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# Country Report

## : Economy and Construction in Korea

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## **1. Executive Summary**

The Korean economy grew moderately with improvement in investment and weakened private consumption. 3Q of 2016 GDP growth was 2.6%, lower than 2Q (3.3%), and QoQ growth also decreased. GDP of 4Q decreased to 2.4%; these imply an economic slowdown. Construction continued highly grow and manufacturing recovered, meanwhile services gradually stagnate. The declined GDP growth in the latter of 2016 in the context of political uncertainty, corporate restructuring, and dropping exports. If domestic and international political uncertainty dissolved, growth would be supported by a pick-up in exports, rising business, and consumer confidence.

In the construction sector, the value of contracts in 2015 definitely had increased 47% owing to the rocketing of private projects mainly in residential building. Contracts continued the growth of 4.4% reaching KRW 164,875 billion.

Current conditions of Korean construction sector can be summarized as follows:

- 1) The number of construction firms increased (around 58k) as construction investment expanded.
- 2) The number of construction workers sustains around 1.5 million, foreign labor forces also remained 85 thousand.
- 3) The labor productivity, estimated by value-added per employee, increased like other industries, leading to growth in total labor productivity of entire economy.
- 4) Some materials experienced price surges but the others did not for long-term perspective. Recent years, most materials do not show any changes in their price in spite of vigorous market. Upside of wages in the construction implies the high growth of the industry.
- 5) Korea exported construction services of USD 72 billion in 2010, but the global situations shrunk Korean construction exports to 46 billion in 2015 and 28 billion in 2016. The government worries about this downturn and is trying to find a way to promote construction export.

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

### **2.1. Overview of Korean Economy and Main Economic Indicator**

The Korean economy shows weakened growth as domestic demand slowed down and exports continuously slacked. Economic growth recorded 2.8% in 2016, same as the previous year, implying a moderate growth. By economic activity, construction exhibited high growth and manufacturing started to escape from sluggishness while services slowed gradually.

Domestic demand showed a slowdown in private consumption and facilities investment while government consumption and construction investment remained satisfactory. Government consumption continued growing highly while construction investment increased sharply. Construction investment growth, mainly in residential buildings, leads entire economic growth of Korea.

Exports remained dull by 2016 on a continued global weak growth, both import and export exhibited a moderating decrease. The current account experienced a gradual reduction in surplus due to rising import prices while stagnated exports with slow global growth. Meanwhile, CPI inflation stood low at around 1% and weak demand persisted.

Employment sustained a growth trend at 1.15%, but the slowing growth of regular job and the decline in temporary and daily job imply an economic downturn.

Global economic growth has been slowed down, mainly in leading countries. Under such conditions, Korea faced a rapid increasing household debt since mortgage loan regulations were eased and pre-sale housing volume surged. As such, risk factors at home and abroad are expanding while Korea's capability of adapting to crisis is shrinking gradually. In order to overcome the weakening growth potential due to aging population and cope with 4<sup>th</sup> industrial revolution, Korea should consistently endeavor to reform industrial structure. The structural reforms will range from industrial restructuring and deregulation to pro-competition.

Table 2.1. Main Economic Indicators

	2012	2013	2014	2015	2016
GDP and Components					
GDP at real price (KRW trillion, base year 2010)	1,342.0	1,380.8	1,427.0	1,466.8	1,508.3
GDP at current market price (KRW trillion)	1,377.5	1,429.5	1,486.1	1,564.1	1,637.4
GDP at current market price (USD billion)	1,222.4	1,305.4	1,411.0	1,382.4	1,411.0
GDP growth (%)	2.3	2.9	3.3	2.8	2.8
agriculture, forestry, and fishing	-0.9	3.1	3.6	-0.4	-2.9
manufacturing sector	2.4	3.6	3.5	1.8	2.3
services sector	2.8	2.9	3.3	2.8	2.3
construction sector	-1.8	3.0	0.8	5.7	10.5
Demographic Indicators					
Population (thousands)	50,948	51,141	51,328	51,529	51,696
Population growth rate (%)	0.42	0.38	0.36	0.39	0.32
Labor force (thousands)	24,681	25,066	25,599	25,936	26,235
Labor force growth rate (%)	1.80	1.56	2.13	1.32	1.15
Unemployment rate (%)	3.2	3.1	3.5	3.6	3.7
CPI Inflation rate (%)	2.2	1.3	1.3	0.7	1.0
Financial Indicators					
Interbank interest rate (%)	3.27	2.70	2.46	1.72	1.45
Short term interest rate (%)	3.30	2.72	2.49	1.77	1.49
Long term interest rate (%)	3.45	3.28	3.18	2.30	1.75

Note: interbank interest rate is KORIBOR(KOREa Inter-Bank Offered Rates) for 3 months; short-term interest yields on 91-days CD; long-term on 10-years Treasury Bonds.

Source: Statistics Korea (Demographics), The Bank of Korea (GDP and financials).

## 2.2. Trade

### 2.2.1. Value of import and export

The balance of trade was recorded a surplus of \$28.3 billion in 2012, even though the trade volume of export and import increased. In 2015, it made a surplus of \$90.3 billion, that is, 1.9 times bigger than that of 2014. Korea continues surplus level of around \$89.2 billion, down slightly from a year before, in 2016.

On the other hand, Korea's exports and imports fell for two straight years, 2015 and 2016; exports recorded negative growth of 8 and 6 percent, and imports also suffered negative growth of 17 and 7 percent. Surplus with negative trade growth like this is referred as a "recession-type trade surplus."

Although Korea achieved a recession-type surplus for two consecutive years, positive factors arose from the fourth quarter of 2016. The nation's exports and imports rose again, led by semiconductor, implying the return of the economy's trades.

Table 2.2. Export and Import

	(USD millions, %)				
	2012	2013	2014	2015	2016
Export (increase rate)	547,870 (-1.3)	559,632 (2.1)	572,665 (2.3)	526,757 (-8.0)	495,426 (-5.9)
Import (increase rate)	519,585 (-0.9)	515,586 (-0.8)	525,515 (1.9)	436,499 (-16.9)	406,193 (-6.9)
Balance of trade	28,285	44,047	47,150	90,258	89,233

Source: Korea International Trade Association (KITA).

### 2.2.2. Major trading countries

Five major export-trading countries of Korea in 2015 were China, U.S., Hong Kong, Vietnam and Japan; China, Japan, U.S., Germany, and Saudi Arabia were top-5 import-trading economies of Korea.

5 countries leading export-trading of Korea had no change in 2016, while import-trading list were changed; Taiwan replaced Saudi Arabia.

Table 2.3. Top 5 Major Trading Countries of Import and Export (2016)

Rank	Export		Import	
	Country	Value	Country	Value
1	China	124,433 (25.1%)	China	90,250 (21.4%)
2	United States	66,462 (13.4%)	Japan	45,854 (11.7%)
3	Hong Kong	32,783 (6.6%)	United States	44,024 (10.6%)
4	Vietnam	32,630 (6.6%)	Germany	20,957 (4.7%)
5	Japan	24,355 (4.9%)	Taiwan	19,561 (4.0%)

Source: Korea International Trade Association (KITA).

### 3. Overview of the Construction Industry

#### 3.1. Construction Contracts

Until 2007, the construction business has risen helped by brisk housing business, regardless of government’s strong restriction on the real estate market. With increasing residential building construction in the nation-wide and spreading global financial crisis by sub-prime mortgage, it has resulted in a huge oversupply in housing market and unsold apartments all over the country.

In 2009, the rate of civil construction contracts increased, but that of total construction contracts conversely decreased by 1.1% with offsetting by a large fall of private projects. In 2010, only non-residential construction contracts recorded positive growth of 18.6%. Fortunately, the residential construction contracts in 2011 increased rapidly. During 2009-2012, government’s investment in ‘Four Rivers’ project led construction economy, shown as the leading position of infrastructure contracts.

The civil and residential construction contracts in 2015 were recorded the extremely positive growth, and the non-residential construction contracts also increased. By the results, the total construction contracts showed the positive growth of 47.0%, reaching a value of KRW 157.9 trillion (USD 140 billion). In 2016, Korean construction continued to grow recording 4.4%, although infrastructure contracts shrank 16%. Building construction, both of residential and non-residential, grew over 10 percent and that sustained total construction contracts. The Korean construction market was witnessing rapid growth due to government’s investment in infrastructure, bettering global and regional economy, and improving confidence of investors and consumers. Increased construction permits for buildings and the hosting of the 2018 Winter Olympic Games must support growth over some period.

However, recently Korean government decided to toughen regulations to stabilize an overheating real estate market. Furthermore, the government plans to cut the budget on social overhead capital (SOC) by 20 percent in 2018, although the total budget increased by 7 percent.

Figure 3.1: The Value of Construction Contracts (2008-2016)



Source: Construction Association of Korea (CAK).

Table 3.1. The growth rate of construction Contracts

(%)

Year	Residential building	Non-residential building	Infrastructure	Total
2008	-23.2	1.8	14.0	-6.1
2009	-12.5	-25.4	31.2	-1.1
2010	-19.1	18.6	-23.5	-13.0
2011	22.4	9.8	-6.2	7.2
2012	-11.4	-5.0	-8.1	-8.3
2013	-14.6	-1.0	-16.2	-10.0
2014	40.3	7.8	9.4	17.7
2015	64.7	33.2	39.0	47.0
2016	12.2	13.2	-16.0	4.4

Source: Construction Association of Korea (CAK).

Table 3.2. Breakdown of Construction Contracts

(KRW billion, current price)

Type of Contract	2008	2009	2010	2011	2012	2013	2014	2015	2016
Total									
Residential building	44,657	39,078	31,613	38,705	34,295	29,291	41,085	67,682	75,947
Non-residential building	34,170	25,488	30,235	33,185	31,528	32,109	33,629	44,809	50,732
Infrastructure	41,258	54,149	41,380	38,809	35,683	29,903	32,729	45,489	38,196
Total	120,085	118,714	103,229	110,701	101,506	91,306	107,466	157,982	164,875
Private Project									
Residential building	35,311	31,699	26,875	31,742	27,850	24,233	35,828	62,521	66,963
Non-residential building	25,021	17,161	22,486	25,406	22,797	21,061	22,711	35,900	39,557
Infrastructure	17,904	11,366	15,631	16,927	16,781	9,840	8,195	14,828	10,945
Sub-Total	78,236	60,227	64,993	74,076	67,428	55,136	66,736	113,250	117,465
Public Project									
Residential building	9,346	7,378	4,738	6,963	6,446	5,058	5,257	5,161	8,984
Non-residential building	9,149	8,327	7,749	7,779	8,730	11,048	10,938	8,909	11,175
Infrastructure	23,354	42,782	25,749	21,882	18,901	20,063	24,534	30,661	27,251
Sub-Total	41,849	58,487	38,236	36,624	34,077	36,170	40,730	44,732	47,410

Source: Construction Association of Korea (CAK).

### 3.2. Construction Companies

#### 3.2.1. The number of contractors by type

The number of construction businesses has shown up-and-down around 55K from 2008 to 2015. It increased to 58k in 2016, as construction investment expanded. The general contractors gradually decreased until 2013, while increased during 2013-16. The specialty constructors increased until 2010, shrank until 2013, and raised again from 2013. The equipment contractors, many of them are sole proprietorship, gradually expanded. It is noted that the global financial crisis and slow growth could not shrink Korean construction industry, at least in the numbers of contractors.

Table 3.3. The number of Construction Companies

(Unit: each).

Year Number	2008	2009	2010	2011	2012	2013	2014	2015	2016
General contractors	12,590	12,321	11,956	11,545	11,304	10,921	10,972	11,220	11,579
Specialty contractors	37,106	37,914	38,426	38,100	37,605	37,057	37,117	37,872	38,652
Equipment contractors	5,768	5,994	6,151	6,330	6,463	6,599	6,788	7,062	7,360
Total	55,464	56,229	56,533	55,975	55,372	54,577	54,877	56,154	57,591

Source: Construction Association of Korea (CAK).

### 3.3. Construction Employees and Labors

#### 3.3.1. The number of construction workers by job type

The number of workers in the construction industry show stable status around at 1.5 million. That changeless number of labor is contrary to the fluctuations of contracts and companies. In 2015, the number of total construction workers is 1,534 thousands and it is 0.1% higher than the last year. In the meantime, the value added grew 7.5% and the number of companies grew 3%. Industry seems to consider the recent construction upturn as temporary, leading them hesitate to expand employment. If not, there must be other reasons which not accounted for by statistics; outsourcing, foreign workers, and etc.

Table 3.4. The number of Construction Workers by Job Type

(Unit: thousands)

Type	Year	2011	2012	2013	2014	2015
Total		1,575	1,508	1,547	1,532	1,534
General contractor		463	481	496	481	480
Building construction		287	287	319	302	301
Heavy construction		176	194	177	180	179



Specialty contractor	1,111	1,028	1,052	1,051	1,054
Site preparation, building, civil engineering	424	407	419	417	422
Building installation	183	162	171	170	170
Electrical & communication works	269	254	255	254	255
Interior & building completion	235	204	206	210	207

Source: Statistics Korea (KOSIS; Korean Statistical Information Service).

### 3.3.2. The number of foreign construction workers

The number of foreigners employed in the Korean labor market is nearing 1 million, according to a study of foreigner employment in 2016 by Statistics Korea. This figure increased every year since the number was first recorded in 2012, with an exception of 2013.

For the most, foreign workers belong to small businesses in poorly remunerated jobs. The increasing number of foreigners has effect on wages and other labor conditions in the low-paying job market.

Construction workers from foreign country recorded 85 in 2016 and the number has little changes over years, also having exception of 2013, just like domestic construction workers. The construction boom in 2016 arouse suspicion of the illegal employments.

Table 3.5. The number of foreign workers

Industry \ Year	(Unit: thousands)				
	2012	2013	2014	2015	2016
Total foreign workers	791	760	852	938	962
Manufacturing (%)	368 (46.5)	377 (49.6)	418 (49.1)	434 (46.3)	436 (45.3)
Construction (%)	85 (10.7)	64 (8.4)	86 (10.1)	86 (9.2)	85 (8.8)

Source: Statistics Korea

## 3.4. Productivity

### 3.4.1. The value-added per employee

The indexes of value-added per employee are compared with the base year, 2010. The value-added per employee of construction dropped 86 in 2012, while it recovered to 98 in 2016. Although figure for 2016 is a higher one within construction sector, it is still rather low comparing with other sectors; the other industries present continuous growth in value-added per employee during 2010-2016.

The low labor productivity of construction sector might be caused by labor intensive nature of this industry. Although its labor intensity, construction sector needs various approaches to make its efficiency in using labor forces. It is also notable that the relation between employment and labor productivity can be a zero-sum game.

Table 3.6. The Value-Added per Employee

(2010 is the base year, unit: %)

Industry	2010	2011	2012	2013	2014	2015	2016
Total (Except Primaries)	<b>100.0</b>	100.6	99.5	102.1	102.7	103.6	105.3
Manufacturing	<b>100.0</b>	103.1	103.7	105.3	106.0	105.8	108
Service	<b>100.0</b>	100.3	99.1	101.7	102.5	103.8	104.7
Construction	<b>100.0</b>	88.8	85.8	91.3	88.5	89.4	98.2

Source: Korea Productivity Center.

### 3.5. Construction Cost

#### 3.5.1. Construction material prices

The official prices of major construction materials are influenced by government guideline but the actual transaction value likely changes according to the market conditions. The demand and supply for most construction materials can be more or less matched domestically. Some of the price for construction materials have not been much changed since 2008, while others have experienced price surges.

In 2008, the price of steel bars sharply rose to KRW 889k per ton from the previous year's 527k. Because the raw material of steel bar mainly depended on import, the price was influenced by international market situation such as construction and shipbuilding. The price of steel bars came down to 741k in 2009. But it had been risen up to 1,070k in 2014 and the price has been stabilized so far.

Table 3.7. Average Construction Material Price

(KRW)

Year	Cement in bulk (per 40kg)	Ready mix concrete (per kg/cm <sup>3</sup> )	Steel bars (per ton)	25mm aggregates (per m <sup>3</sup> )	Concreting sand (per m <sup>3</sup> )	Common bricks (per 1k pieces)
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	3,800	54,670	811,000	12,000	13,000	50,000
2011	3,800	51,430	975,000	12,000	13,000	50,000
2012	3,890	56,970	995,000	13,500	13,000	55,000
2013	4,400	57,600	995,000	13,500	13,000	55,000
2014	4,500	66,100	1,070,000	14,000	13,000	55,000
2015	4,500	66,100	1,070,000	14,000	13,000	55,000
2016	4,500	66,100	1,070,000	15,000	13,000	55,000

Source: KPC (Korea Price Information Corp).

### 3.5.2. Construction industry salaries and wages

In construction, like other industries, the salaries and wages have mildly increased since 2008. For instance, the wage for special daily workers was KRW 83k and gradually increased by 121k in 2016. Now the average daily wages are KRW 124k for chief workers, 121k for special daily labors, and 100k for normal daily wage.

Table 3.10. Wages in the Construction Industry

	2008	2009	2010	2011	2012	2013	2014	2015	2016.9
Chief worker	87,995	90,889	97,000	101,726	104,876	105,174	109,664	111,998	124,304
Special daily wage	83,141	84,862	91,396	96,325	95,232	100,936	106,569	111,771	120,716
Normal daily wage	65,076	68,437	71,456	74,808	81,088	93,975	86,686	89,566	99,882

Source: CAK (Construction Association of Korea).

## 3.6. Import and Export of Construction Services

### 3.6.1. Annual export of construction services

Such a tremendous increase in export of construction works was experienced in 2010, because the United Arab Emirates (UAE) signed a nuclear power plant contract with Korean builders at the end of 2009, and it was brought into 2010's calculation. Meanwhile, the exports in 2011 showed a little decrease by the global depression sparked in Europe. The total value in export in construction was recorded USD 46 billion in 2015, and this was amount of 30% decline compared with 66 billion of the previous year. In 2016 the figure dropped to 28 B, 40% negative growth a year.

Among construction sectors, the export of plant building occupied the largest portion, 78.4% of total exports, recording USD 52 billion in 2014. It is noted that the export of plant construction showed the largest drop in 2015 to 26 billion, which was almost 50% decrease. It continuously declined to 13 B in 2016, and its share also reduced to 47.0% of total construction exports in 2016.

The industry worried about this situation and is trying to find a way to promote construction export, including financing-packaged projects.

Table 3.11. Annual Export of Construction Services

Year	Total Export	Contract by Construction Type					
		Civil	Architecture	Plant	Electric	Telecom	Engineering
2008	47,640	9,364	9,192	26,764	1,336	19	965
2009	49,147	5,746	6,273	35,692	756	20	660
2010	71,578	4,124	7,724	57,285	770	458	1,217

2011	59,144	5,857	7,846	43,269	954	61	1,157
2012	64,880	8,795	14,332	39,549	1,323	73	818
2013	65,211	18,128	5,446	39,649	761	238	988
2014	66,009	5,664	4,929	51,720	1,402	189	2,107
2015	46,144	8,503	7,110	26,490	855	184	3,000
2016	28,192	5,792	5,982	13,245	1,477	4	1,692

Source: International Construction Association of Korea (ICAK).

### 3.6.2. Top 5 countries for construction export

Middle-east Asian countries are usually included in top five countries for construction export of Korea. In 2015 Turkmenistan were the-highest-value countries in construction exports. Venezuela and U.A.E. recently entered into the list of 5 major construction-export nations. The construction services exported to middle-east Asian countries are mainly plant buildings and the services to south-east Asian countries are infrastructure constructions or architecture contracts.

In 2016 USD 4,159 M of construction services were traded to Saudi Arabia, the most Korean-construction-importing country. It was also noteworthy that Southeast Asian countries, Singapore and Vietnam, held the third and fourth rank in the list.

Table 3.12. Top Five Countries for Construction Export

Year \ Rank		(USD millions)				
		1	2	3	4	5
2011	Country	Saudi Arabia	Brazil	Iraq	Vietnam	Singapore
	Value	16,588	4,606	3,666	3,459	3,289
2012	Country	Saudi Arabia	Iraq	Kazakhstan	Vietnam	Singapore
	Value	16,167	9,636	4,161	3,416	3,345
2013	Country	Saudi Arabia	Australia	Uzbekistan	Vietnam	Singapore
	Value	9,975	5,855	4,533	4,043	3,516
2014	Country	Iraq	Kuwait	Russia	Venezuela	Algeria
	Value	8,532	7,739	5,604	5,067	4,388
2015	Country	Turkmenistan	Kuwait	Vietnam	Saudi Arabia	Venezuela
	Value	4,970	4,960	4,497	3,592	2,901
2016	Country	Saudi Arabia	Kuwait	Singapore	Vietnam	United Arab Emirates
	Value	4,159	3,318	2,787	2,315	1,655

Source: International Construction Association of Korea (ICAK).