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# The Deterioration of the South Korean Real Estate Market and the Response of the Government

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## Summary

1. South Korea was the first major nation to recover from the recessionary slump triggered by the Lehman shock, and in 2010 it achieved 6.2% growth. One factor that could affect future economic performance as the underlying recovery trend continues is the expanding impact of a deteriorating real estate market.
2. Reasons for the worsening state of the real estate market include (1) government moves to strengthen measures designed to curb housing prices, which began to surge in 2005, (2) increased construction activity by real estate development companies in anticipation of bullish demand, and (3) the sudden deceleration of the economy after in the wake of the Lehman shock.
3. Also significant are structural factors, including the dramatic deceleration of new town development and population growth. The first phase of new town development was largely completed by the mid-1990s, but while a second phase was launched in the early 2000s, a fall in the population growth rate resulting from an accelerating decline in the birth rate has prompted a review of housing supplies.
4. In addition to its negative impact on the earnings of construction companies, this deterioration in the real estate market is also having a widening impact in other areas, including an increase in the amount of non-performing loans held by financial institutions. Particularly significant is the rapidly deteriorating financial positions of savings banks, which expanded their lending for real estate projects during the real estate development boom.
5. Economic performance could be seriously affected if the impact of this situation continues to expand. For this reason in mid-2010 the government began to implement measures in response to the worsening finances of savings banks and the state of the real estate market. In 2011 the business operations of eight savings banks were suspended because of the worsening financial positions.
6. Risks relating to household debt will need to be monitored closely. An increase in housing-related lending has caused household debt to swell in recent years, and by the end of 2010 that debt was equivalent to 1.52 times disposable income. According to household budget survey results, interest payments have risen from 2.0% of average household expenditure (excluding single-person households) in 2003 to 2.6% in 2010.
7. In July 2010, the policy interest rate was raised for the first time in almost two years, reflecting progress toward economic recovery. Since then, increases in food and raw material prices have caused inflation to accelerate, leading to further interest rate hikes in November, January and March.
8. The Bank of Korea has hitherto taken the view that the situation will not destabilize the financial system. Its grounds for this belief include the fact that the quality of lending has been maintained through tighter restrictions on housing-related lending, and the fact that high-income borrowers have accounted for a large share of debt. However, while debt repayments are increasing, if rising primary product prices cause the income terms of trade to deteriorate (loss of income to other countries), leading to income stagnation, there could be a rapid decline in the capacity of people in middle and lower income brackets to service debt. Future household budget trends will need to be monitored carefully.

South Korea was the first major nation to recover from the recessionary slump triggered by the Lehman shock, and in 2010 it achieved 6.2% growth. Although it continues to follow an underlying recovery trend driven by expanding domestic and external demand, its future economic performance could be significantly impacted by the spreading effects of a worsening situation in the real estate market.

Housing prices in Seoul Special City began to fall in mid-2008. They subsequently rose for a period in step with the subsequent economic recovery but then returned to a downward trend. This downturn in the real estate market has adversely affected the earnings of construction companies and caused an increase in the amount of bad loans held by financial institutions. In particular, there has been a dramatic worsening of the financial positions of saving banks, which expanded their lending on real estate projects during the real estate development boom. Concerned that this situation would have a serious impact on the economy if the effects were allowed to spread, the government has taken action since mid-2010 to rescue savings banking and revitalize the real estate market. These policies helped trigger a sudden rise in the number of real estate transactions, raising hopes in some quarters of a market recovery. However, there was also concern about the effects of interest rate increases. In July and November of 2010 and January and March 2011, the central bank raised interest rates with the aim of normalizing interest levels and curbing inflation. Further increases are predicted. Household debt has swollen significantly with the expansion of housing loans, which means that higher interest rates not only increase the debt servicing costs but could also turn some housing loans into non-performing assets

In this article, we will focus on these perspectives as we analyze the factors that triggered this downturn in the South Korean real estate market and are causing its impact to spread. We will also examine future risk factors. The article is structured as follows. Part 1 provides an overview of the South Korean economy. In Part 2 we will analyze the factors that triggered the real estate down-

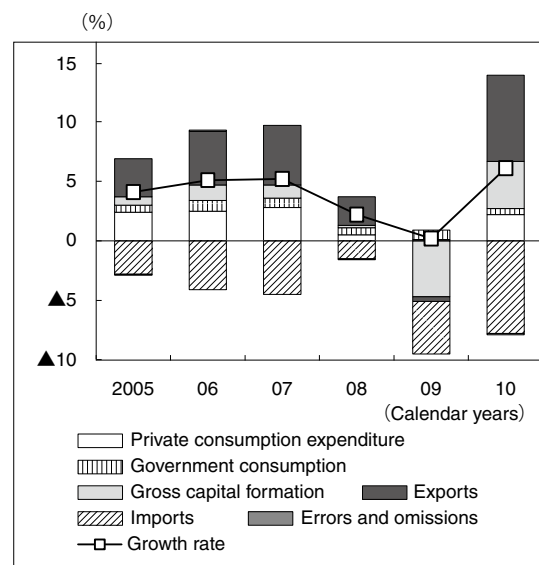
turn and are causing its impact to spread. Part 3 focuses on the new town development trend, which is closely linked to the housing problem. In Part 4 we will look at government measures and the risk factors that are expected to emerge in the future.

## 1. Continued Stable Economic Growth

South Korea's economic performance deteriorated after the onset of the Lehman shock in the fall of 2008. However, the economy rapidly recovered thanks to an export rally and government moves to stimulate economic activity. In 2010, the growth of exports and capital investment accelerated and there was a sustained upward trend in consumer spending. Over the year the economy grew by 6.2%.

Contributions to growth in 2010 included 7.2% from exports (negative 7.8% from imports), 4.0% from gross capital formation, and 2.2% from private consumption expenditure (Fig. 1), indicating that the recovery so far has been driven largely by a rapid export rally. The growth impetus provided by exports is the result of globalization efforts by

**Fig. 1 Growth Contributions of Demand Items in South Korea**



Source: Bank of Korea, *Economic Statistics System*

South Korean companies<sup>(1)</sup>.

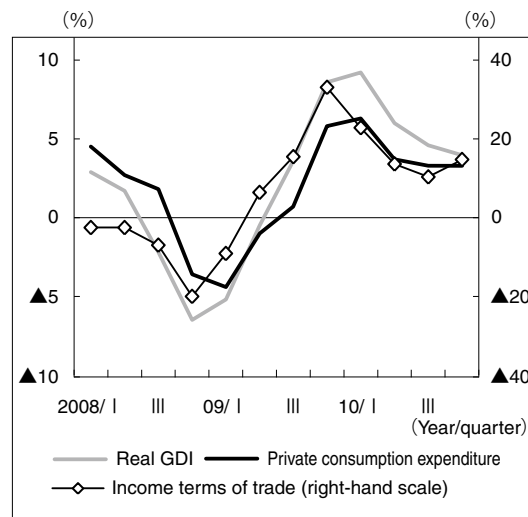
This rapid recovery was followed by a reaction that pushed the growth rate down to 2.1% in the January-March quarter, 1.4% in the April-June quarter, 0.6% in the July-September quarter, and 0.5% in the October-December quarter. However, both domestic and external demand currently remain on stable growth trends.

Customs-cleared exports have consistently showed double-digit year-on-year growth since November 2009, and in March 2011 there was a 30.3% increase. There is a strong possibility that exports to developed countries will be significantly below 2010 levels in 2011. However, the growth of exports to emerging countries, including those in Asia, is expected to be comparatively high for a number of reasons. First, China and India are expected to maintain growth rates in excess of 8%. Second, soaring resource prices will have a positive effect on resource-producing countries. Third, consumer spending is expected to follow a steep upward trend because of the expansion of the middle classes. The expansion of exports is also likely to benefit from the determined efforts of South Korea companies to develop markets in emerging economies, and by the fact that the appreciation of the won has been kept to a reasonable level.

At the same time, the growth of private consumption expenditure has tended to decelerate, with the quarterly rate of increase falling from 1.4% (3.6% year-on-year) in the July-September quarter and 0.3% (2.9% year-on-year) in the October-December quarter. However, real retail sales remain firm and continue to show steady growth. Reasons for this include an improving income and employment environment and the fact that interest rates have remained low.

South Korea still faces structural problems, including youth unemployment and informal labor. However, its seasonally adjusted unemployment rate stood at 4.0% in February 2011. The income recovery is continuing, aided by improvement in the income terms of trade. Furthermore, real gross domestic income (GDI) increased by 4.6% in the July-September quarter of 2010 and by 3.9% in the October-December quarter relative to the same

**Fig. 2 Rates of Increase in Real GDI and Private Consumption Expenditure (Year-on-Year)**



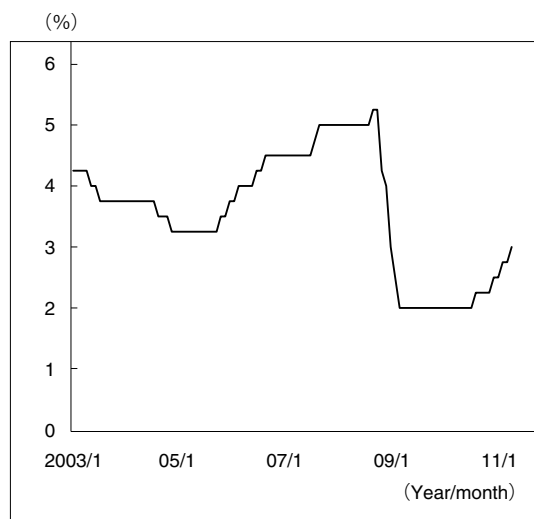
Notes: The income terms of trade index is compared on a year-on-year basis.  
Source: Bank of Korea, *Economic Statistics System*

periods in the previous year (Fig. 2). Since GDI also includes business profits, it does not necessarily reflect household income trends. However, the results of household budget surveys show similar income trends. In the October-December quarter, real incomes increased by 2.8% over the same period in the previous year on an average household basis.

As far as interest rates are concerned, the central bank drastically cut the policy interest rate in response to developments in the wake of the Lehman shock, including a rapid worsening of the economic situation and a reduction in lending by financial institutions (Fig. 3). Liquidity was supplied through bond purchasing and other means. Aggressive government spending and monetary easing also helped to underpin the recovery.

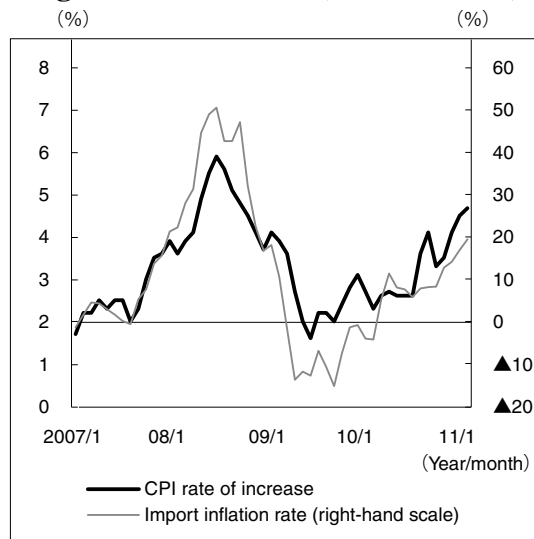
In July 2010 the rate was lifted again in response to the progress of the economic recovery and inflationary pressure. Subsequent rises in the cost of living resulting from sharp rises in food and raw material prices (Fig. 4) led to additional interest rate increases in November 2010 and in January and March of 2011. However, in mid-March real interest rates were still negative, since the yield on three-month CDs (monthly aver-

**Fig. 3 Trends in the Policy Interest Rate**



Notes: The most recent figure is for March 2011.  
Source: Bank of Korea, *Economic Statistics System*

**Fig. 4 Inflation Rate (Year-on-Year)**



Source: Bank of Korea, *Economic Statistics System*

age) stood at 3.4%, compared with an expected inflation rate of 3.9% in March (Bank of Korea, *Consumer Survey Index*). One reason why further interest rate increases have been postponed is the risk that higher interest rates would trigger an influx of short-term overseas funds, causing the won's rise to accelerate. Another reason was the risk of further deterioration in the real estate mar-

ket, as discussed below.

## 2. The Impact of the Emerging Real Estate Slump

Despite the underlying economic recovery trend, the spreading impact of the deteriorating situation in the real estate market could have a major influence on future economic performance. In Part 2, we will focus on the factors that are causing this downturn in the real estate market, and on the effects of the situation.

### (1) Housing Price Decline

The real estate market continues to worsen despite the rapid economic recovery. As discussed below, this is because the emerging effects of measures implemented by the government before the Lehman shock to curb real estate investment combined with the effects of post-Lehman developments.

Around 40% of South Korean households live in apartments, which are defined as condominium-style housing similar to the Japanese "mansion" in buildings with five or more floors. Some 70-80% of all new housing units fall into this category. There are four ways to take up residence in an apartment. First, you can purchase a condominium unit. Second, you can use the *chonse* system, whereby the tenant lives rent-free after paying a refundable deposit equivalent to 30-70% of the purchase price. Third, you can pay a mixture of deposit and rent under the *wolse* system. Fourth, you can simply pay rent without paying any deposit. The *chonse* system is unique to South Korea. Landlords earn income by investing the deposits<sup>(2)</sup>. Public rental apartments for low-income people are usually provided under the *wolse* system, and tenants pay a monthly rent.

The government has intervened deeply in the housing market in terms of both supply and price formation. Supply-related measures include the formulation of housing supply plans, new town development, the supply of housing to low-income people through public corporations, and loan support. Government involvement in price formation

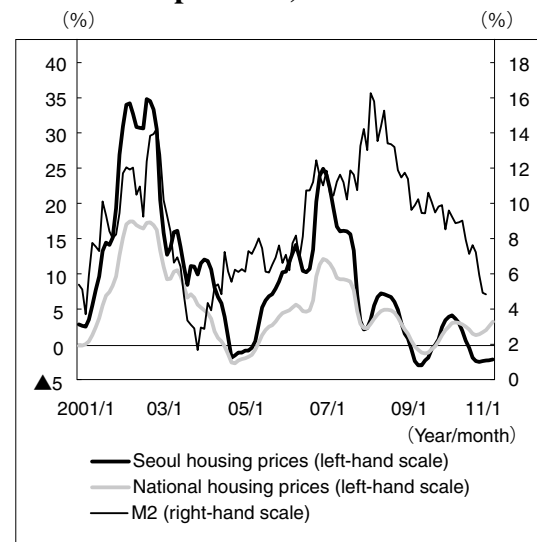
has included the imposition of upper limits on selling prices<sup>(3)</sup>.

We will look now at the background to the current downturn in the real estate market. In 2003, the government began to implement real estate-related measures in response to sharp increases in apartment purchase prices in Seoul Special City between 2002 and 2003 (Fig. 5 and Table 1)<sup>(4)</sup>. One of these measures provided for the reduction of the number of large apartment buildings targeted for investment, and for an increase in the percentage of small and medium-sized apartments. The upward trend in prices slowed temporarily as a result of these measures but began to accelerate again in 2005 and 2006. The rate of increase was especially conspicuous in the Gangnam district (see below) located to the south of the Han River (Fig. 6). In addition to actual demand, this trend was also driven by the myth of real estate's invincibility, which encouraged people to buy apartments for investment purposes.

The causes of this upward movement in housing prices were persistently low interest rates and investment-driven demand<sup>(5)</sup>. For this reason, the policy interest rate was raised in stages, starting

in the fall of 2005 (Fig. 3), and in August 2005 the government announced a comprehensive real estate policy designed to curb prices. At the core of this policy was an increase in the transfer taxes levied on owners of multiple dwellings. Previous-

**Fig. 5 Housing prices in Seoul Special City (Year-on-Year Comparisons)**



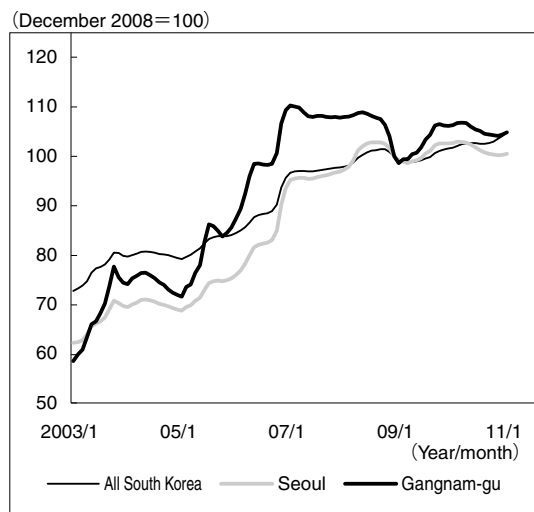
Source: Bank of Korea, *Economic Statistics System*

**Table 1 Real Estate-Related Measures in South Korea**

		Main Real Estate-Related Policies
2003	May	Ban on resale of subdivision rights extended to whole of the Seoul National Capital Area Ban on resale of condominium subdivision rights relating to housing, residential/commercial buildings and condominiums owned by redevelopment syndicates in speculative zones
	September	Required percentage of small and medium-sized dwellings to be built during redevelopment/reconstruction increased to 60%
	October	Tightening of tax exemption conditions for transfer taxes on single-household dwellings Accelerated construction of long-term public rental housing (target of 1.5 million units) New town development Levying of development profits on rebuilt condominium buildings Introduction of permit system for the trading of dwellings Increase in permit area for land transactions
2005	February	Bond-bidding system introduced in response to rising new town subdivision prices Survey of situation in six housing transaction declaration zones in Seoul
	August	Threshold for general real estate tax reduced from 900 million won to 600 million won 50% transfer tax imposed on households with two or more dwellings Registration of actual transaction prices Expansion of supply, including new town development in Gambuk district
2006	March	Levying of excessive profits resulting from condominium reconstruction DTI limited to 40% in speculative zones
	November	Controls on housing-secured loans tightened Downward guidance of subdivision prices Announcement of road map for supply expansion
2007	January	Fund established to procure funding for rental housing construction Revitalization of supply of long-term fixed-interest mortgage lending Expansion of guarantee support for lending to low/middle-income people
2009		Purchase of unsold newly built housing and land from domestic construction firms wishing to repay debts—2 trillion won allocated for housing purchases and 3 trillion for land purchases
2010	August	Partial easing of restrictions on real estate lending

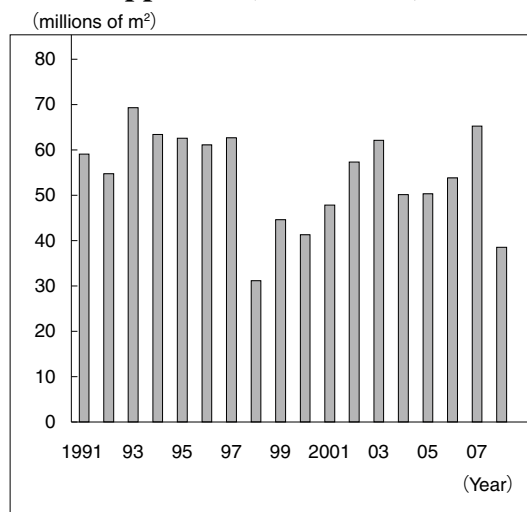
Source: Lee Duk-soon [2008], etc.

**Fig. 6 Housing Prices**



Source: CEIC Data Base

**Fig. 7 Area of New Buildings (Housing) Approved (Nationwide)**



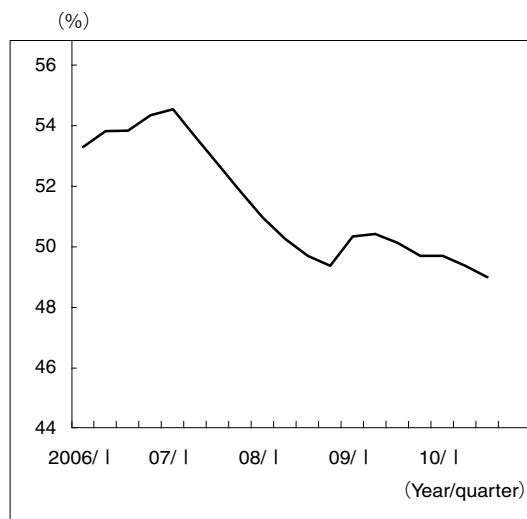
Source: LH, 2009 Year Book of Land & Housing Statistics

ly a progressive tax ranging from 9% to 36% was levied when a single household owned more than two dwellings, but in 2007 the top rate was lifted to 50%. In addition, the government introduced a plan to alleviate the urban housing shortage by developing housing on 660 hectares of government and municipal land in Songpa-gu to create a new town with capacity for 50,000 households, and to increase housing land development in areas currently under development, such as Ginpo New Town.

In 2006, the government reduced the approved loan-to-value ratio (the ratio of housing loans to housing values) and the debt-to-income (DTI) ratio, which is the ratio between annual principal and interest payments and annual income in the Seocho-gu, Gangnam-gu and Songpa-gu districts of Seoul Special City, which had been designated as “speculative zones” because of a continuing steep uptrend in housing prices. The loan-to-value requirement was now among the toughest in the world.

Despite these government measures targeting the real estate industry, prices continued to rise, and real estate developers continued to build housing in anticipation of bullish demand. Evidence of this pattern can be found in the fact that the area of new buildings approved in 2007 was the biggest since 2000 (Fig. 7).

**Fig. 8 Housing-Related Lending as a Percentage of Total Lending to Households**



Notes: Loan-to-value data have only been published since the October-December quarter of 2005.  
Source: Bank of Korea

Gradually these measures to curb real estate lending began to take effect, as evidenced by a decline in the rate of increase in M2 in 2007 (though there was a shift to monetary easing after the Lehman shock), and by a decline in housing-related lending as a percentage of total lending to households (Fig. 8). Just as this situation was beginning

to trigger a rapid slowing of the pace of upward movement in housing prices, the unexpected impact of the Lehman shock caused the economy to stall. As a result, housing prices fell below the previous year's level in April 2009.

Despite the subsequent rapid recovery of economic performance, prices again slid onto a negative trend in August 2010 (Fig. 5). In addition to reduced demand, the fall in housing prices also resulted from discounted selling of stocks. While the extent of the decline was not large overall, some properties in the Gangnam district dropped by more than 10% from their peak values. The impact of this situation on the South Korean public was especially shocking because of the myth of real estate's invincibility, which became firmly established during years of continuous rises in housing prices.

The deteriorating situation in the real estate market over the past few years has resulted from a combination of factors, including (1) government moves to tighten real estate-related policies in response to rapid housing price increases since 2005, (2) housing construction by developers in anticipation of bullish demand, and (3) the sudden stalling of the economy after the Lehman shock. In addition to these direct factors, the expansion of the housing supply as a result of the government's new town development activities also appears to have played a role. (This last factor will be examined in Part 3.)

## (2) Spreading Effects

As outlined below, the impact of this deterioration in the real estate market have been manifested in a number of areas. First, there has been a decline in the business performance of construction and real estate companies. While exports increased by 14.5% and capital investment by 25.0% year on year in 2010, construction investment shrank by 1.4%.

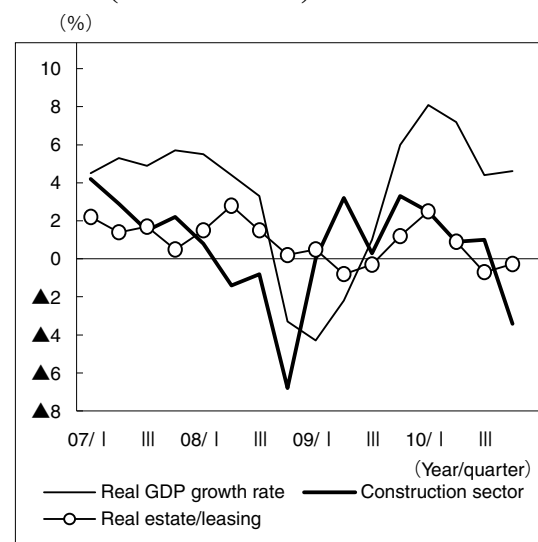
Faced with a slump in domestic construction activity, major construction firms have focused on winning overseas contracts. However, this path is not open to small and medium construction firms, many of which have gone bankrupt because of

their inability to collect contract payments. According to the Construction Association of Korea, 306 firms failed in 2010 (*Korea Times*, January 31, 2011). In addition, the situation has forced the postponement of some major development projects and is even affecting the government's new town construction projects. Many real estate agents have also been forced to close their doors because of a rapid decline in transaction numbers.

Evidence of the downturn in the construction industry can be found in the fact the sector's growth rate has remained below the real GDP growth rate (year-on-year, the same applies below) since the April-June quarter of 2009, when the benefits of economic stimulus measures began to wane. This was especially apparent in the October-December quarter of 2010, when the construction sector recorded negative growth of 3.2% compared with a GDP real growth rate of 4.7%. The real estate agency service business also continues to stagnate with almost zero growth for two consecutive quarters (Fig. 9).

Second, there has been an increase in the amount of non-performing loans held by financial institutions. Mutual savings banks (equivalent to Japanese shinkin banks, referred to below as "savings banks"), of which there are 105 as of Decem-

**Fig. 9 Growth Rates of Real GDP and Construction Sector (Year-on-Year)**



Source: Bank of Korea, *Economic Statistics System*



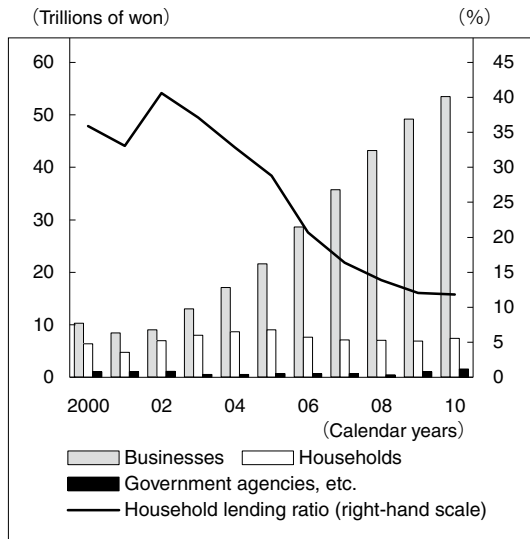
ber 2010, have been particularly hard hit. With 20-30% of their project loans now classed as non-performing loans, their financial positions have deteriorated. Lending to households by savings banks peaked out in 2005 and has since declined, in contrast with a conspicuous increase in their lending to businesses (Fig. 10). From 40.6% of total lending in 2002, lending to households had shrunk to just 11.8% by 2010.

In response to the worsening financial situation of savings banks, the government initiated rescue measures. On January 14, 2011, the Financial Ser-

vices Commission designated the Samwha Mutual Savings Bank a bankrupt financial institution and imposed a six-month suspension. The bank, which is ranked 20th in terms of assets, is based in Seoul Special City, where it has its head office and branches in Samseong-dong in the Gangnam-gu district in Sinchon in the Seodaemun-gu district. It has over 43,000 depositors. The deposit insurance corporation announced that it would guarantee all deposits and interest up to 50 million won per depositor. In February, six-month suspensions were imposed on six more banks, including South Korea's biggest savings bank, the Busan Savings Bank, and its affiliate, the Daejeon Savings Bank. At the end of 2010, the total assets of savings banks were equivalent to only 4.9% of the total assets of all banks (Table 2), and the impact on the financial system as a whole will be minimal. However, the banks have tightened their evaluation criteria for loans to the construction sector, with the result that the amount of non-performing loans has increased.

Non-performing loans held by banks have increased from 16.0 trillion won in December 2009 to 24.4 trillion won in December 2010. Over the same period, the amount of real estate project loans classified as non-performing loans has risen from 1.2 trillion won to 6.4 trillion won, while the non-performing loan ratio has soared from 2.32% to 16.44% (Fig. 11). The reduction since September is attributable to the disposal of non-perform-

**Fig. 10 Lending by Savings Banks**



Notes: Balances at end of June  
Source: Korea Financial Supervisory Service

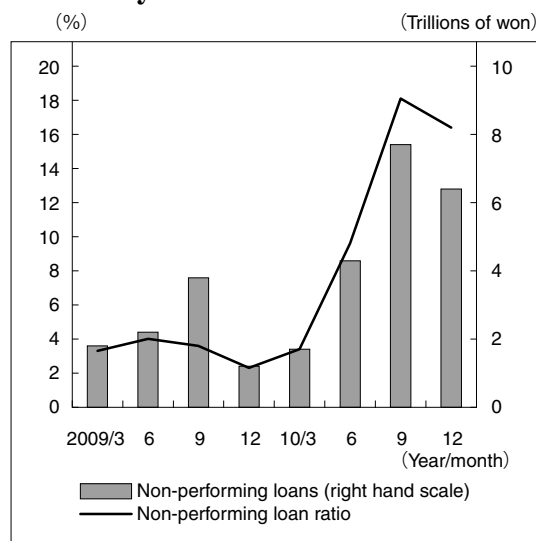
**Table 2 Financial Institutions in South Korea**

· Banks	<ul style="list-style-type: none"> <li>a. General banks <ul style="list-style-type: none"> <li>Commercial banks...Kookmin Bank, Shinhan Bank, Woori Bank, Hana Bank, etc.</li> <li>Regional banks...Busan Bank, Daegu Bank, Kyeongnam Bank, Foreign-owned banks</li> </ul> </li> <li>b. Special banks <ul style="list-style-type: none"> <li>Korea Development Bank, Korea, Export-Import Bank of Korea, Industrial Bank of Korea</li> </ul> </li> </ul>
· Non-bank depository institutions	<ul style="list-style-type: none"> <li>a. General financial corporations</li> <li>b. Mutual savings banks</li> <li>c. Credit unions</li> <li>d. Post office savings</li> </ul>
· Securities companies, asset management companies	
· Insurance companies	
· Others	

Source: Bank of Korea, etc.



**Fig. 11 Non-Performing Loan Ratio for Real Estate Project Loans by Banks**



Source: Korean Financial Supervisory Service, Press Release February 14, 2011

ing loans, including sales of collateral and sales and write-downs of loans. Project loans make up only a small percentage of total loans (3.2% as of December 2010). In addition, banks have taken early action to dispose of non-performing loans under government guidance. For these reasons, the situation will have only a limited impact on the financial positions of banks. However, we need to be aware of the possibility that the interest rate increases could turn a growing amount of real estate loans to households into non-performing loans.

Third, the debts of the Korea Land & Housing Corporation are mounting. This is the result of Corporation's purchasing of part of stocks of unsold housing to support the construction sector.

The Korea Land & Housing Corporation is a government corporation created in September 2009 through the merger of the Korea Land Corporation with the Korean National Housing Corporation as part of the privatization program introduced by the Lee Myung-bak administration. In addition to activities in such areas as industrial parks, special economic zones and overseas projects<sup>(6)</sup>, it also supplies housing to low-income people, an area in which there is no competition with the private sector, as well as undertaking national

projects, such as the construction of new towns, innovation cities and Sejong Special City. Already heavily burdened with debt at the time of its establishment, the Korea Land & Housing Corporation has seen its debts increase by 16.5 trillion won to 125.7 trillion won (approximately ¥9.35 trillion) in the year since October 2009 (*Chosun Ilbo*, February 14, 2011). Reasons for this increase include the postponement of new town construction, housing development and other activities because of the worsening situation in the real estate market, and the purchasing of unsold housing stocks.

Fourth, there is the impact on households. The percentage of home equity loans classified as non-performing loans is still low at 0.49% (as of December 2010). However, the situation is also affecting households in various ways. Some people have used bank loans to purchase newly built condominiums, only to be forced to sell them below the purchase price because of their inability to sell their present dwellings. In addition, the postponement of new town projects has meant that a significant number of people moving out of areas targeted for construction are now unsure when they will be able to repay their home loans, for which they are relying on compensation from the Korea Land & Housing Corporation.

Of greater concern is the likely future impact on households. Interest rates have been increased four times since July 2010 because of strengthening inflationary pressure, and further increases are anticipated. Higher interest rates will swell the debt repayment burden, and there is a risk that some housing equity loans will be turned into non-performing loans. (This point will be examined in Part 4.)

### 3. Housing Problems and New Town Development

We will look next at the concentration of population in metropolitan Seoul and new town development activities, both of which are linked to the real estate problems of recent years.

### (1) Housing Shortages and New Town Development in Seoul

South Korea's high-growth era between the 1960s and 1980s was accompanied by a rapid rise in the urbanization ratio (urban population as a percentage of the total population). The urbanization ratio in 1960 was just 27.7%, but by 1985 it was higher than the ratio for Japan at 64.9% (Fig. 12). Today South Korea is one of the most urbanized countries in the world. Its urbanization ratio, which reached 80.8% in 2005, is exceeded only by city states such as Singapore. Rapid urbanization has been accompanied by the concentration of population into Seoul Special City (referred to below as "Seoul") and the Seoul National Capital Area (Seoul Special City, Incheon Metropolitan City, Gyeonggi-do). Between 1960 and 1980, the population of Seoul increased from 2.45 million to 8.35 million, and by 1990 it was over 10 million. From 9.8% in 1960, Seoul's share of the total population of South Korea rose to 22.3% in 1980 and 24.4% in 1990 (Fig. 13). Seoul is now home to one-quarter of the total population.

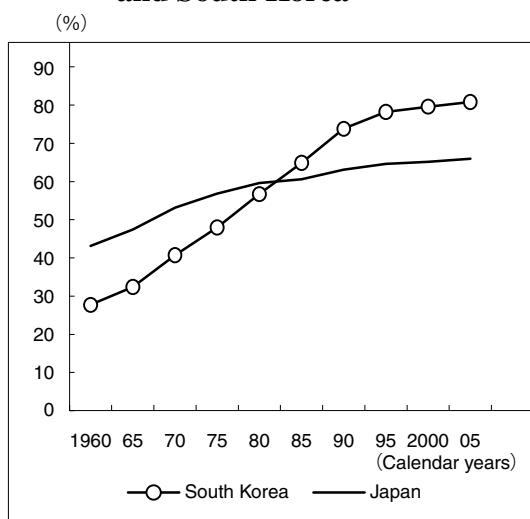
In addition to a high birth rate (total fertility rate of 4.53 in 1970), a strong tendency to gravitate toward Seoul (the central city)<sup>(7)</sup> drew population in from provincial areas in search of employ-

ment and educational opportunities. By the early 1970s, Seoul was experiencing a serious housing shortage. This led to the formation of illegal squatter settlements, known as "moon villages," on railroad embankments and hillsides and in river basins. Most of the residents of these communities were employed in miscellaneous jobs in the informal sector.

The government relocated illegal squatters to the outskirts of Seoul and increased the supply of housing through the redevelopment of inner city areas. In 1972, the government passed the Housing Construction Promotion Law and announced a plan to build 2.5 million dwellings over a 10-year period. Measures included the introduction of low-interest finance and tax relief for companies supplying general rental housing (for subdivision after five years). The government also imposed restrictions on dwelling areas and the number of rooms in order to keep prices low. However, the supply of housing fell short of the target. According to Koh [2004], this was because large amounts of funds were allocated for the development of heavy industries, and because anti-speculation measures were given a higher priority than the supply of housing.

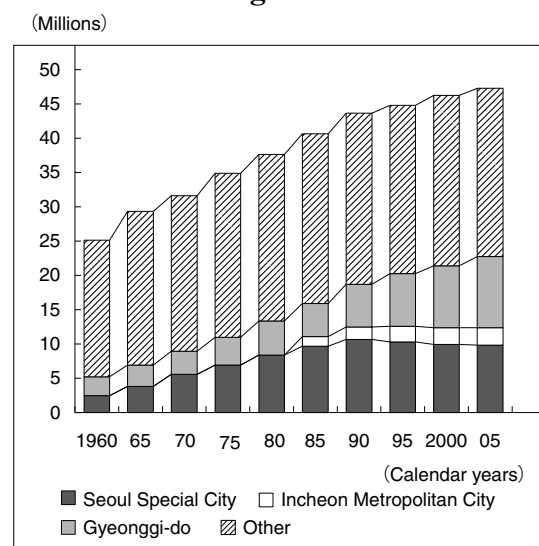
The effects of the housing shortage were espe-

**Fig. 12 Urbanization Ratios for Japan and South Korea**



Source: World Bank, *World Development Indicators*

**Fig. 13 Populations of Seoul and Other Regions**



Source: Statistics Korea, *Korean Statistical Information Service*

cially severe for low-income people. Initially, construction of housing for low-income people was the responsibility of the Korea National Housing Corporation, but the work was frustrated by limited financial resources. For this reason, the National Housing Fund was established in 1981 to promote the supply of small-scale permanent rental dwellings for low-income tenants by private sector companies. In addition to providing loans to private sector construction companies, it was also involved in low-interest lending to low-income people.

In the 1980s, private sector redevelopment activities reached fever pitch with the approach of the Seoul Olympics in 1988. Seoul's cityscape was transformed by the construction of large-scale apartment buildings, such as the Hyundai Apartments in the Apgujeong-dong district. In many years during the 1970s and 1980s, the growth of construction investment (buildings) outpaced the real GDP growth rate (Fig. 14) and became one of the drivers of high economic growth.

Despite the construction of major apartment complexes, progress toward the solution of the housing shortage was limited, because of population growth and the trend toward single-person

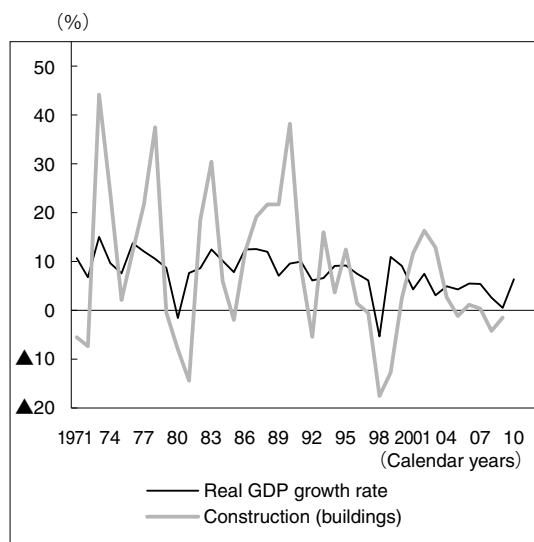
living. In 1988 the government sought to alleviate this problem by introducing the Two Million Housing Construction Plan, which was based on a promise made by the Roh Tae-woo administration. This was a very ambitious plan at a time when South Korea still had fewer than 8 million dwellings. The core element in the plan was new town development. A new town is defined as a planned city resulting from a development project covering an area of at least 330 hectares. Designed to provide self-sufficiency, comfort, convenience, security and other benefits, these communities are built through policy initiatives. The five new towns built during the first phase of this program, which were all located Gyeonggi-do, were Bundang in Seongnam City, Ilsan in Goyang City, Pyongchon in Anyang City, Jungdong in Bucheon City, and in Sanbon in Gunpo City. All are located within a 20-25km radius from central Seoul.

We can identify four characteristics of the new town developments. First, private sector capital was used actively. In this period, the acquisition of land for development was carried out by the Korea Land Development Corporation (now the Korea Land & Housing Corporation), while private sector companies were responsible for housing construction and subdivision under plans that stipulated land use and the numbers of dwellings of each class. By introducing the advance land subdivision system, the Korea Land Development Corporation also secured the funds needed for the development of infrastructure, such as water supply systems and roads, from the private sector.

Second, land purchasing and expropriation was carried out quickly. The Housing Construction Promotion Law gave the Korea Land Development Corporation the power to acquire land compulsorily. This was a major reason why new town construction projects were completed more rapidly than in Japan<sup>(8)</sup>.

Third, the construction of housing for middle-income people was paralleled by the construction of housing for low-income people, which accounted for 10% of total construction. Apartments for low-income people were basically built by the Korea National Housing Corporation (now the Korea Land & Housing Corporation) and local govern-

**Fig. 14 Growth Rates of Real GDP and Construction Investment**



Notes: There are no data relating exclusively to housing investment.

Source: Statistics Korea, *Korean Statistical Information Service*

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ments using funds provided by the National Housing Fund.

Fourth, infrastructure, including railroads, expressways and district heating systems, was developed through public works projects. Bundang, for example, is linked to central Seoul via the Bundang Line subway, which was completed in 1994.

Until the mid-1990s, the Korea Housing Bank and the National Housing Fund accounted for over 80% of housing finance. The Korea Housing Bank provides home equity loans to general borrowers, while the National Housing Fund lends money to low-income people to cover deposits under the *chonse* system, whereby tenants pay deposits equivalent to around 70% of the purchase price and are then not required to pay monthly rents. In addition to housing subsidies under the National Basic Living Security Law, systems targeted toward low-income people also include a low-cost housing supply policy implemented by Seoul Special City, and a housing voucher scheme.

Progress toward deregulation since the 1990s has brought a shift from the government to the private sector in the area of housing finance. The Korea Housing Bank was privatized in 1997 and merged with the Kookmin Bank in 2001. Faced with a slump in business lending after the currency crisis, commercial banks turned to household finance as a new source of earnings and became actively involved in such areas as home equity loans, education loans and credit cards. Non-bank institutions, such as credit unions and insurance companies, also moved into the home equity loan market, which consequently doubled in size between 2001 and 2004.

Despite the rapid expansion of the market, most loans were provided over short repayment periods until the early 2000s. This was because financial institutions tended to avoid long-term lending because of the high risks involved. Another reason was the fact that many borrowers bought homes with the expectation of price increases and would change their dwellings after short intervals. In 2004, the government established the Korea Housing Finance Corporation with the aim of promoting increased use of long-term fixed-interest loans. The mechanism used

was as follows. First, financial institutions under contract with the KHFC would provide KHFC fixed-interest loans (*Pokchapari* loans)<sup>(9)</sup>. Second, the loans would then be sold to the KHFC. Third, the KHFC would recover the funds from the capital market by selling mortgage-backed securities (MBS). However, most home equity loans are still provided on a short-term, variable-interest basis, which is indicative of the large number of homes that are bought with a view to resale in anticipation of price increases.

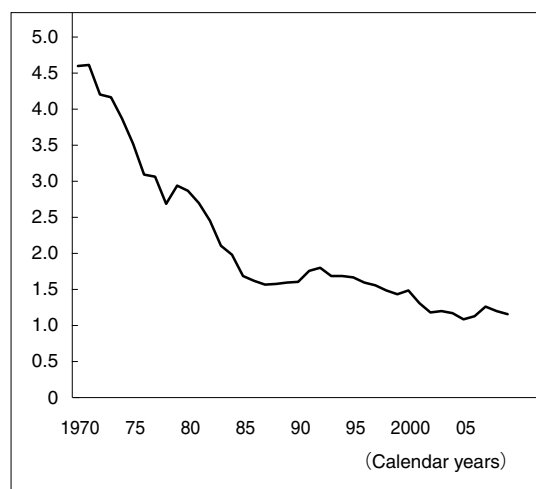
## (2) Changes in the Environment for New Towns

The first phase of new town development was largely completed in the first half of the 1990s<sup>(10)</sup>, and the second phase began in the 2000s. As described earlier, the government reacted to soaring housing prices in Seoul during the early 2000s by designating Ginkpo City and Paju City as new town development areas.

With the exception of Songpa-gu in Seoul Special City, all of projects begun during the second phase of new town development are in Gyeonggi-do. Many of the projects, such as those in Pyeongtaek City, Dongtan City and Paju City<sup>(11)</sup> are further away from central Seoul than those undertaken during the first phase. There are several other differences compared with the first phase. First, the area used for housing sites has been reduced and more land has been allocated to green areas and industrial parks. Second, the area of general housing land for high-rise apartment buildings has been reduced, and more land has been used for housing-only areas with detached housing and low-rise apartment buildings. Third, more apartments are being supplied for subdivision rather than for rental, and the emphasis is on the creation of self-sufficient cities that are generally eco-friendly and offer high-quality residential environments. Dongtan City has been designated a model city with ubiquitous information technology systems.

However, by the start of the 2000s South Korea's birth rate was falling rapidly. After declining from 1.71 in 1991 to 1.47 in 2000 (Fig. 15),

**Fig. 15 Total Fertility Rate**

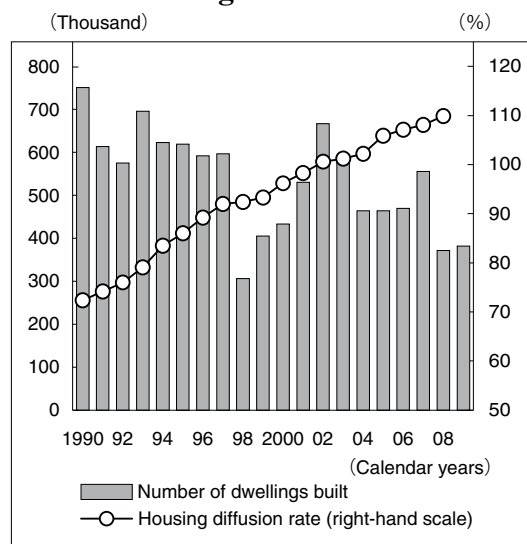


Source: World Bank, *World Development Indicators*

the total fertility rate reached 1.30, which is lower than Japan's rate, in 2001, and by 2005 it was at 1.08. The 2009 figure was 1.15. This accelerating fall in the birth rate in the 2000s is the result of deterioration in the income and employment environment since the currency crisis, and the growing burden of educational expenses<sup>(12)</sup>. The falling birthrate has been reflected in slower population growth (Fig. 13), and the population is expected to shift to a downward trend by 2019. This combination of increased housing supplies and a decline in the population growth rate have brought rapid progress toward the alleviation of the housing shortage. The overall housing diffusion rate (number of dwellings/number of households) for South Korea has climbed from 72.4% in 1990 to 109.9% in 2008 (Fig. 16). With the elimination of the housing shortage, the number of dwellings built has fallen significantly below the level in the early 1990s. The housing diffusion rate for Seoul has soared from 58% in 1990 to 93.8% in 2008 (Kim & Cho [2010]), indicating that the quantitative housing shortage has basically been solved. The population of Bundang New Town, which was built during the first phase and received its first residents in 1991, has started to shrink, while the aged population has risen 70% over the past 10 years.

A factor that has a major influence on housing

**Fig. 16 Number of Dwellings Built, Housing Diffusion Rate**

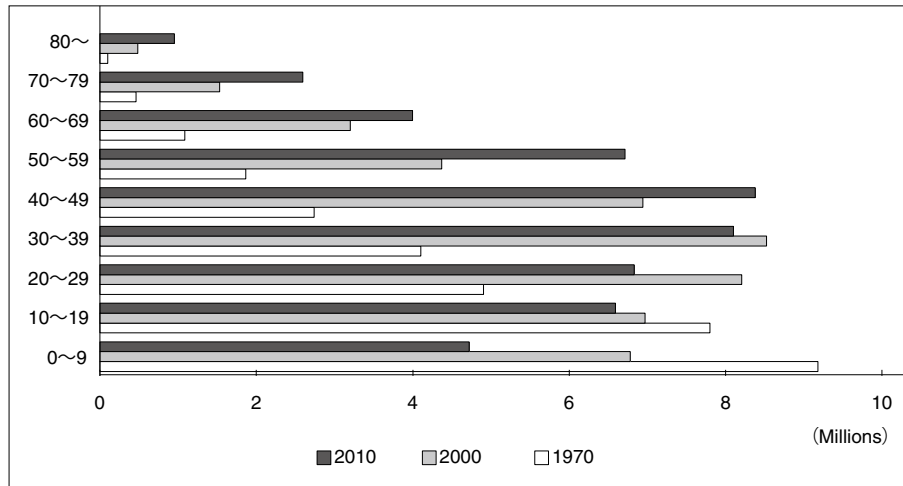


Source: 2009 Year Book of Land & Housing Statistics

demand is the age structure of the population. In 1970, South Korea's demographic structure was basically pyramid-shaped (Fig. 17). The group aged between 10 and 29, which can be expected to generate future housing demand as they move forward through education, employment, marriage and other stages, made up 39.4% of the total population. It was this structure that prompted the new town developments. The percentage of people in the 10-29 age group had fallen to 32.3% by 2000 and 27.5% (estimated) by 2010, while the number of people in this age group has shrunk by about 1.7 million over the past 10 years. This change in the environment prompted a shift in the focus of housing policy from quantitative expansion to qualitative improvement. The policy goals identified in the new housing law introduced in 2003 are the qualitative improvement of housing and efficient management of existing housing stocks. Apart from cities that have already been built, such as Dongtan 1 and Pangyo, plans are scaled down and other changes made.

Another reason for this review of the new town development program was a return to the central city. Large-scale complexes combining offices, commercial facilities and dwellings are currently being developed in various parts of Seoul, including the Gwanhwamun area, the area around

**Fig. 17 South Korea's Population by Age Group**



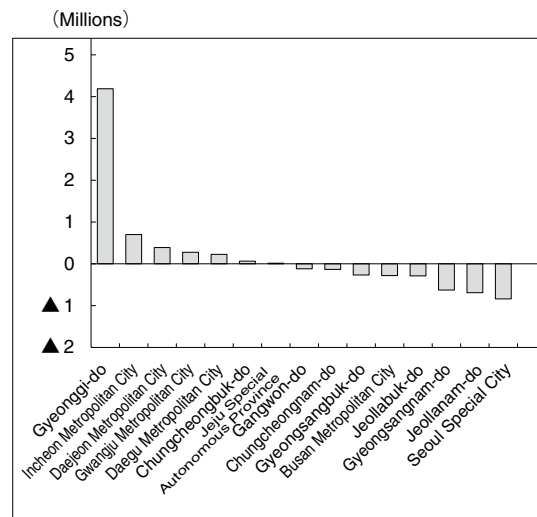
Source: Statistics Korea, Korean Statistical Information Service

Yongsan Station, and Yeouido. Several factors appear to be involved in this trend. First, urban redevelopment involves a lighter fiscal burden than new town development. Second, while sales of housing in new town developments have been slow, residents are showing an increasing preference for urban living, the advantages of which include proximity to work and better access to shopping and cultural opportunities. Third, globalization has brought renewed appreciation of the clustering effect of cities. Urban clustering is seen as offering a number of benefits, including improvement in the overall productivity of tertiary industries, the formation of cradles for leading sectors, and the elimination of long-distance commuting<sup>(13)</sup>.

### (3) Population Growth in Gyeonggi-do and Gangnam

Did new town development alleviate the concentration of population in Seoul? A comparison of the populations of administrative districts in 1990 and 2005 using figures from the five-yearly population census shows that Seoul's population declined by 840,000 while the populations of Gyeonggi-do, where many new towns were built, increased by 4 million, and that of Incheon Metropolitan City by 700,000 (Fig. 18). This suggests

**Fig. 18 Changes in Populations of Administrative Districts (Comparison between 2005 and 1990)**



Source: Statistics Korea, Korean Statistical Information Service

that the aims of the new town development program have been achieved to some extent. However, the capital is in fact still growing, as evidenced by continuing growth in the population of the Seoul National Capital Area, including Seoul (Fig. 12). As of 2005, 48.1% of South Korea's total population was concentrated in the National Capital Area. The populations of some major regional



cities have meanwhile started to shrink<sup>(14)</sup>.

Where are the destinations for those moving out of Seoul? Of the 1.93 million residents who relocated in 2009, 1.29 million moved within Seoul and 640,000 out of the city. By far the most popular destination for those leaving Seoul was Gyeonggi-do, to which 317,000 people relocated. In second place was Incheon Metropolitan City (39,000), followed by Chungcheongnam-do (26,000) and Busan Metropolitan City (24,000) (Table 3).

In addition to the development of new towns, the continuing movement of population into Gyeonggi-do was also driven by the growth of employment opportunities, mainly resulting from the relocation of factories from Seoul, the development of new industries and other factors. A comparison of each administrative division's share of gross regional production in 2002 and 2008 (Fig. 19) shows that the three regions with the biggest increases were (1) Gyeonggi-do (2.7 points, from 17.6% to 20.3%), (2) Chungcheongnam-do (1.8 points, from 4.4% to 6.2%), and (3) Gyeongsangbuk-do (0.4 points, from 6.6% to 7.0%).

About 40% of South Korea's IT equipment manufacturers are concentrated in Gyeonggi-do (Fig. 20). With the introduction of its seventh-generation products, LG Display shifted its production from Gumi City in Gyeongsangbuk-do to a factory in Paju City. This induced small and me-

dium parts manufacturers to move into Paju, resulting in the formation of an LCD display cluster in the city. A growing number of foreign-owned companies, including Japanese-owned companies, meanwhile moved into Pyeongtaek City.

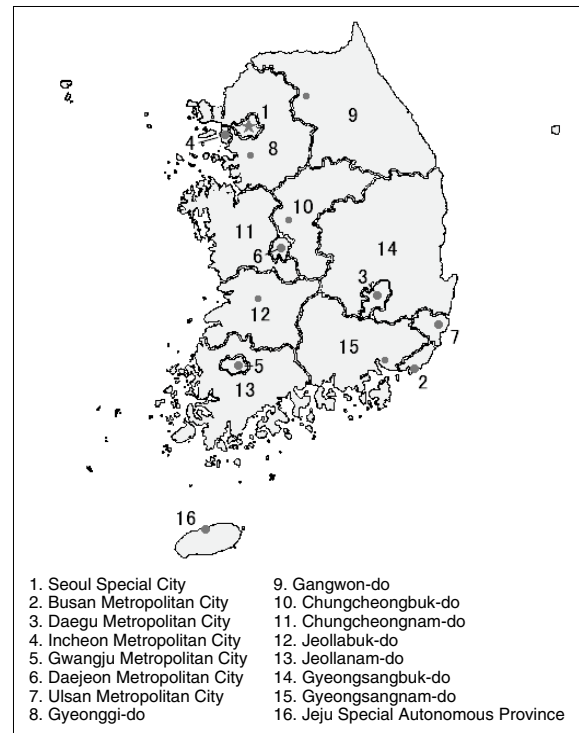
A comparison between 1990 and 2005 shows a decline in Seoul's population during that period. If we look at individual years, however, we find that its population peaked out in 1992 and fell consistently thereafter until 2003, before shifting to a gradual growth trend in 2004. By 2009, Seoul's population was 190,000 greater than 2004. In 2009, population inflows exceeded outflows in six of Seoul's 25 districts (Seodaemun-gu, Eunpyeong-gu, Gangnam-gu, Songpa-gu, Seocho-gu, Gangdong-gu). With the exception of Seodaemun-gu and Eunpyeong, all are located to the south of the Han River (Fig. 21). Gangnam-gu, Songpa-gu and Seocho-gu are generally referred to as the Gangnam area. They are regarded as elite residential areas and have many high-class restaurants, boutiques, imported car dealerships and similar businesses. Because Seoul High School,

**Table 3 Population Movement in Seoul (2009)**

Destination	Number
Seoul Special City	1,286,855
Gyeonggi-do	317,952
Incheon Metropolitan City	38,858
Chungcheongnam-do	26,072
Busan Metropolitan City	24,459
Gangwon-do	24,376
Jeollabuk-do	21,188
Gyeongsangbuk-do	19,784
Gyeongsangnam-do	19,615
Jeollanam-do	19,007
Daejeon Metropolitan City	17,439
Chungcheongbuk-do	15,612
Daegu Metropolitan City	15,469
Gwangju Metropolitan City	14,035
Jeju Special Autonomous Province	5,955

Source: *Seoul Statistical Yearbook 2010*

**Fig. 19 Administrative Divisions in South Korea**





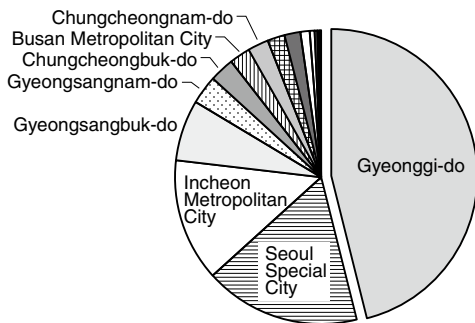
Kyunggi High School and other educational institutions have relocated to the area, many people see the educational environment as a key reason for moving to the Gangnam area. With just 16.1% of Seoul's total population, the Gangnam area accounts for about one-third of the city's educational institutions, including preparatory schools.

One reason for population growth in the Gangnam area is the growth of employment opportunities. The systematic development of quality infrastructure including expressways, wide roads

and IT infrastructure, as well as excellent airport access, have increasingly induced companies to establish new headquarters in the area, and the Samsung Group has relocated its head office there from the Gangbuk area (north of the Han River). A growing number of globally active companies are centralizing their head office in the Gangnam area. This has led in turn to the growth of the finance and insurance industries, and to the development of advanced business service industries, including ICT, accounting, legal services, consulting, design and advertising. As a result of these and other changes, the Gangnam area is assuming the characteristics of a global urban center<sup>(15)</sup>.

An analysis of the employment structure in the Gangnam area (Fig. 22) shows that business services account for a large share of jobs, while the percentage working in manufacturing industries is low. Financial institutions have traditionally been concentrated in Jung-gu (between Chungmuro Avenue and Euljiro Avenue), while securities companies have clustered in Yeongdeungpo-gu, where Yeouido is situated, since the relocation of the stock exchange in 1979. While the concentration of finance and insurance sector businesses in the Gangnam area is not especially high, therefore, the percentage of business service companies in the area is conspicuously high. The growth of specialized business services is creating a high-in-

**Fig. 20 Numbers of IT Equipment Manufacturers by Region**



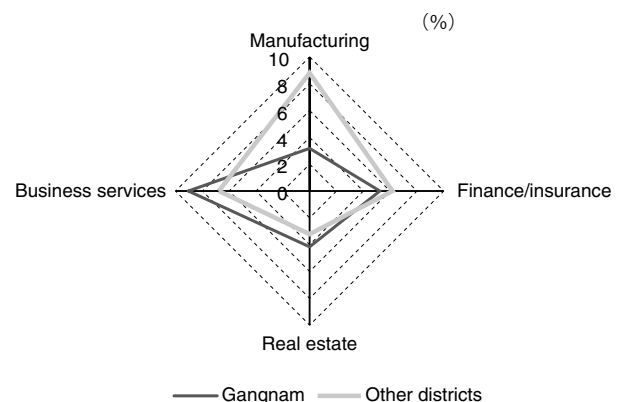
Notes: IT equipment includes electronic components, computers, communications equipment, precision instruments, optical instruments and electrical machinery.

Source: Korea Statistical Yearbook 2009

**Fig. 21 Districts (Gu) of Seoul Special City**



**Fig. 22 Percentages of Workers by Industry**



Notes: Jung-gu and Yeongdeungpo-gu have high concentrations of workers in the finance/insurance industry.

Source: Seoul Statistical Yearbook 2010

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come stratum. At the same time, there is increasing demand for low-income service workers to provide maintenance and security services for hotels and other commercial buildings, to carry out essential urban maintenance tasks, such as cleaning, and to work for businesses providing services to high-income people, such as restaurants, shops, sports and leisure facilities and cleaning companies.

#### **4. Government Initiatives Moving into High Gear, Risks for the Future**

In one sense, the fall in housing prices was an outcome for which the government was hoping. However, if impact of the worsening situation in the real estate market is allowed to spread further, it could have a serious impact on the economy, and for this reason the government has started to take action.

##### **(1) Government Initiatives Moving into High Gear**

Stagnating construction investment is one of the indications that the real estate market slump is starting to impact on the real economy. The government has begun to take steps in response to this situation since the second half of 2010.

One of those steps has been increased efforts to deal with the problems of savings banks. Reacting to increases in the non-performing loans of savings banks, the Financial Supervisory Service (FSS) stated that almost 30% of the 11.9 trillion won balance of project finance as of June 2010 could become non-performing loans. The government decided to inject 2.8 trillion won of capital into savings banks that were experiencing financial difficulties, and to buy non-performing loans. The loans will be bought by a structural adjustment fund established by the government, and by the Korea Asset Management Corporation.

Early in 2011, a series of suspension orders were issued against financially troubled savings banks. On January 14, the Financial Service Commission (FSC) declared that the Samwha Mutual Savings Bank, the 20th biggest savings banks in

terms of assets, was a bankrupt financial institution and imposed a six-month suspension. The FSC also announced that it would offer financially weak savings banks for sale to major commercial banks that have the required financial resources.

On February 17, six-month suspensions were also imposed on South Korea's biggest savings bank, the Busan Savings Bank, and its affiliate, the Daejeon Savings Bank, on the grounds that their capital adequacy ratios had fallen below 5%. Established in 1972 as the Busan Savings Bank, the Busan Savings Bank achieved rapid growth through an aggressive acquisition strategy. Its affiliates include the Busan II Savings Bank, the Central Busan Savings Bank, the Daejeon Savings Bank and the Jeonju Savings Bank. After concerned depositors began to withdraw large amounts of money from banks affiliated to the Busan Savings Bank, the FSC imposed suspensions on four banks, including the Busan II Savings Bank, which was affected by inadequate liquidity, the Central Busan Savings Bank and the Jeonju Savings Bank, at a special meeting held on February 19. The FSC also announced a number of measures to minimize the impact of the suspensions. First, depositors would be allowed to make provisional withdrawals of deposits protected by the Deposit Insurance Corporation within two weeks (normally three weeks). Second, depositors in urgent need of funds would be able to obtain loans of up to 15 million won from four banks (including the Kookmin Bank and the Pusan Bank). Third, measures to help low-income people would include the reinforcement of micro-credit services. In addition, steps would be taken to strengthen the finances of savings banks by buying non-performing loans and supplying liquidity through the Korea Savings Bank Association.

The run on deposits continued in some areas, and on February 21 the Domin Savings Bank voluntarily suspended operations, prompting the FSC to impose a suspension. By early March, eight savings banks had been suspended (Table 4).

FSC officials indicated that there was no possibility of further suspensions, since liquidity shortages resulting from runs on deposits were concentrated in the Pusan area, and because of increases

**Table 4 Suspended Savings Banks**

January 14	Samwha Savings Bank
February 17	Busan Savings Bank, Daejeon Savings Bank
February 19	Busan II Savings Bank, Central Busan Savings Bank, Jeonju Savings Bank, Bohae Savings Bank
February 21	Domin Savings Bank

Source: Korea Financial Supervisory Service

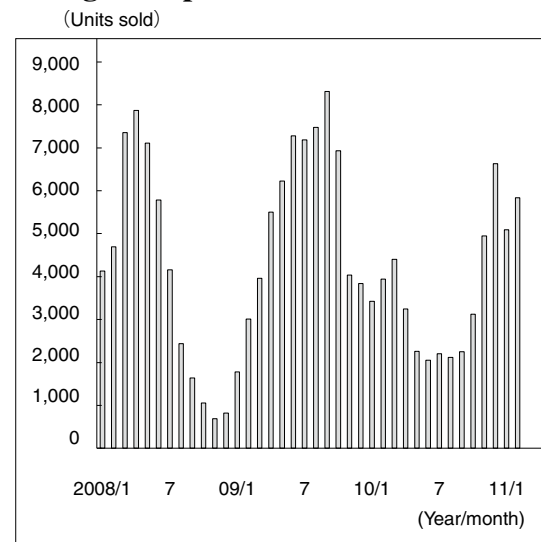
in the deposits of the 94 savings banks with BIS ratios over 5%.

Most people accepted that the rescue of the savings banks was essential from the viewpoint of maintaining the stability of the financial system. However, there was also criticism that a rescue could create increased moral hazards. Despite the fact that savings banks were established primarily as financial institutions designed to provide support to low-income people, whose access to loans from commercial banks is limited, they had incurred non-performing loans by increasing their involvement in project finance during the real estate boom. For this reason, it was thought that the managers of savings banks should be held to account. Some thought that the financial supervisory authorities should bear some of the blame because of their decision to ease lending ceilings at such a time.

On March 17, measures to improve the financial soundness of savings banks were announced. One of those measures was the abolition of a rule that allowed savings banks with capital adequacy ratios of 8% or higher and non-performing loan ratios of 8% or lower to lend up to 20% of their capital. In addition, a new rule was introduced, in principle limiting the amount that could be lent to a single borrower to 10 billion won.

Another measure was the partial easing of restrictions on real estate lending with the aim of revitalizing real estate transactions. The main measures introduced in August 2010 included (1) the abolition (by March 2011) of restrictions on total debt repayment ratios in areas not designated as speculative zones, (2) support for housing purchases by low- and middle-income people (loans of up to 200 million won for housing purchases by households with annual incomes of 40 mil-

**Fig. 23 Apartment Sales in Seoul**



Notes: The raw data was obtained from the Ministry of Land, Transport and Maritime Affairs  
Source: CEIC Data Base

lion won or lower), (3) the extension of the grace period for extra tax on asset transfer income, and (4) the extension of housing registration tax exemptions. The government is also considering measures to stimulate the construction industry, including increased purchasing of unsold housing, with the goal of achieving 5% growth in 2011.

In part because of the easing of restrictions on real estate lending, apartment sales in Seoul began to increase conspicuously in October 2010 (Fig. 23). In addition, real estate prices shifted to a positive year-on-year trend in February (Fig. 5). The government was expected to extend the easing of restriction on real estate lending, but on March 22, it decided to terminate the measure as planned at the end of March. At the same time, it announced a 50% reduction in real estate acquisition taxes, subject to certain conditions, until the end of 2011, a move intended to stimulate real estate transactions.

These changes make it difficult to predict trends in the real estate market after April. One source of concern at present is upward movement of interest rates in response to increasing inflationary pressure.

From 3.5% in December 2010, the rate of increase in consumer prices (year-on-year) rose to 4.1% in January 2011, reflecting major increases

in food and transportation costs. On January 13, the government announced comprehensive price stabilization measures designed to keep the rate of increase below 4%. The main measures included (1) the freezing of public utility charges in the National Capital Area during the first half of the year and the imposition of controls to prevent increases in regional public utility charges from exceeding rises in consumer prices, (2) the reduction of tariffs of 67 key items, including sugar, maize and wheat, from January onwards, (3) the release of government stockpiles of agricultural products affected by declining supply volumes in order to restore the supply-demand balance. On January 13, in a move apparently coordinated with these government measures, the Bank of Korea raised the policy interest rate from 2.50% to 2.75%. Inflationary pressure intensified because of a global rise in raw material prices, and in February the rate of increase in consumer prices was even higher than January at 4.5%. In March it reached 4.7%. Since real interest rates are now negative, there is a strong possibility of further increases before the end of 2011.

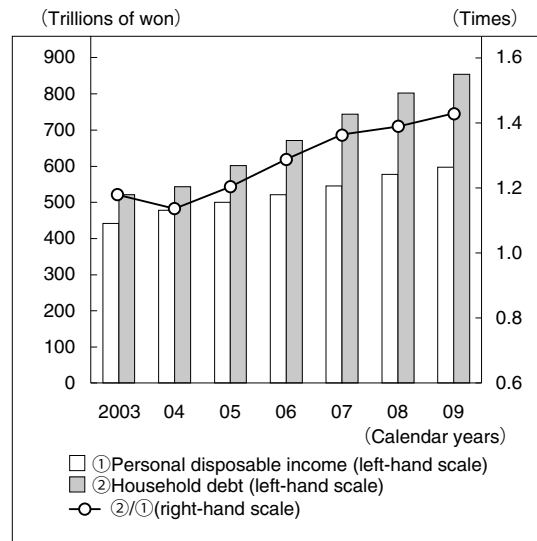
## (2) Concerns about the Impact of Rising Interest Rates

A factor that will need to be monitored closely from now on is the impact of higher interest rates on household budgets. The increased use of home equity loans in recent years is reflected in the level of household debt, which reached 836.6 trillion won at the end of 2009. The ratio of debt to disposable income climbed to 1.43 times (Fig. 24). This is extremely high when compared with the U.S. ratio of 1.29 times.

As stated earlier, the non-performing loan ratio for real estate project loans increased dramatically in 2010. However, the ratios for lending to households as of December 2010 were 0.49% for home equity loans (0.38% in December 2009) and 0.97% for credit cards (1.11% in December 2009), indicating the impact on households has been limited.

Defaults on sub-prime mortgages (home equity loans to people with high credit risk ratings) in the United States triggered a financial crisis that

**Fig. 24 Household Debt and Disposable Incomes**



Source: Source: Bank of Korea, *Economic Statistics System*

had grave repercussions for not only the American economy, but for the world economy. Mounting household debt in South Korea has started to prompt fears of the impact of the worsening situation in the real estate market on household budgets.

Shin [2010] states that the risk of major loan defaults is small for a number of reasons, including (1) a reduction in the approved loan-to-value ratio from 35.97% in 2008 to 34.45% in 2009, (2) an increase in financial assets/financial liability ratio resulting from the growth of personal financial assets, and (3) a decline in the percentage of lending to low-income people with limited repayment capacity. However, Shin [2010] also observes that consumption has started to come under pressure from a growing debt repayment burden.

An analysis by the Bank of Korea (Bank of Korea [2010]) suggests that while the household debt ratio is high, the situation has not yet reached a level that could jeopardize the stability of the financial system. Reasons for this conclusion include (1) the fact that quality of loans is generally good thanks to the tightening of housing loan regulations, such as the approved loan-to-value ratio and total debt retirement ratio, and (2) the fact that high-income people account for a large share of

debt.

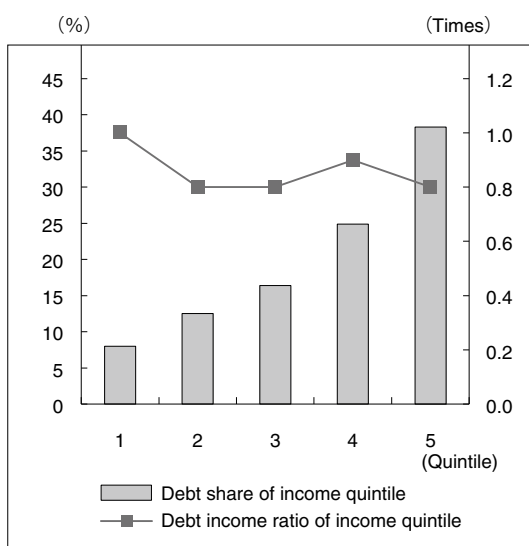
Yoo [2010] uses micro-data to analyze the current levels of household debt for each income quintile. According to this analysis, debt is concentrated into Quintile 5 (29.3%), which represents the top 20%, and Quintile 4 (24.9%), which have average debt-income ratios (debt/annual income) of 0.9 and 0.8 respectively (Fig. 25). In contrast, Quintile 1, which represents the lowest 20%, accounts for only 8.0% of total debt but has the highest debt-income ratio at 1.0. Households with debt-income ratios of over 3.0 make up 2.7% of Quintile 5 and 10.7% of Quintile 1.

Assuming an interest rate of 10%, debt payment surplus ratios (debt repayments/disposable income – consumption expenditure) are estimated to be 0.35 for Quintile 5, 0.04 for Quintile 2 and minus 0.49 for Quintile 1. The conclusion is that while low debt repayment capacity of low- and middle-income people is an issue, the risk is small since a large percentage of debt is concentrated in the hands of high-income people with substantial assets. However, Yoo notes that 2.9% of households have debt-income ratios and capital gearing ratios (debt/financial assets) above 3.0, and that this risk factor needs to be monitored carefully.

Three factors have been blamed for the sub-prime mortgage problem in the United States. First, an uptrend in housing prices and slipshod credit checking led to the provision of large home equity loans to customers with low credit ratings. Second, most of these loans were provided with floating interest rates, albeit with fixed rates for limited periods. Third, securities backed by these loans were sold to a wide range of investors. In South Korea, housing loan regulations appear to have prevented the unbridled expansion of lending<sup>(16)</sup>. At 46.2%, the average approved loan-to-value ratio in South Korea is substantially lower than ratio in the United States at the time of the sub-prime mortgage crisis, which reached 79.4% (The Bank of Korea [2010]). Furthermore, while there has been some securitization of housing loans, there have been few cases of re-securitization.

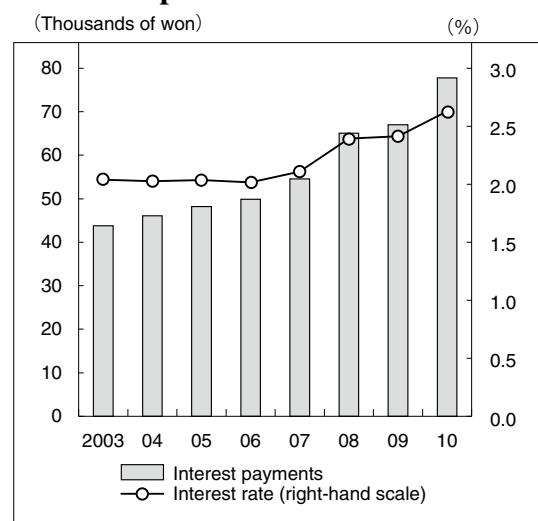
More significant is the increasing impact of rising interest rates on household budgets will intensify. According to data from household budget surveys, interest payments have risen from 2.0% of the average expenditure of households (excluding single-person households) in 2003 to 2.4% in 2009 and 2.6% in 2010 (Fig. 26). We need to

**Fig. 25 Household Debt by Income Level**



Source: Kyeonwon Yoo [2010]

**Fig. 26 Interest Payments as a Percentage of Household Expenditure**



Source: Statistics Korea, Korean Statistical Information Service

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be aware first of all that although interest rates fell dramatically after the Lehman shock, debt repayment burdens increased. Furthermore, since most housing loans are subject to floating interest rates<sup>(17)</sup>, any increase in interest rates is directly reflected in the interest payment burden.

If the effects of an increased debt repayment burden are compounded by income stagnation resulting from deterioration in the income terms of trade (loss of income to other countries) due to rising primary product prices, economic deceleration and other factors, the debt payment surplus ratios of households at middle-income level and below could fall sharply, leading to an increase in the amount of non-performing loans.

## Conclusions

In this article we have analyzed the factors behind the deteriorating situation in the South Korean real estate market and the impact of that deterioration. While the ongoing effects include a slump in the construction industry and financial problems for savings banks, the impact at present is minimal compared with the consequences of collapsed housing bubbles in the United States, southern Europe and elsewhere. Government regulations governing real estate lending appear to have prevented the problem from escalating.

In addition, the response to the worsening financial positions of savings banks was relatively prompt, and for this reason it seems unlikely that the situation will reach the stage at which the stability of the financial system could be jeopardized. However, anticipated interest rate rises will cause the debt repayment burden to increase, and if income growth stagnates there could be a rapid decline in the capacity of those at the middle-income level and below to repay debts. Future household budget trends will need to be monitored closely.

## End Notes

1. See Mukoyama, H. [2010a], [2010b] for an analysis of this point.
2. This system was created when interest rates were high. In recent years, there has been a shift from *chonse* to

*wolse*.

3. Some commentators have expressed doubts about the benefits of government intervention. For example, it has been claimed that higher transfer taxes and the limit on selling prices actually caused prices to rise because of the resulting reduction in the supply of housing.
4. According to OECD [2007], the rate of increase in housing prices in South Korea is regarded as gradual, since the average yearly rate of increase in OECD members during the first five years of the 2000s was 42%.
5. In 2003, the policy interest rate was lowered in May and July in response to an economic slowdown caused by a slump in private consumption expenditure. In the second half of the year, there was an export-led improvement in economic performance. However, the situation deteriorated again after a slowdown in the world economy caused export growth to slow. The interest rate was cut in August and November 2004 to prevent the economy from stalling.
6. Companies are using experience and expertise gained through new town development in South Korea as the basis for an involvement in new town development projects in emerging countries. South Korea Korean contractors have won some of the contracts for a new town project in Algeria. Five South Korean construction companies are jointly carrying out the construction work under the coordination of the Korea Land & Housing Corporation. In addition to housing, the project also includes the construction of parks, schools, hospitals, cultural and leisure facilities. The Algerian government will build railroads, expressways, water and wastewater systems and other infrastructure in the area around the new town. In Asia, this approach is being used in Vietnam and Cambodia.
7. An old proverb from the dynastic era states that one should train people in Seoul and horses on Jeju Island. This proverb still seems to apply today, since many people see education as a reason for relocating to Seoul.
8. Masashi Yamada [1997] compares the development of Bundang in South Korea and Tama New Town in Japan. He attributes the fact that a new town with a population of almost 400,000 was built at Bundang in just seven years from the announcement of the concept to the short period required for the acquisition of land.
9. According to Korea Housing Finance Corporation [2009], the average recipient of a Pokchappari loan is 37 years old, has annual income of ¥34 million won and will use the loan, which has a repayment term of 18 years, to buy a 72 square meter home for 160 million won.



10. New town development was not the only policy used to reduce the concentration of population in Seoul from the 1980s onwards. Another was the relocation of government agencies to other regions. Destinations included Gwacheon City (Gyeonggi-do) and Daejeon Metropolitan City, which are located to the south of Seoul. Sejong Special City, which is located mainly in Yeongi-gun and Gonju City, Chungcheongnam-do, is currently being constructed as an “Multifunctional Administrative City.” Another initiative was the construction of “innovation cities,” which was begun under the Roh Moo-hyun administration as a way of achieving balanced national land development. The aim is to stimulate innovation and drive regional economic development by relocating government agencies and fostering reciprocal collaboration among businesses, universities, research organizations and government agencies. See Myoung-hun Yoon [2008].
11. Paju Station is 56 minutes from Seoul Station on the Gyeongui Line, while Ilsan Station, where a new town was developed during the first phase, is 37 minutes away.
12. See Mukoyama [2008]
13. See Hatta ed. [2006], p.5.
14. See Lee Duk-soon [2008b]. According to Lee, no cities recorded population declines until the end of the 1970s. There were declines in small regional cities in the 1980s, and by the 1990s declines were occurring in some major cities.
15. According to the *Global Cities Index 2010*, which was published in August 2010 by the American journal *Foreign Policy* and A.T. Kearney, the top 10 cities are (1) New York, (2) London, (3) Tokyo, (4) Paris, (5) Hong Kong, (6) Chicago, (7) Los Angeles, (8) Singapore, (9) Sydney and (10) Seoul. Beijing was ranked 15th and Shanghai 21st.
16. In Japan loans secured by land are normally limited to 70% of the value. During the bubble era, however, excessive amounts were often lent in anticipation of future increases in land values.
17. The percentage of loans subject to floating interest rates is high even by world standards and similar to the ratios for Sweden, Spain and Finland. See Loic Chiquier & Michael Lea (Eds.) [2009], p.53.

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