitigation role of the core components of the mortgage markets operating in high-income economies after two decades of financial market liberalization. Given the intrinsic complexity of a modern mortgage market, the emphasis has been on presenting the policy rationales related to these core components and to the ways they interact. Operational discussions of the varied technical options available for each market function make another agenda. Wherever possible, the paper compares the current Korean market with international experience, which often raises public policy questions for Korea. Financial liberalization has led to major changes in the Korean mortgage markets that have been growing very rapidly after 1997.

In terms of market completeness, competitive distribution system, as well as costs and risk allocation the Korean mortgage finance system is still very much in transition from the small and narrow structure inherited from the pre-liberalization era. Seen in international perspective, the stability and deepening of the new markets will benefit from the successful development of KHFC. Agreement on a strategic framework that would better align the interest and incentives of public and private stakeholders in the mortgage credit markets system would be desirable. Such a framework should help reduce delays and also lower the risks of piecemeal or myopic decisions such as some of those observed immediately after 1997 crisis. Such a framework could also help in refining the regulatory and supervisory framework for efficient and stable Korean mortgage markets. In spite of the limited nature of this overview of the Korean mortgage credit system, this conclusion seems inescapable.

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