

# **The International Conference 2010**

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## **Housing and Real Estate Market Development – Worldwide Experience and Options for Vietnam**

26 – 28 November 2010  
Hanoi, Vietnam

**KOREA**

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**COUNTRY REPORT**

# Part 1: Country Report

## Korean Economy and Construction Industry

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## **1. Executive summary**

The Korean economy recently showed a rapid and strong recovery in domestic demand and exports after successfully weathering the global financial and economic crisis. The upward momentum of the Korean economy is expected to continue, but its pace might slow down.

During the first half of 2010, construction industry has seen a slight fall in activity owing to the sluggishness in civil (infrastructure) construction and residential buildings. But, the number of employees in construction has increased slightly because of an increase in the economically active population. Total exports in construction, though a relatively fast recovery, set the historic record since construction export started. Thus, Construction investment is expected to grow in 2010 at a similar pace of the previous year. Meanwhile, Korea economy is projected to record around 5.9% with economic activity increasingly in 2010.

## **2. Macro Economic Review and Outlook**

### **2.1 Overview of National Economy**

The Korean economy recently showed a rapid and strong recovery in domestic demand and exports after successfully weathering the global financial and economic crisis. Amid a continued stabilization in the domestic and global financial markets, the Korean economy showed a rapid improvement in domestic demand helped by improving terms of trade and stabilizing inflation. The improvement in the economy possibly contributed to the ripple effect of the expanded government expenditure since 2008, as its consequences emerged relatively fast. The upward momentum of the Korean economy is expected to continue, but its pace might possibly slow down. Economic indicators may show temporary fluctuations due to remaining a little uncertainties such as the narrowing of the government budget deficit in major advanced countries and a possible instability in global raw material prices including oil prices

### **2.2 Main Economic Indicator**

Korean economy posted a better-than-expected 0.2 percent growth in 2009 but the momentum is losing steam. Then, it is estimated to have grown 7.2 percent year-on-year in the first half of 2010, riding on brisk exports and recovering domestic demand, which means that The Korean economy has been in spirits of rapid recovery.

In the first half of 2010, overall consumption has continued to improve, and private consumption also increased on the strength of smart phone and automobile demand. Exports, which account for about 50 percent of GDP, jumped and private spending was on the rise.

On the production side, the manufacturing sector increased 18.0 percent, which was mainly due to the sharp increase of exports including electric and electronics manufacturing and transport equipment manufacturing. The construction sector was increased by 3.6 percent in the second quarter of 2010 compared with 1.9% in 2009.

The upward momentum of the Korean economy is expected to continue, but there are several arguments for V-shaped recovery with a rapid return to growth. Labour force growth rate is increasing to 1.2% in the second quarter of 2010 from -0.3% in 2009, and the number of persons in employment climbed from 150,000 over the same period of the last year to 140,000.

Some of economic indicators are still at considerably low levels, thus, it is too difficult to say that economic has been completely recovered. However, the Korean economy is expected to show a more conspicuous recovery and the global trade to grow faster led by advanced economies.

Table 2.1: Main Economic Indicator

	2004	2005	2006	2007	2008	2009	2010.2Q
GDP and Components							
GDP at real price (bill. Won, base year 2005)	832,305	865,241	910,049	956,515	978,499	980,413	504,174
GDP at current market price (bill. Won)	826,893	865,241	908,744	975,013	1,025,452	1,063,059	556,441
GDP growth (%)	4.6	4.0	5.2	5.1	2.3	0.2	7.2
GDP growth (%) for agriculture, forestry and fishery sector	9.1	1.3	1.5	4.0	5.5	1.6	-2.2
GDP growth (%) for manufacturing sector	10.0	6.2	8.1	7.2	2.9	-1.6	18.0
GDP growth (%) for services sector	2.3	3.5	4.4	5.1	2.8	1.0	3.6
GDP growth (%) for mining sector	-0.4	-0.4	-0.1	-4.1	1.3	-1.6	17.7
GDP growth (%) for construction sector	2.0	-0.3	2.2	2.6	-2.5	1.9	3.6
Demographic Indicator							
Population (1000 people)	48,039	48,138	48,297	48,456	48,607	48,747	48,874
Population growth rate (%)	0.38	0.21	0.33	0.33	0.31	0.28	0.26
Labour force (1000 people)	22,557	22,856	23,151	23,433	23,577	23,506	23,603
Labour force growth rate (%)	1.89	1.33	1.29	1.22	0.61	-0.3	1.2
Unemployment rate	3.7	3.7	3.5	3.2	3.2	3.6	3.3
Inflation rate (CPI)	3.59	2.75	2.20	2.54	4.68	2.8	2.6
Financial Indicator							
Inter bank interest rate	3.66	3.35	4.14	4.65	4.77	1.92	1.90
Short term loan interest rate (Yields on CD(91-day))	3.79	3.65	4.48	5.16	5.49	2.63	2.47
Long term loan interest rate (Yields of Treasury Bonds(3-year))	4.11	4.27	4.83	5.23	5.27	4.04	3.74
Average change against USD\$	1,144	1,024	955	929	1,102	1,276	1,212

### 3. Trading Country

#### 3.1 Value of Import and Export

Goods account was recorded a surplus of \$40.3 billion in 2009, and \$17.4 billion in the second quarter of 2010. The trade surplus in 2009 was due to the sharp drop of import exceeding the decrease of export. During the first half of 2010, export grew by 34.4%, and import increased of 40.3% compared to the same period last year. The goods export in 2010 is being forecasted to increase about 26% growth due to the base effect of the global economic recovery and strengthen the competitiveness in key industries. Also import is expected to growth in 2010, supported by increases in the price of raw materials and recovery in domestic demand.

Table 3.1: Export and Import

(unit: bill. US\$)

	2004	2005	2006	2007	2008	2009	2010-2Q
Export	253.8	284.4	325.5	371.5	422.0	363.5	221.4
(increase rate)	(31.0)	(12.0)	(14.4)	(14.1)	(13.6)	(-13.9)	(34.4)
Import	224.5	261.2	309.4	356.8	435.3	323.1	204.0
(increase rate)	(25.5)	(16.4)	(18.4)	(15.3)	(22.0)	(-25.8)	(40.3)
Balance of trade	29.4	23.2	16.1	14.6	-13.3	42.6	17.4

#### 3.2 Five Major Trading Countries

The major trading countries of Korea in the first half of 2010 are China, Japan and America. Middle East Asia countries including Saudi Arabia are the major countries of import, as about 80% of oil import of Korea is from these Middle East countries. Hong Kong and Singapore are also included in the 5 major countries of export in the first half of 2010. A share of Asian Countries in the trading to Korea has increased.

Table 3.2: Top 5 Major Trading Countries of Import and Export (1H, 2010)

(unit: mill. US\$)

Rank	Import		Export	
	Country	Value	Country	Value
1	China	31,464	China	51,928
2	Japan	28,831	America	21,570
3	America	18,856	Japan	11,894
4	Saudi Arabia	11,901	Hong Kong	11,269
5	Australia	8,059	Singapore	6,965

About 40% of the exports came from ships, electronic IC(integrated circuit), automobile, liquid crystal device, petroleum products and Cordless Telephone. Import products of Korea is mainly consisted of oil that is about 15% of total import, and electronic IC, petroleum products, gas and unalloyed steel goods is major import products.

## 4. Overview of construction industry

### 4.1 Value of Construction Contract

Until 2007, construction business has risen helped by buoyant housing business, regardless of government's strong regulation of real estate market. And thus residential building construction was increased in the nation wide, especially apartments in local cities. It resulted in oversupply of housing construction and an unsold apartment has increased in local areas. With the spreading global financial crisis by sub-prime mortgage in America, domestic housing business was also greatly shrunken in the end of 2007.

Non-residential building and civil engineering business sectors rose owing to macro economic growth in 2007, but non-residential building sharp fell with economic recession affected by global financial crisis in 2008. In 2009, residential building construction contract was recorded -12.5% year on year and non-residential building construction contract was shrunk by 25.4%.

Since early 2008, the expansionary policy to economic recovery has led the government expenditure to rise rapidly, letting the investment in construction, mainly for infrastructure projects, to rise fast. Over 2009, civil construction sector registered 31.2% increase, but total construction contract was decreased by 1.1% from the previous year on year, offset by a large fall of private projects.

In the first half of 2010, the construction contract showed negative growth of 0.2 percent, reaching a value of KRW 50.67 trillion (US\$45.50bn). Reasons for the low growth include the sluggishness in civil (infrastructure) construction and residential buildings following shrinking housing transactions. Fortunately, however, construction of residential and non-residential buildings recovered from negative growth, with the growth rate rising to 29.6% and 41.7% respectively from the same period a year earlier.

Figure 4.1: Value of Construction Contract(2003~2009)

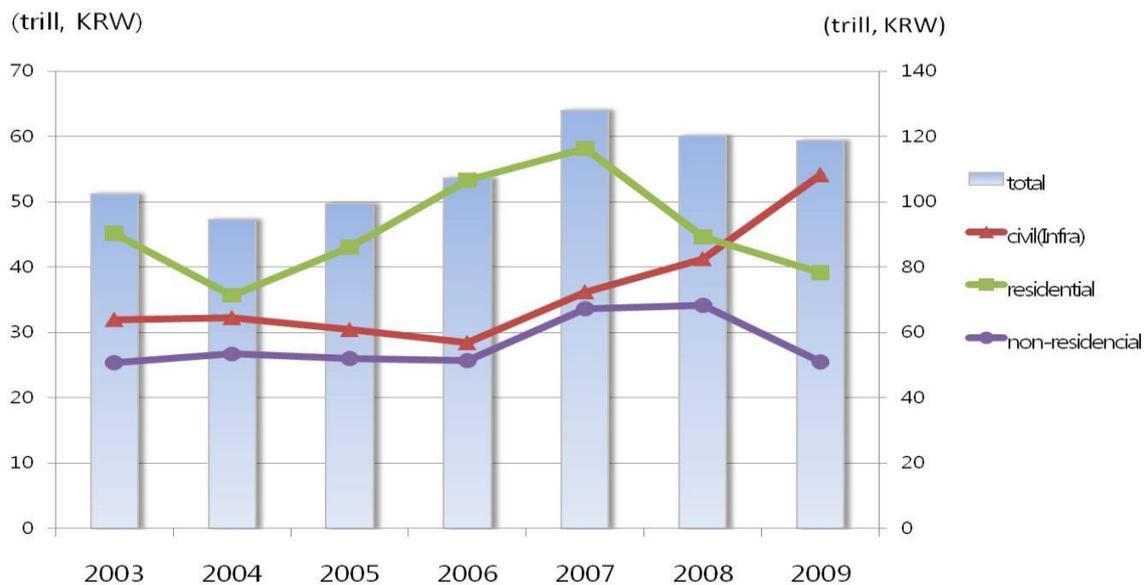


Table 4.1: Growth rate of construction Contract

(Unit: %, compared with the same period)

	total	civil(Infra)	residential	non-residential
2003	23.2	10.5	44.6	10.1
2004	-7.7	0.9	-21.0	5.2
2005	5.1	-5.7	20.6	-2.6
2006	8.0	-6.6	23.9	-1.2
2007	19.2	27.5	9.1	30.8
2008	-6.1	14.0	-23.2	1.8
2009	-1.1	31.2	-12.5	-25.4
1H, 2010	-0.2	-29.7	29.6	41.7

Table 4.2: Break Down of Construction Contract

(Unit: bill. Won, current price).

Type of Contract	2004	2005	2006	2007	2008	2009	2010.6
Public Project							
Residential building	3,172	3,853	5,122	7,570	9,346	7,378	2,448
Non-residential building	7,332	7,001	5,755	7,587	9,149	8,327	3,794
Infrastructure	23,261	20,972	18,643	21,932	23,354	42,782	13,782
Sub-Total	33,765	31,826	29,519	37,089	41,849	58,487	20,024
Private Project							
Residential building	32,496	39,155	48,155	50,578	35,311	31,699	13,140
Non-residential building	19,349	18,978	19,905	25,984	25,021	17,161	11,011
Infrastructure	8,963	9,425	9,740	14,261	17,904	11,366	5,732
Sub-Total	60,808	67,559	77,799	90,823	78,236	60,227	30,653
Total							
Residential building	35,668	43,009	53,276	58,148	44,657	39,078	15,588
Non-residential building	26,680	25,979	25,660	33,571	34,170	25,488	15,575
Infrastructure	32,224	30,396	28,383	36,193	41,258	54,149	19,514
Total	94,572	99,384	107,318	127,912	120,085	118,714	50,677

Source: Construction Association of Korea

## 4.2 Construction Companies

### 4.2.1 Number of Contractor by Type

Since 2006, the number of construction companies has slightly increased to 56,815 firms in September 2010. The number of General contractors is 12,094 firms, 21.2% of total firms and 67.9% is Specialized trade contractors. During that period, the number of general contractor has kept steady decrease from 13,202 firms in 2005, to 12,094 in September 2010, by contrast, Specialized trade contractors and Equipment work contractors, which are mostly small and medium firms, increased steadily.

The reason why numbers of small and medium construction company has increased is that competitive bidding is more severe in public project market. And this bidding system for small public project is insufficient to discriminate, more paper companies participated in that bidding.

Table4.2.1: Statistics of Construction Company

Classification \ Year	2004	2005	2006	2007	2008	2009	2010.9
Number of general contractor	12,988	13,202	12,914	12,842	12,590	12,321	12,094
Specialized trade contractors	32,990	35,547	35,040	36,422	37,106	37,914	38,620
Equipment work contractors	5,338	5,505	5,387	5,478	5,768	5,994	6,101
Total	51,316	54,254	53,341	54,742	55,464	56,229	56,815

Source: Construction Association of Korea

#### 4.2.2 Number of contractors by employment size

About 92% of construction firms are small companies that employed below 50 workers, about 7% is construction firms hiring employee between 50 and 299, and large firms having 300 over of workers are just below 1%. Share of firms according to employment size has not changed apparently since 2003.

Table 4.2.2: Share of Contractors by Employment Size(%)

Classification	Year	2004	2005	2006	2007	2008
Total	Total	100	100	100	100	100
	1-49	89.0	90.2	90.5	89.7	91.8
	50-300	10.3	9.1	8.6	9.4	7.4
	300 over	0.7	0.7	0.9	0.8	0.8
Number of General Contractor	Total	100	100	100	100	100
	1-49	98.6	98.7	98.5	98.8	98.9
	50-300	1.0	1.0	1.1	0.8	0.7
	300 over	0.4	0.3	0.4	0.4	0.4
Specialized Trade Contractors	Total	100	100	100	100	100
	1-49	87.1	88.6	88.6	87.8	92.3
	50-300	12.1	10.7	10.4	11.3	7.0
	300 over	0.8	0.8	1.0	0.9	0.7

## 4.3 Employees and Construction Labor

### 4.3.1 Number of construction worker by job type

The number of workers increased steadily in the construction industry. For the year of 2007, more than 1.8 million employees were working in the construction field, 7.9% of total employment. But the number of workers in 2008 decreased slightly compare to previous year with construction business slowdown, and sharp fall by 1.72 million workers in 2009, when Korean economy was in the deepest recession affected by global financial crisis. In 2010, the number employed in construction has increased slightly owing to an increase in the economically active population. However, it does not mean a recovery in the job market is losing momentum, citing seasonal factors.

It is difficult to see the latest trend by job type, since the data about the number of construction workers by job type is only available till 2008, as below Table 4.3b shows. The number of building construction workers was increased amid buoyant housing and building business from 2004 to 2006.

Table 4.3.1a: Number of workers in Construction

Classification \ Year	2004	2005	2006	2007	2008	2009	2010.8
Number of employee in construction (thousand person)	1,820	1,813	1,833	1,849	1,812	1,720	1,790

Source: Korea National Statistical Office

Table 4.3.1b: Number of Construction Worker by Job Type

Unit: thousand workers

	2003	2004	2005	2006	2007	2008
Construction	1,719	1,737	1,718	1,717	1,728	1,657
General construction	589	562	571	579	576	529
Heavy construction	177	174	176	161	162	157
Building construction	412	389	395	417	414	372
Special trade construction	1,130	1,175	1,147	1,138	1,151	1,127
Engineering and building	485	504	475	482	477	469
Building installation	174	185	183	170	165	165
Electrical & communication works	255	256	252	246	265	258
Building completion	216	230	236	239	243	233

Source: Construction Association of Korea

### 4.3.2 Number of foreign construction worker by job type

There is little statistics about the number of foreign construction worker in Korea, because the foreign firms making business of construction in Korea is very few.

## 4.4 Productivity

### 4.4.1 Value added per employee

Value added product per employee in construction industry was gradually increased since 2004, even though dropped by 0.1 million Won from 33.6 million Won in 2008 to 33.5 million Won in 2007. But the relative Value added product per employee in construction compare to manufacturing sector has become smaller since 2004, registered by 52% in 2008 from 69.6% in 2004. This rate is disappointing, since service sector industries showed gradual increase such as 2%p increase in 2008 from 36.1% in 2006.

Table 4.4.1: Value Added per Employee

(unit: mill. Won per person at 2005 price)

	2004	2005	2006	2007	2008
Construction	32.7	32.7	33.0	33.6	33.5
(% of manufacturing)	(69.6)	(64.8)	(59.6)	(55.9)	(52.0)
Manufacturing	46.9	50.5	55.4	60.1	64.3
(% of manufacturing)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)
Service	36.1	36.5	37.3	38.1	38.0
(% of manufacturing)	(77.1)	(72.4)	(67.3)	(63.4)	(59.0)
Primary sector	14.9	15.2	15.7	16.7	18.0
(% of manufacturing)	(31.9)	(30.1)	(28.3)	(27.9)	(27.9)

Source: Korea National Statistical Office

### 4.4.2 Physical measurement of construction productivity

We don't have the adequate data standing for physical measurement construction productivity, since there is no labor input data which is classified by construction types.

## 4.5 Construction Cost

### 4.5.1 Major construction material average price

The official prices of major construction materials are influenced by government guideline but actual transaction value changes according to the market conditions. The demand and supply of most of the construction materials more or less can be matched domestically. Shown as <table 4.5.1>, the price of the most construction materials is almost not changed since 2003, except Steel bars. In Jun 2008, the price of Steel bar rose to about one million (Korean won per ton), almost twice, from the previous year 526, 500 won. Because the raw material of Steel bar mainly depended by import, and so the price was influenced by international market situation. The price of steel bar down to 741,000Won in 2009 from 888,500Won of average price in 2008, and it has turned around again and is rising in June 2010.

Table 4.5.1 : Average Construction Material Price

RMC * kg/cm <sup>3</sup> (won per m <sup>3</sup> )	Cement in bulk (won per 40kg)	RMC * kg/cm <sup>3</sup> (won per m <sup>3</sup> )	Steel bars (won per ton)	20mm aggregates (won per m <sup>3</sup> )	Concreting sand (won per m <sup>3</sup> )	Common Bricks (won per thousand pieces)
2003	3,333	55,543	382,750	11,000	12,000	48,000
2004	3,404	53,827	515,917	12,250	13,000	46,000
2005	3,387	51,708	498,583	14,167	13,083	46,000
2006	3,370	49,080	455,667	11,333	13,250	45,000
2007	3,370	49,080	526,500	11,500	13,083	45,000
2008	3,370	51,248	888,500	12,417	12,000	45,000
2009	4,000	51,970	741,000	12,000	13,000	45,000
2010.6	3,800	54,670	811,000	12,000	13,000	50,000

\* RMC: Ready Mix Concrete

Source: KPC (Korea Price Information Corp)

#### 4.5.2 Construction industry salaries and wages

For chief workers, the salary and wage has mildly increased since 2003. But special daily workers experienced negative wage growth due to decreased construction demand during the years 2003~2004. In the first half of 2010, the average wage per day for chief workers is 95,671 won (about 85.88 dollars), 89,835 won (about 80.6 dollars) for special daily wage, and 70,497 won (about 63.28dollars) for normal daily wage.

Table 4.5.2: Construction Industry Salaries and Wages (Korean Won)

	2003.	2004	2005	2006	2007	2008	2009	2010.6
Chief worker	69,644	70,184	73,402	78,124	81,700	85,203	90,889	95,671
Special daily wage	66,596	66,504	68,917	73,572	79,027	81,596	84,862	89,835
Normal daily wage	52,429	52,575	54,171	57,321	59,715	63,530	68,437	70,497

Source: CAK (Construction Association of Korea)

## 4.6 Import and Export of Construction Work

### 4.6.1 Annual export of construction work

Total exports in construction were 52,823 million dollars for the first nine months of 2010, the historic record since construction export started. Such tremendous increase in the amount because the United Arab Emirates (UAE) nuclear power plant contract signed at the end of 2009 was brought into this year's calculation. The 18.6 billion dollar UAE project accounted for most of the increase in the amount.

Among them, industrial construction exports (Plant) occupied the largest portion recording 42,813 million dollars, which is much higher than any other country. The export of Civil engineering and Architecture construction sectors was recorded 2,789 million dollars and 5,023 million dollars respectively.

Construction import has not been recorded yet.

Table 4.6.1: Annual Exports of Construction Services

year	Total	Contract Amount by work type(million US\$)					
		Civil	Architecture	Plant	Electric	Telecomm	Engineering
2010.9	52,823	2,789	5,023	42,813	599	446	1,152
2009	49,147	5,746	6,273	35,692	756	20	660
2008	47,640	9,364	9,192	26,764	1,336	19	965
2007	39,788	5,232	8,177	25,268	690	41	381
2006	16,468	1,532	3,433	10,920	474	3	106
2005	10,859	836	1,226	8,263	374	13	147
2004	7,498	806	874	5,182	545	3	89
2003	3,668	402	532	2,491	192	8	43

Source: ICAK(the international Construction Association of Korea)

#### 4.6.2 Five major foreign markets by value

Middle-east Asian countries are usually included in top five countries for construction export of Korea. In 2009, the U.A.E and Kuwait in 2008 are the highest country in construction exports. Singapore and Vietnam are occasionally included in 5 major export countries. The export of construction service to middle-east Asian countries is mainly plant construction sector and infrastructure construction or architecture construction sector to south-east Asian countries.

In 2009, the U.A.E is the most important country in construction exports where 15,860 million dollars of construction service was exported. Saudi Arabia (7,203 dollars), Algeria (3,727 dollars) Libya (3,134 dollars) and Iran (2,492 dollars) followed.

Table 4.6.2: Top Five Countries for Construction Export

Rank	(unit : million US\$)							
	2006		2007		2008		2009	
	Country	Value	Country	Value	Country	Value	Country	Value
1	Saudi Arabia	3,624	U.A.E	5,585	Kuwait	7,540	U.A.E	15,860
2	Kuwait	1,982	Libya	5,450	U.A.E	4,841	Saudi Arabia	7,203
3	Qatar	1,314	Saudi Arabia	5,055	Qatar	4,400	Algeria	3,727
4	Oman	1,267	Singapore	3,178	Saudi Arabia	4,122	Libya	3,134
5	Vietnam	1,153	Egypt	2,081	Singapore	2,917	Iran	2,492

Source: ICAK(the international Construction Association of Korea)

## 5. Construction Outlook 2010 / 2011

During the recent financial crisis, Korea's GDP growth fell, and the rate is only 0.2 percent in 2009. In 2010, the growth rate is projected to record around 5.9% with economic activity increasingly led by the private sector. The recovery is expected to be led by the rebound in fixed investment and the turning of the inventory cycle. However, the forecast of economic outlook for 2011 will be reduced to the mid 4 percent level. The stronger growth this year will make it hard for next year's growth rate to reach the 5 percent level as previously forecast, because a gain in gross domestic product is calculated year-on-year.

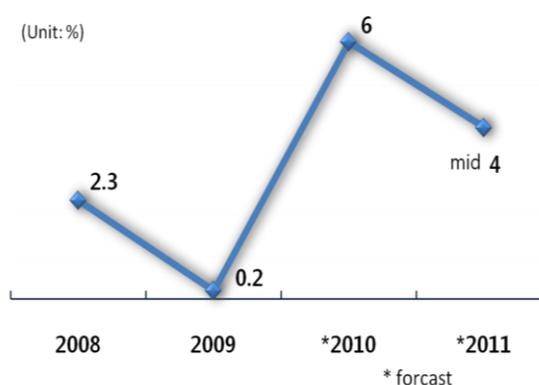


Figure 5 : Korea's GDP growth

Private consumption is expected to recover to the level similar to the pace of the income growth as the economic conditions, including the exchange rate, inflation and employment is stabilized. Construction investment, while the current scale of infrastructure investment seems to be maintained, is expected to grow in 2010 at a similar pace of the previous year as the private construction sector starts to recover from its sluggish performance.

It is expected that the growth rate in construction investment in 2nd half of 2010 will reach 1.4%, which means 1.4% increase during the 2010. The investment in civil engineering will grow 2.7% in 2nd half and 2.3% annually, considering the exhaustion of the reserved power for a financial investment in 2009.

Table 5: Prospect of Construction Investment in 2009

(Unit: %, compared with the same period)

Segment	1 <sup>st</sup> half of 2010	2 <sup>nd</sup> half of 2010	2010 annually
Construction Investment	1.4	1.4	1.4
- Civil Engineering	1.9	2.7	2.3
- Building	1.3	0.8	1.0
Residential	0.8	0.1	0.4
Non- Residential	1.7	1.2	1.4

Source: Construction Economy Research Institute of Korea

The government of Korea plans to strengthen its investment for healthcare, welfare and the research of new growth engines, while cutting the budget for social overhead capital including road construction in 2011. Budget spending for the healthcare, welfare and labor sector was raised by 5.1 trillion won from this year to 86.3 trillion won, the biggest increase by amount, but social overhead investment was cut by 3.2% (800 billion won) to 24.3 trillion won.

Construction investment is forecasted to record around -0.3% growth rate in 2011. Public construction projects is expected to drop about 4% due to next year's smaller budgets, and private sector also is projected to decrease.

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## Housing and Real Estate Market Development – Worldwide Experience and Options for Vietnam

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# **Housing Industry Issues for the Sustainable Urban Development in South Korea**

November 26, 2010

Kim Hyun Ah (Construction & Economy Research Institute of Korea)

Kim Heung Soo (Construction & Economy Research Institute of Korea)

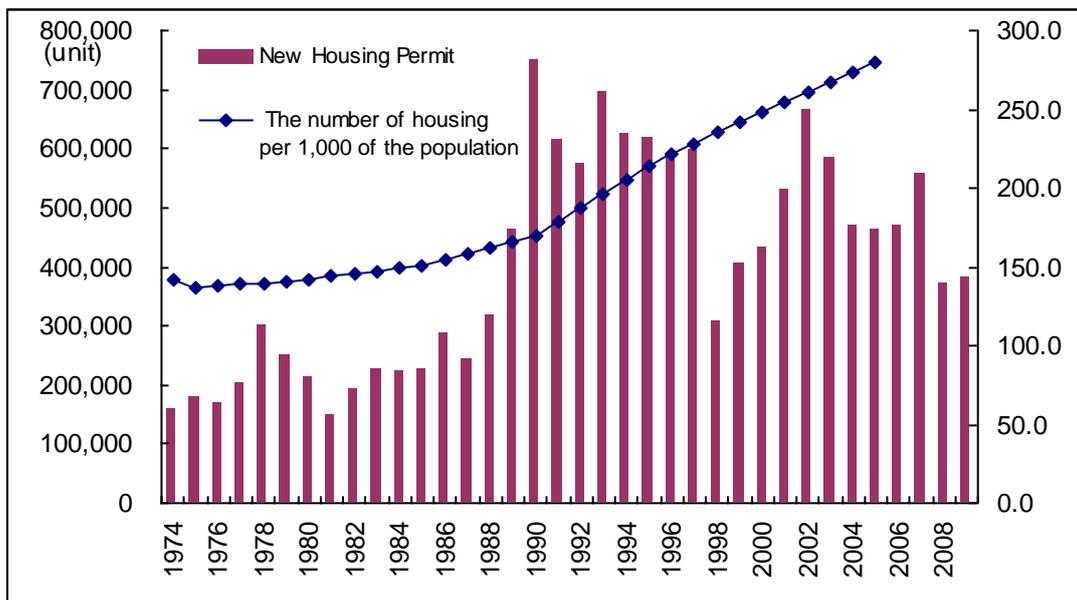
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1. Status of the Housing Market in South Korea
2. Characteristics and Evaluation of Korean Housing Policy
3. Environmental Changes and Paradigm Shift in the Real Estate Market
4. Future Issues

# 1. Status of the Housing Market in South Korea

South Korea is the 3<sup>rd</sup> most densely populated country in the world with a population of 49,044,790 (in 2007). Only 5.8% of her terrain is urban land area. Almost half of the populations (48.3%, 22,770,000 people) lives in Metropolitan area which only occupied 11.8% of South Korea (2005). This situation has also been a source of social, economic, urban, and housing problems in South Korea for the past 40 years.

<Trend of new housing construction volume and the number of houses per 1000 people >



(Source: Ministry of Land, Transport and Maritime Affairs)

“The 1<sup>st</sup> Economic Development Plan” started in the early 1960. This started the migration of people from rural area to major cities. Continued migration into the cities has sharply raised the demand for housing. However, as the Korean government had no financial resources to spare toward a housing industry investment, the housing supply by the private sector were minimal, and only housing construction by individual owners were taking place. The supplying of housing began on a full scale starting with “The 1<sup>st</sup> New Town of Metropolitan area” development which was led by the public sector in 1989.

Before that time, the volume of the annual housing supply in Korea was only 250,000 units, but the development of new town caused it to more double to 550,000~600,000 unit. For the first time, the housing construction industry had started to grow in large leaps.

During this era, absolutely lack in total housing supply combined with the domestic economic growth accompanied by various local and infrastructure development had caused a sharp increase in the land price. On top of this, South Korea had experienced

rapid economic growth in 1970s, low interest rate, exchange rate, and increasing liquidity in 1980s. This in turn had caused repeated pattern of sharp rises in real estate prices in 10-year cycles.

However, the sharp rise of the real estate prices has not been closely connected with financial markets until 1990s. But since then, the Korean real estate market began to be closely linked to the financial market due to the opening up of the capital markets and structural transformations of the financial markets in 1998. Korean real estate prices were also hit hard by the 2007 global financial crisis that bulged out of the US subprime mortgage crisis. But interestingly, the size of the South Korea's down fall in housing price was much smaller compared to the major countries' downward trend. Major advanced countries had to restructure their debt but in Korea, loan volume related to real estate even increased a little. At the end of 2009, the current amount of real estate related PF reached about KRW101,000,000,000,000, and housing mortgage loans of households reached KRW265,000,000,000,000. This showed an increase of 16.5% and 20.3% compared to 2007 level before the subprime mortgage loan crisis.

## **2. Characteristics and Evaluation of Korean Housing Policy**

Based on the abundant supply of the economic growth and high population growth, housing and real estate market in Korea focused on supplying the needed quantity of housing and development of new buildings for last 30 years. About 13,000,000 houses were newly built during the 36 years, of which 66% were large scale New-town development that started in the late 1980s.

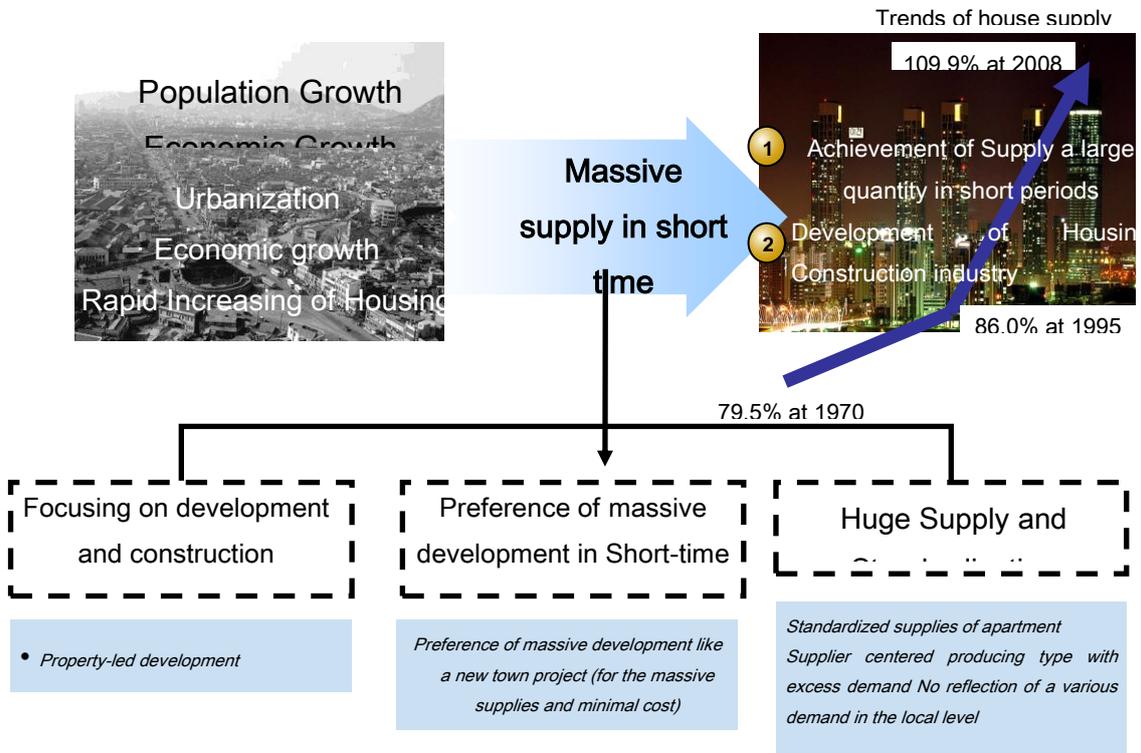
Housing construction in Korea has really been in full implementation for only 20 years. In 1970, the living space per person was 6.8m<sup>2</sup>, which had been increased to 23m<sup>2</sup> (3.4 times more) by 2006

There were amazing improvements in physical housing environment. The water supply ratio, kitchen and flush toilet supply ratio has reached 95% of population by 2008. However, there also were some undesirable side effects.

Housing and real estate related industry had been focused on development and had not expanded to maintenance, financing and other service businesses. The goal of increasing large volume of housing supply in short time led to building monotonous type of apartment housing.

70-80 percent of newly constructed housing is apartments (15~20 story high rise residential building complex), and apartments represent 55 percent of total Korean housing inventory. The large scale of housing production method resulted in not only monotonous housing type but also many social problem caused in the development process such as land speculation with massive expropriation, deprivation of original residency rights.

<picture1> The Result of Korean housing and real estate market for the last 20 years.



Above all, the real estate market focusing on housing development and construction brought about continuous increase in land price and capital gains which were causes of property-led development industry structure expecting continuous rise of land and housing price.

Looking back, real estate market seemed to have pattern of sharp ups and downs of 10 year-cycles, and there were many repeated patterns of government policy changes between regulating and allowing real estate speculation. Since the 2008 global economic crisis, Korean real estate market also has experienced a serious market depression, even though the size of the impact has been relatively small compared with other advanced countries, the reasons for which I will explain in a later section. This has led to the unavoidable construction industry-wide reorganization. On reflection, one can see the seed of the construction companies' industry-wide reorganization in the supply led business model that no longer matched the reality of the market. The supply focused business model worked well for over 20 years as long as the housing supply was in a catch-up mode to the dynamically increased demand due to demographic change on top of prospering economic development.

### **3. Environmental Changes and Paradigm Shift in the Real Estate Market**

In the next decade, Korean real estate markets are expected to experience huge social and economic changes with declining growth momentum. First of all, the fundamental factors in the change of the supply and demand dynamic are low-growth economy, low population growth.

In population aspect, Korean population is expected to decline from 2019 caused by the low birthrate. Korea is also expected to enter the aging society faster than any other advanced countries.

In the next 10 years, the highest ratio of age population is the 40s who have high homeownership rate and high prospective home buyers but also feel high pressure for retirement savings.

In the survey of experts (by the Construction & Economy Research Institute of Korea: CERIK on Feb. 2010), the housing demand by the over 40s group has high interest in the residential convenience, energy saving and the liquidity of their real estate holdings. On the other hand, the structural changes in total housing needs also demands change in housing supply strategy. Housing market which is now moving out of the absolute lack in housing supply state requires changes in the large scale housing supply system that was appropriate in the past.

Preference of apartment housing is still high, but monotonous product will be difficult to satisfy desires of trade-up buyers. What is now required is a shift to more customer-oriented, made to order housing in small quantities and various types.

The second change factor is the change in consumption behavior and pattern due to the changes in household structure.

Until now, 1-2 person household has meant mainly young age group or a small part of the old age group. But 1-2 person households will increase in all age groups from now on. Especially for the young age group and the old age group, higher demand is expected for rental housing and retirement housing. Accordingly, the housing industry will have to shift its focus of production from 4 person owner occupied housing for the 30s-40s household to products and services for 1-2 person household in all age groups.

## ■ Collapsing of Housing Bubble in Developed Countries..... Will it be repeated in Korea?

Looking at the next 10 year prospect for Korea, there is a high interest on the question of “Will Korea also experiences a burst of housing bubble?” This interest is due to the expensive lessons learned from the early 1990s land bubble burst in Japan and 2007 subprime mortgage crisis of the housing market in the USA.

There are similarities between the situations just before the bubble burst of the above 2 countries and apparent situation in Korean housing price rises and increase of the housing mortgages since the middle of 2000.

Therefore, as the recent inactivity of the real estate market continues, South Korea is highly concerned whether it would follow after the two countries and fall into a long term stagnation as the result of collapsing of the real estate prices.

Skyrocketing housing price rises with a low interest and an excessive liquidity in the countries like Japan and the US led to financial crisis and resulted in the collapse of real estate bubble.

In Korea, the increasing consumer debt and the fact that the retirement of the baby boomers in Korea would begin in 2010 have increased similar concern for housing bubble burst in Korea. However, the situation in Korea is different from US and Japan examples countries, and the out fold would depend on how the market responds from now on as to whether the bubble would burst or not.

One of the differences is that the Korean housing market has passed the 100% housing supply rate in 2002, which is only 5 years before the time of the recent global crisis. Korean housing market is only now approaching a “full” housing supply rate as experienced by the advanced countries. Also the government had been tightly regulating on the loan-to-value(LTV) and debt-to-income ratio (DTI) since 2004, before the subprime mortgage crisis, so that the concerns about the lending banks becoming insolvent with downfalls in housing prices is not high.

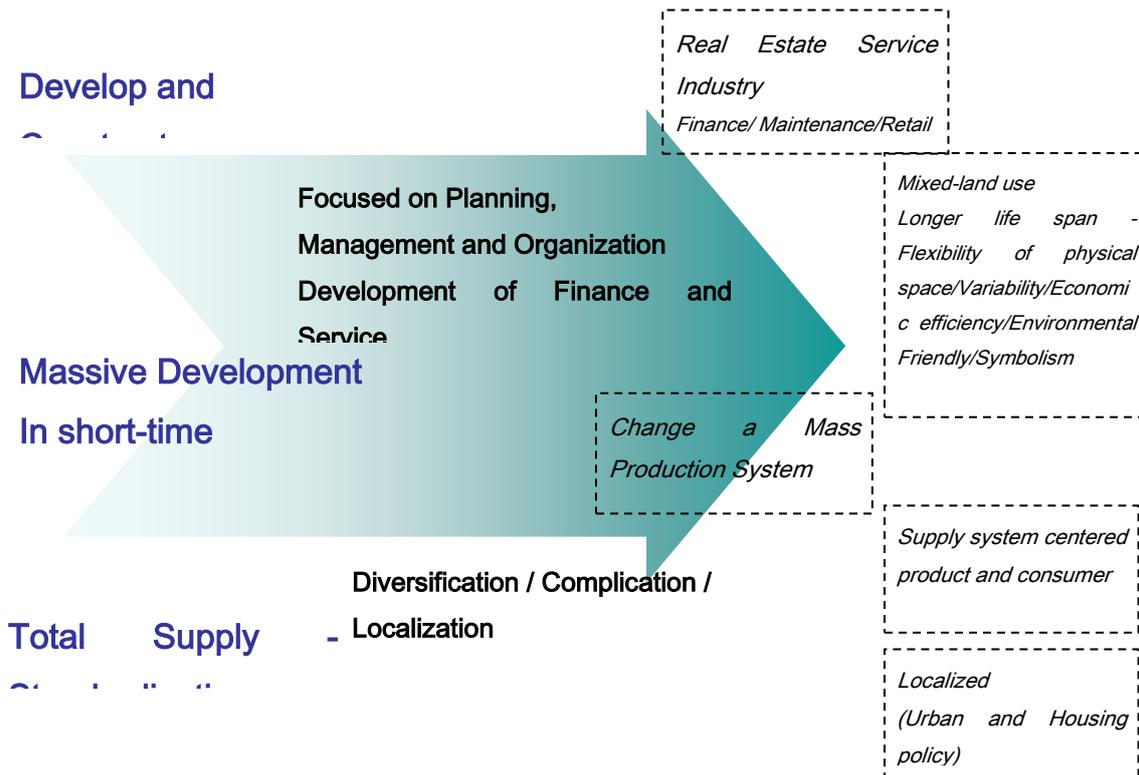
Another reason is that according to increase of the household income, the housing market still has additional demand such as second houses or upgrade replacement purchase. Especially, there are still other chances for the additional housing buyer and replacement housing buyer in the 40s as a core age group in the population.

The housing market will also depend on the possibility of the increase of the population through the aggressive immigration policies or unification of the South and North Korea.

In spite of population decrease, there will be opportunities to create new markets like green housing and green construction as changes occur in global construction standards and global cooperation agreements relating to green energy and environment. These changes will create new requirements for construction technology and manufacturing innovations.

One growing area of opportunity that exists for the Korean housing industry would be the close application of Korea's high-tech IT technology into the housing industry. This also may open doors for export opportunities in the advanced countries for the Smart Home markets.

<Picture2> the change that the Korean real estate market should accept for the next 10 years



■ Proper responses to the changes are the sustainable industry policy and business strategy.

The coming trend in market the domestic housing suppliers must adapt in order to thrive is meeting the demand for customization for demographic needs and location specific needs and toward more mixed- use development.

It will be inevitable that the housing industry would have to move away from the industrial system focusing on the large scale development and construction.

Even though the total volume of housing demand will decrease, the housing market focused on service market has enough potential demand. Also a growing trend toward mixed-use and conversion of urban function can be another main driver for the new demand.

Both horizontal and vertical mixed-use will become very active, and the complexity and

conversion of urban functions will be rapidly progressed.

A global trend that is increasingly becoming a new requirement and opportunity for the housing industry is the 'Framework Convention on Climate Change (FCCC)'. This would create a market demand for innovations in technology and production and distribution system in the housing market. Therefore, 'environmentally friendly housing' and 'urban regeneration' will also be key words for growth in the housing industry.

The 'urban regeneration' trend has already been observed in some advanced countries where the population of the suburbs is coming back to urban areas as the society becomes an aging society. In the advanced countries, the energy savings from the urban regeneration and the ensuing shorter commuting hours are recognized as an important social issue. However, Korea's awareness and the ensuing actions in regulations and development of technology for climate-changes friendly housing are relatively behind.

Specially, the preferred housing location is predicted to move towards downtown areas rather than suburbs, but the heights and cubic dimension policy of urban land use which is still rigid. For example, the 2nd New-Towns are being developed, but they are all 40km away from Seoul. They are too far away. This situation requires a supplemental plan.

The financial sector also has a lot of issues remaining as well. The elderly household with large real estate asset desperately needs liquidity of their held real estate assets. Reverse mortgage or property securitization product is needed in order to support such liquidity needs.

Project financing for housing supplier also has not gotten out of the form of a requiring guaranteed mortgages by construction companies.

An excessive surety obligation of construction companies has already become a social problem. As international financial reporting standards (IFRS) shall come into force in the next year, the surety obligation condition can not be maintained any more.

Therefore, it is high time to develop proper project financing and the various financial products for the housing suppliers.

Finally, I would like to address the necessary mindset changes regarding the housing and real estate markets. An interest toward housing for the high income investment product aimed at capital gains is already going down.

However, the interest in an income producing real estate generating cash flow is increasing. This means that there is greater interest in product category of real estate with stable rental income.

## 4. Future Issues

Even though the social circumstances have gone through many changes in Korea, the real estate industry and policy have remained in the past.

The current housing supply system and technology must be changed to support the expansion of new housing products such as energy saving and long-life span. The Korean housing industry is at an inflection point of industry wide transformation. The current housing industry depression has structural issues at its source. This no longer fit the reality of the market nor the society. To transform the Korean housing industry to become a viable market driven industry, two structural changes must accure in concert. Government needs to abolish the now excess protection or regulation. The housing supplier must shift from “If we build, they will buy” mentality and become new product development and innovation driven supplier focusing on the dynamic needs of the customer.

Simply stated, the hardware of housing supply such as construction technology and IT application is at a competitive level on a global basis. However, the software of housing supply such as sales process and distribution channel of housing units is still at industrial-age, as an analogy, and needs to be updated to fit the knowledge-age.

In addition, left over from the period of excessive policy intervention that was intentioned to hold down speculation during the rapid rising period of housing prices have led to treating multiple house owners as speculators rather than rental-housing providers. However, Korean housing industry has successively gone through transformation in establishing a realistic real estate assessment standard and requiring stricter reporting and providing various statistics and thus has crafted a foundation for the market to become transparent. Therefore, the government policy makers need to be assured of the fact that the speculation on real estate which was possible in the past is now almost impossible to be repeated in the future.

In the past, the domestic housing and real estate industry had been focusing on supplying a large volume of housing in short periods and the housing welfare had been focused on quantity rather than quality of life. However, the welfare of future generation will be fulfilled in the hierarchical housing welfare suitable for each grouping of customers including low-income people and the middle income people and focus on efficient movement in and out of housing and pursue improvements of housing standard, etc.

The roles and responsibilities should be such that the government takes care of the housing needs of low-income class and the market provides the housing welfare needs of the middle class.

In conclusion, the goal of the advancement of the Korean housing industry and the government can be summarized into three key elements.

First, supply-driven housing market should and will be changed into demand-driven market.

Second, Eco-friendly green construction must be promoted as a new growth engine for domestic economic development.

Lastly, housing welfare for all the people must ultimately be promoted.