ECONOMY OF TOMORROW

Socially Just, Sustainable and Dynamic Growth for a Good Society:
A Case Study for Korea

Lee Joung-Woo, Kim Ky-Won, Kim Ho-Gyun and Cho Young-Tak **November 2012**

- South Korea had experienced a high rate of growth since the 1960s under the developmentally-oriented military dictatorship. This regime pursued a growth-first, outward-looking, government-driven and conglomerate-favoring strategy. Along with its positive effects of high growth and economic modernization, it had negative effects of imbalance, instability and political oppression as well.

- The financial crisis in 1997 hit the Korean economy severely. On the one hand, the crisis was caused by the hastily implemented opening-up of the capital market. On the other hand, it resulted from the structural defects of family-owned conglomerates and the financial system. Since then Korea has come to terms with a lowered growth rate. The aggregate demand structure was transformed as well. The proportion of export and government expenditure has surged, whereas those of private consumption and investment has fallen.

- Korea has spent too little on a social safety net for dealing with those who suffer from poverty caused by unemployment and old age. Furthermore, insufficiency of welfare goods such as education, healthcare and housing aggravates the unequal income distribution among people. Inequality is on the rise, which is also due to the increase of contingent workers. There exists extreme discrimination between regular and contingent workers, not only in pay, but also in labor conditions, job security and promotion. To make matters worse, this insider-outsider division originates from organization power and luck rather than from labor productivity.

- The Korean growth model in the past 40 years has depended primarily on boosting exports and the increasing development of high-tech products. This has contributed greatly to overall development and modernization. At the same time, the export dependence of the Korean economy and the lack of domestic demand, combined with snowballing household debt, have led to a stagnation in per capita income over the past several years. Therefore, Korea needs to re-think its growth model. This also applies to the question of how to transform the economy into a sustainable or "green" economy. Despite the so-called "Green Growth" strategy of the current Korean government, the supplies of renewable energy are still minimal and the Korean economy continues to follow a path of high dependency of on fossil-based and nuclear energy as well as low energy efficiency.

Contents

1. General Macroeconomic Overview

The Korean economy has been experiencing high growth rates since the 1960s as shown in <Table 1-1> and Korea is now classified as a developed country. In 2011, Korea's nominal per capita GDP is estimated at about $24,000, but in terms of PPP (purchasing power parity) the country reached $32,000, which is almost on par with other developed countries. For the USA, Sweden, Germany, France, Japan, Italy and New Zealand, corresponding GDP (PPP) figures are $48,000, $37,000, $38,000, $35,000, $34,000, $30,000, and $27,000 respectively.

<Table 1-1> Average Annual Growth Rate

	1954~60	1961~70	1971~80	1981~90	1991~00	2001~10
Growth rate	3.8%	8.4%	7.2%	8.7%	6.2%	4.2%

Source: KDI (1997), The Korean Economy 1945-1990, p.129; http://kostat.go.kr.

However, Korea's growth rate slowed down to a medium level of 4~5% after the 1997 financial crisis. This slowdown was caused by various factors, such as business restructuring, fewer opportunities for domestic investment and an aging population. Hence, the annual average per capita GDP growth rate decreased to 2.7% during the 2000s, while it stood at over 5% during the first half of the 1990s.

Slower growth has caused the problems of an insufficient social welfare system to be more noticeable. For instance, in 2009 the suicide rate of elderly people was five times higher than in 1990. Furthermore, polarization of the Korean society has become more severe. So severe, that even the conservative ruling party is compelled to adopt a left-leaning policy of expanding social welfare to some extent.

<Table 1-2> indicates structural changes of aggregate demand in Korea, with the year 1987 being a turning point. Korean people's discontent with dictatorship ended the military regime in 1987 and brought about democratization of government. Along with political democratization, laborers demanded economic democratization. Massive labor strikes took place in 1987 and real wages increased to a great extent, doubling in the decade after 1987. This, in turn, changed the composition of aggregate demand. In the 1990s, the significance of private consumption rose in comparison to exports.

This demand structure was transformed again with the 1997 financial crisis. As the crisis went on, unemployment increased drastically in 1998 and real wages declined. The proportion of regular workers out of total wage earners went down as well. Consequently, consumption lost its former significance. Korea recovered from the crisis relatively soon by large-scale restructuring and reintroduced the export-oriented growth strategy of the 1970s and 1980s. Through the restructuring process, "Chaebol" (Korean conglomerates) came to abandon their old way of overinvestment and dependence on heavy debt.

As can be seen in <Table 1-2>, the proportion of exports in aggregate demand increased significantly during the 2000s, while private consumption and investment decreased. The high export ratio together with low private consumption demonstrates the weakening of the so-called trickle-down effect and also makes the Korean economy vulnerable to external factors.

<Table 1-2> Structural Change of Aggregate Demand

year	1986	1996	2009
Private consumption	55	60	53
Capital formation	28	39	24
Export	38	23	40
Government spending	16	20	26

Source: http://kosis.kr.

During the 1960s to 1980s, the Korean government pursued high growth under a regime of developmental despotism. It guided the private economy by strongly intervening in business and labor relations. Nonetheless, the share of government expenditure in aggregate demand was relatively small and it did not increase significantly until the 2000s. The change in the 2000s was largely due to an increase in social welfare spending.

Until the 1970s, the Korean population grew rapidly and family planning was promoted to reduce population pressure. From the 1990s on, however, the population increase slowed down and nowadays remains at around 0.5%. The fertility rate in Korea has gone down to barely above 1% and is among the lowest in the world.

<Table 1-3> Employment Trend

year	population	employment rate	unemployment rate	employment rate (f)
1980	38,124	55.9%	5.2%	41.3%
1990	42,869	58.6%	2.4%	46.2%
2000	47,008	58.5%	4.1%	47.0%
2010	48,875	58.7%	3.4%	47.8%

Source: KLI, 2011 KLI Labor Statistics, pp. 15-17.
Notes: Population unit: 1,000 people. “Employment rate (f)”: female employment rate.

Changes in the labor force among the population are shown in <Table 1-3>. Even though unemployment is low in comparison with other countries, the employment rate, especially of women, has not reached the level of Nordic countries or the US yet. Korean laborers are working 25% longer than the OECD average, which is one of the reasons for a low employment rate. The low female employment rate is mainly caused by the lack of a child care system for working mothers.

During the development era of the 1970s, large companies were typically in manufacturing industries such as textiles and footwear. Those large companies played an important role in job creation. Since the 1980s, however, the employment shares of large companies have declined. <Table 1-4> highlights the employment trend by company size. The overall employment share of all large commercial establishments with 300 or more workers fell from 27% in 1981 to 12% in 2005.

By contrast, the employment share of very small companies with fewer than 10 workers rose from 37% to 44% during that period. This change in employment distribution occurred mainly in the manufacturing and construction industries. Korea's case is quite different from Germany, where employment shares of large and very small companies were about 55% against 7% in 2010. This indicates a weakening of the middle class under the dominance of Chaebol, leading to an increasing social divide.

<Table 1-4> Employment Share by Establishment Size, 1981-2005

Sector and number of employees per establishment	1981	1995	2005
Manufacturing			
1-9	17%	21%	24%
10-299	45%	51%	56%
300 or more	39%	29%	20%
Construction			
1-9	4%	19%	30%
10-299	14%	39%	60%
300 or more	82%	43%	9%
All industries			
1-9	37%	40%	44%
10-299	36%	41%	44%
300 or more	27%	18%	12%

Source: C. H. Hahn & S. H. Lee ed., Reforms for Korea's Sustained Growth, KDI, 2011, p. 83.

The inflation trend in Korea is shown in <Table 1-5>. Korea had experienced a galloping inflation since the 1945 independence; however inflation dropped to a low level since the 1980s with the introduction of a stabilization policy.

<Table 1-5> Consumer Price Index Trend

year	1948	1970	1980	1985	1995	2005	2010
rate	58.3%	16.0%	28.7%	2.5%	4.5%	2.8%	2.9%

Source: KLI, 2011 KLI Labor Statistics, p. 7.

The real estate prices followed the pattern of the general price development. <Table 1-6> demonstrates how real estate prices fluctuated under different governments. Nonetheless, this trend does not describe the real estate bubble exactly, because the bubble was first created in some special areas. Housing prices in Seoul, the capital of Korea, went up more than 30% even under the Kim Dae-Jung and Roh Moo-Hyun government, during which overall real estate prices remained relatively stable.

<Table 1-6> Real Estate Price Trend

Government (president name)	period	average annual increase
Rhee Seung-Man	1953-1960	21.6%
Park Chung-Hee	1963-1979	33.1%
Chun Doo-Hwan	1980-1987	14.9%
Roh Tae-Woo	1988-1992	17.7%
Kim Young-Sam	1993-1997	-1.2%
Kim Dae-Jung	1998-2002	-0.6%
Roh Moo-Hyun	2003-2006	4.5%

Source: Lee, J. W., "Where is the Korean economy headed," 2012. 2, unpublished.

As real estate comprises as much as 80% of household assets in Korea, its ups and downs have a significant impact on household economy. So the Roh Tae-Woo government sought to suppress speculative housing demand through various policies, which took effect under the current Lee Myung-Bak administration and brought the housing bubble to a halt for now. However, the Korean real estate bubble has not busted yet in such a drastic form like in Japan in the 1990s.

Household debts increased rapidly in the 2000s. The ratio of household debt in comparison with disposable income surged from 87% in 2000 to 143% in 2009. This rise is related to the proportional decrease of private consumption in the GDP. Government debts also increased, mainly because of the 1997 crisis. The ratio of government debt compared with GDP surged from 12% in 1997 to 34% in 2009. The current level of Korean government debt is still much lower than in other OECD countries, but there are growing concerns about its rapid increase. By contrast, enterprise debts have not risen since the 1997 crisis, because the crisis forced Chaebol to reduce their debt-to-capital ratio. This ratio is now around 100%, whereas it was around 400% before the crisis.

Korea is a very dynamic society, which has experienced very speedy development in a short period of time. Workers with a high level of education, a favorable world market environment and entrepreneurship suited to adopt technologies and management styles of advanced countries all contributed to the rapid development of the Korean economy.

In terms of income and industrial structure, Korea has nearly finished the developmental stage, catching up with advanced countries such as Japan or the US. In some sectors, such as DRAM, smart phones and shipbuilding, Korean enterprises are enjoying dominant positions in the world market. Consequently, Korea has to develop its own growth and (re)distribution model, which is creating controversies among various interest groups. Conservative citizens, to a great extend, favor the US model of capitalism, while progressives are leaning toward the European, especially Nordic, model of capitalism.

Whichever model it will be, Korea has to cope with numerous economic challenges in order to establish and maintain a just, sustainable and dynamic society. The major challenges are long working hours, an aging population, and an inadequate social safety net, unfair market competition among enterprises and unfair wealth distribution among workers. Furthermore, relations with North Korea might hamper or bolster the South Korean economy, depending on how they unfold.

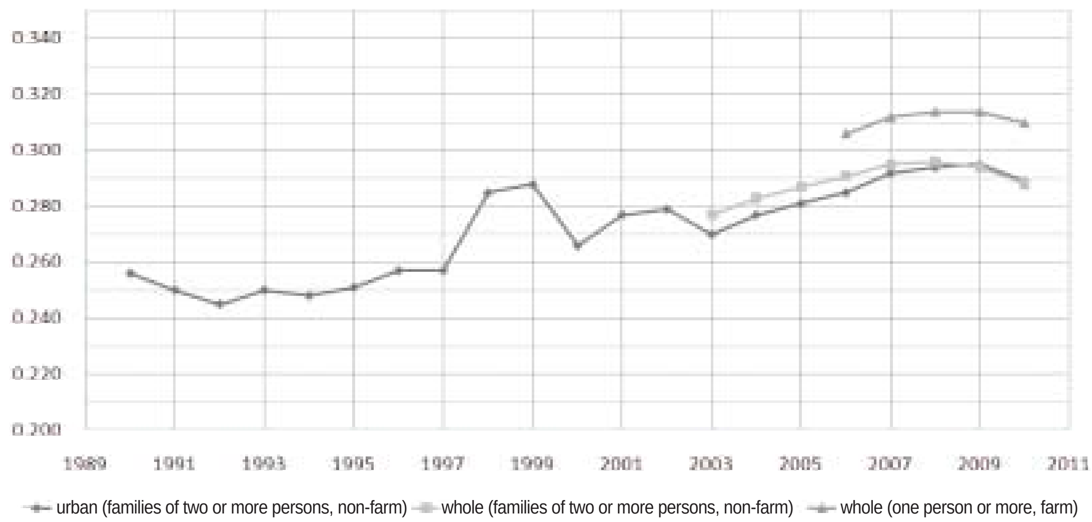
2. Income Distribution, Consumption Demand and Sustainable Development

Income distribution in Korea used to be regarded as one of the best among less developed countries. The World Bank published a well known report on growth and equity in the third world (1993), in which Korea was grouped with nations who succeeded in combining rapid growth with relatively good distribution of income. Not many countries were able to join this group, so it is no wonder Korea was hailed as a 'success story' among less developed nations. Her strategies of export promotion and a heavy-handed government have drawn attention from international circles.

However, it is to be pointed out that the early 1990s happened to be the time with the fairest income distribution in Korea. The relatively good state of income distribution did not last long and all of a sudden aggravated after the financial crisis of 1997 hit Korea along with other Asian countries. As <Figure 2-1> shows, the Gini Coefficient of income inequality in Korea jumped up from around 0.26 in 1997 to 0.29 in 1998, and has hovered on a high level without any signs of decline.

The reason for this rising inequality may be found in several factors. One may be the skill factor, namely a rise in demand for highly educated people in an era of information technology. There is also some evidence of a ‘digital divide’ in Korea. Another factor may be the concentration of economic power in the hands of a small number of Chaebol. One more factor behind rising inequality may be the recession and restructuring after the Asian financial crisis, which made job creation very difficult.

<Figure 2-1> Changes in Income Inequality (Gini Coefficient)



Source: Inhoe Koo, Income inequality and poverty in Korea: Worsening income distribution and the need for social policy reform, Seoul National University, 2006.

As one can see from the diagram, there was a slight decrease in income inequality in 2010, which was a surprise to many. People actually expected a rise in inequality during the current conservative government, because their political agenda was expected to contribute to a worsening income distribution. Suppressing a rise in minimum wages and tax cuts for the rich were the major political goals of the current Lee Myung-Bak government. Minimum wages, which rose rather fast under the relatively liberal regimes of the last decade, have seen only a minimal increase under the current government. Worse still, the administration introduced a large scale tax cut, amounting to about 5% of GDP, for its whole five year term. It has also supported big businesses by starting the large-scale ‘Four River Project’, and by lifting some restrictive key regulations. Doubtlessly, such policies will definitely leave footprints in income inequality, but with some time delay.

Despite all the efforts of the two successive and by Korean standards relatively progressive governments of Kim Dae-Jung (1998-2003) and Roh Moo-Hyun (2003-2008), the record shows no noticeable improvement in income distribution or the poverty level. This made people doubt the ability of these so-called progressive governments in redressing the inequality and poverty issues, and certainly contributed to the landslide victory for the conservative party in the 2007 presidential election, which made businessman-turned-politician Lee Myung-Bak the nation’s new president. It is evident that people, who were dismayed by the poor records of both economic growth and income distribution during the so-called progressive period, expected a businessman like Lee Myung-Bak to bring back high growth and plenty of job opportunities.

Conservative politicians, academics, and the press attacked the progressives as a total failure citing the lack of economic growth and their indulgence in distribution and welfare issues, largely neglecting the economy. This hypothesis is not reflected in data of welfare expenditures in Korea. To let the facts speak for themselves, <Figure 2-2> shows the trend in social expenditures in Korea for the last two decades.

<Figure 2-2> Trend in Social Expenditures (% of GDP)

Source: Inhoe Koo, Income inequality and poverty in Korea: Worsening income distribution and the need for social policy reform, Seoul National University, 2006.

The conservative governments of the 1990s and before typically spent about 3% of GDP on social expenditures. This changed drastically during the Kim Dae-Jung government, which spent 6%. This change was inevitable to overcome the financial crisis of 1997 and its aftermath of high unemployment and widening income disparity. Public assistance for the poor increased significantly, with several welfare reforms implemented during this period. The rising trend in welfare spending continued during the administration of Roh Moo-Hyun, where social expenditures rose to 8 percent of GDP. Conservative circles in Korea attacked the Roh administration as leftist and even "distributionist", a peculiar naming to accuse political opponents.

Is 8% of GDP on welfare expenditure too much indulgence on welfare and distribution? Is it really distributionist? Not at all, 8% are minuscule by international standards. <Table 2-1> illustrates the portion of social expenditures in some other countries, and it is evident that Korea can not be compared to other OECD countries. The average figure of OECD nations, 19.8% of GDP, is more than double that of Korea.

<Table 2-1> International Comparisons of Social Expenditures

	France	Germany	Sweden	UK	USA	Japan	Korea	OECD average
Social Expenditures	28.7	26.2	27.7	21.3	16.5	19.3	8.1	19.8

Source: OECD (2011), Social Expenditure-Aggregated data, http://stats.oecd.org.
Note: "social expenditures" means public expenditures plus mandatory private social expenditures.

Korea is far behind the Western welfare states. It is true that Korea has “imported” almost all policies and institutions of a welfare state, including social insurance, public assistance, and social welfare services. Medical insurance, unemployment insurance, workingmen’s compensation, and social security are all in place, and public assistance for the poor accounts for the largest share of social expenditures. The problem with the welfare state in Korea is that there are so many exceptions and exclusions in the social safety net that they are rendering it ineffective. For example, coverage of social insurances for contingent workers is less than 50%, much lower than for standard workers. Korea is a country with very high social risk, because her safety net has many holes.

Looking at the low welfare expenditures in Korea, it is quite natural to imagine that redistributive effects of fiscal policy would be weak. An international comparison of redistributive effects of government taxes and public expenditures is displayed in <Table 2-2>. The OECD average of redistribution effects turns out to be 33.8%, which means 33.8% of market income inequality is reduced by the intervention of the government through taxes and expenditures, while it is a meager 7.8% in Korea (OECD, 2008). In terms of magnitude of redistribution effects, Korea ranks last among 24 countries surveyed. It becomes clear that the accusation of Korean conservatives against the Kim Dae-Jung and Roh Moo-Hyun gov-

<Table 2-2> Income Redistribution Effects of Tax and Government Expenditures in OECD Countries

	Gini Reduction ratios (%)		Gini Reduction (% point)	
	Disposable Income Basis	Market Income Basis	Disposable Income Basis	Market Income Basis
Korea	5.1	7.8	1.7	2.6
Israel	13.7	24.1	4.3	8.9
Japan	13.3	27.7	5.1	12.3
Poland	16.9	34.5	7.4	19.6
France	21.8	41.7	7.7	20.1
Australia	23.4	38.7	8.1	16.8
USA	18.5	16.6	8.4	7.6
Canada	24.0	27.3	9.8	11.9
Luxembourg	27.9	43.2	9.8	19.6
Finland	28.2	30.3	10.3	11.7
New Zealand	26.5	29.2	11.8	13.8
Norway	31.0	36.3	12.0	15.7
Italy	26.1	36.8	12.1	20.5
Netherlands	31.3	35.9	12.1	15.2
Slovakia	32.2	41.6	12.2	19.1
UK	27.4	27.2	12.4	12.5
Germany	31.1	41.2	13.2	20.9
Ireland	30.5	21.0	14.0	8.8
Austria	32.6	34.3	14.2	15.7
Sweden	40.0	45.8	15.3	19.8
Belgium	37.0	45.1	15.6	22.3
Denmark	41.3	44.2	16.0	18.4
OECD average	26.6	33.8	10.5	15.1

Source: OECD, Growing Unequal?: Income Distribution and Poverty in OECD Countries, 2008.

ernments "indulging too much in distribution and welfare" is totally groundless and far-fetched. The truth is, Korea has spent too little on social safety nets to save those who slip into poverty and social distresses. Korea is a nation where people are exposed to the constant risk of falling on hard times with little support from the government.

Accusations from conservatives in Korea against the relatively progressive administrations of the last 10 years rather reflect the overwhelming mentality of the ruling class in Korea, who only cares about growth, while ignoring or even opposing redistribution and welfare. Former conservative governments always paid attention to growth only, and growth rates were deemed as the single indicator of their achievements. This mentality has been deeply rooted in the political minds of consecutive governments, and even the poor. This kind of social atmosphere has been the nurturing ground for the 'growth first' policy of past governments. They were so inclined to this extreme position that they even opposed moderate demands for more welfare expenditures as dangerous leftist propaganda.

The poor and reluctant welfare state in Korea has left several prominent features in the Korean economy. The weak redistributive effect mentioned above is one of them. A sudden drop in the fertility rate is another. Korea's fertility rate, 1.15 is now one of the lowest in the world, and certainly far lower than the simple reproduction level. An extremely low fertility rate is the single most important factor behind the onset of an aging society in Korea. This is almost the same picture as in Japan, the number one aged society in the world, with Korea's fertility being even lower and the speed of aging even faster than in Japan, sounding an alarm for the Korean economy. It is anticipated that in 2050, Korea will be the number two aged society in the world only after Japan. It is no surprise the two countries, which have put all their energy into growth, largely ignoring welfare, are going to suffer because of an aged society and thwarted growth, and it is very ironical that the main reason for this suffering is their 'growth first' strategy. It would be no exaggeration to call this the 'revenge of growth'.

<Table 2-3> Proportion of Self-Employed among Total Employment (%)

Year	1994	1996	1998	2000	2002	2004	2006	2008
Korea	37.1	36.7	38.3	36.8	36.0	34.0	32.8	31.3
OECD average	19.8	19.2	18.6	17.6	17.3	17.3	16.4	15.8

Source: OECD Factbook 2010: Economic, Environmental and Social Statistics.

A very high proportion of self-employed in the Korean economy may be another symptom of a weak welfare state. <Table 2-3> shows that the share occupied by the self-employed among total employment in Korea is very high by international standards. Korea has over 30% of its work force working in self-employment, which is double the OECD average. It means there is about 15% over-employment in the self-employed sector. As a result, competition among the self-employed is very severe. Simply put, Korea has too many restaurants, taxis, barbers, beauty shops, coffee shops, the list is endless. Because of such severe competition among the self-employed, labor conditions are poor and income is low. The average income of the self-employed has lagged behind that of workers over the last decade, which creates great agony and dissatisfaction for these entrepreneurs.

Besides the 30% of self-employed people, the remaining 70% are employees. Here lies another problem of employment in Korea, which is the unusually high ratio of contingent laborers. They make up more than half of the employees. In many cases, they do almost the same jobs as regular workers, but only receive half their paycheck. There is discrimination, not only in pay, but also in labor conditions, job security and promotions.

In summary, the Korean work force can be divided into three almost equal segments, self-employed, contingent and regular workers. Among these three segments, regular workers enjoy relatively good pay, labor conditions and job security, but their number only constitutes one third of the total work force. This is in big contrast to other OECD countries, where about 70% of the work force consists of regular employees. Furthermore, the quality of life among the self-employed in other countries is better than in Korea, because there is much less competition than between their Korean counterparts. Quality of life of contingent workers in other countries is not comparable to Korea either, because they are not discriminated against like in Korea. Such cut-throat competition and extreme discrimination can hardly be found in other countries.

Even the relatively happy regular workers in Korea may become contingent workers of may have to face the challenges of self-employment on short notice. In Korea, no worker is safe enough to feel happy. It is no wonder that the suicide rate in Korea is near the top in the world. This is the true picture of the so-called "miracle economy", which was driven solely towards economic growth, totally neglecting welfare and wealth distribution.

It is very hard to make a living in Korea. Price levels of key items are very high by international standards. The costs of schooling, health care and baby-sitting are very high, because government assistance is much lower than in other countries. Basically, people have to pay these bills out of their own pockets. It is no surprise that young couples hesitate to get married and have babies, considering the high costs, hence the low fertility rate and coming of an aged society.

In an aging society, labor supply is restrained. One potential source of labor supply may be women, but in Korea a long tradition of gender discrimination creates a bottleneck in this regard. Women are discriminated against in the labor market both in employment and wages. The employment rate of women was only 48% in 2011 which is much lower than the 71% of men. This gap is no comparison to other countries. The number of women in top management positions is minuscule, suggesting an unbreakable glass ceiling. The ratio of contingent laborers among female workers was 63% in 2011, while that of male workers was 41%.

Such discrimination is found not only in employment, but also in wages. Female workers earn only 60% of male workers in manufacturing in Korea, which is the biggest wage gap between sexes among all countries reporting data to the ILO. This huge wage gap mainly stems from both employment discrimination and career discontinuity among female workers in their younger years for reasons of marriage, child birth and rearing. In all these aspects, gender discrimination is evident in Korean labor markets. With such a deep-rooted cultural background, the sudden onset of an aging society in Korea should come as no surprise.

It becomes clear that Korea is now standing at the crossroads. One path is a stagnating aged society, and the other is reviving the welfare state. To create a long overdue welfare state is far from easy in Korea, with the ruling class strongly opposed to it. They refuse to pay higher taxes, and even voted down a free school meal project which would only require minimum financial support. The future of the Korean economy may be doomed if the strong anti-welfare status-quo is maintained by powerful politics for too long.

A new trend in Korean politics is “welfare competition” among political parties, even including the conservative ruling party. It is a good sign that political parties are now moving toward a welfare state, although belatedly. We are running out of time to revive the Korean economy, since the “aged society time bomb” is already ticking.

3. World Market Strategy and Protection from External Impacts

3.1 Past Integration into the World Market

Korea has followed an export-led growth strategy from the very beginning of her industrialization. Over the last six decades, international trade has played a crucial role in economic growth. To promote exports, the government intervened actively in resource allocation, especially in the 1960s and 1970s, and fostered ‘Chaebol’ to achieve economies of scale, which yielded cozy relations between politics and the private sector as a negative side effect.

3.1.1 Exchange Rate

The exchange rate has been an important instrument in export promotion policy. Before the 1980s, Korea had a fixed exchange rate system, with the Korean currency pegged to the U.S. dollar. During this period, the most influential measures were three devaluations in the 1960s. After 16 years of a U.S. dollar-based currency peg, a multiple currency basket peg system was introduced in March 1980. In 1990, the exchange rate system was switched to a market average rate system with a narrow band of intraday fluctuation. The system, however, was not able to fully reflect foreign exchange market conditions and caused the Korean won to remain overvalued against the dollar despite continuous current account deficits. This led to a rise in foreign debts and a fall in foreign reserves. Overvaluation is cited as one of the causes for the currency crisis of 1997.

<Table 3-1> Exchange rate to dollar and the volatility of the Korean won (Unit: won, %)

	market average exchange rate	free floating exchange rate		
	A	B	C	D
Exchange rate to dollar	794.3	1,139.0	1,371.8	1,188.60
Fluctuation compared to the day before	2.30	4.50	22.7	7.0
Fluctuation rate	0.21	0.37	1.69	0.58
Implied Volatility	-	7.56	41.4	15.3

Source: Bank of Korea; Bloomberg. Cited from Bank of Korea (2011).
A: Before the Currency Crisis (form Mar. 1990 to Dec. 1997).
B: Before global financial crisis (from Jan. 1998 to Sep. 12 2008).
C: During the global financial crisis (from Sep. 15 2008 to Mar. 2009).
D: From Apr. 2009 to Dec. 2010.

At the risk of fostering inflation, the present government maintains an undervaluation of the won to boost exports. This export promotion based on currency undervaluation leads to rapidly increasing profits at big enterprises, which account for ca. 70% of Korean exports. Due to lacking trickle-down effects, the disparity between big enterprises on one side and small and medium enterprises on the other is ever growing.

In the wake of the currency crisis, the government allowed the won to float freely. During the global financial crisis since September 2008, the exchange rate fluctuated sharply, as foreign investors exited the Korean market. Volatility increased further up to 1.69% during the global financial crisis, and afterwards decreased to 0.58% (<Table 1>). During the European financial crisis from April to October 2011, the won-dollar exchange rate fluctuated by 14.3%.

<Table 3-2> Composition of exports by sector (1988-2010) (Unit: million dollars, %)

	Total	primary sector	manufacturing sector				
	Total	primary sector	Subtotal	light industries	heavy & chemical industries		
	Total	primary sector	Subtotal	light industries	subtotal	IT	others
1988	60,696 (100.0)	3,322 (5.5)	57,375 (94.5)	23,748 (39.1)	33,627 (55.4)	7,414 (12.2)	26,213 (43.2)
1990	65,016 (100.0)	3,199 (4.9)	61,817 (95.1)	25,026 (38.5)	36,791 (56.6)	9,338 (14.4)	27,454 (42.2)
1992	76,632 (100.0)	3,237 (4.2)	73,395 (95.8)	25,229 (32.9)	48,165 (62.9)	12,477 (16.3)	35,689 (46.6)
1994	96,013 (100.0)	3,772 (3.9)	92,242 (96.1)	26,162 (27.2)	66,080 (68.8)	18,076 (18.8)	48,004 (50.0)
1996	129,715 (100.0)	9,015 (6.9)	120,700 (93.1)	27,575 (21.3)	93,126 (71.8)	26,259 (20.2)	66,867 (51.5)
1998	132,313 (100.0)	10,432 (7.9)	121,881 (92.1)	24,795 (18.7)	97,086 (73.4)	30,173 (22.8)	66,913 (50.6)
2000	172,268 (100.0)	4,776 (2.8)	167,491 (97.2)	17,934 (16.2)	139,558 (81.0)	55,085 (32.0)	84,473 (49.0)
2002	162,471 (100.0)	3,984 (2.5)	158,487 (97.5)	24,146 (14.9)	134,341 (82.7)	48,786 (30.0)	85,555 (52.7)
2004	253,845 (100.0)	6,885 (2.7)	246,960 (97.3)	25,572 (10.1)	221,388 (87.2)	77,529 (30.5)	143,859 (56.7)
2006	325,465 (100.0)	5,089 (1.6)	320,376 (98.4)	25,135 (7.7)	29,241 (90.7)	91,521 (28.1)	203,721 (62.6)
2008	422,007 (100.0)	7,793 (1.8)	414,214 (98.2)	27,040 (6.4)	387,174 (91.7)	104,680 (24.8)	282,494 (66.9)
2010	466,384 (100.0)	11,497 (2.5)	454,887 (97.5)	29,397 (6.3)	425,490 (91.2)	126,392 (27.1)	299,098 (64.1)

Source: Korea International Trade Association, Trade Statistics, http://www.kita.net.

Compared to 25 major countries (G20 +Taiwan, the Philippines, Thailand, Singapore, and Malaysia), Korea ranked 10th in terms of volatility of the foreign exchange market before the global financial crisis, while in 2010 was 4th after Australia, Brazil, and South Africa (Bank of Korea 2011).

3.1.2 Trade

In the second half of the 1950s, just before the implementation of the First Five-Year Economic Development Plan (1962-1966), Korea's average exports reached 20 million dollars per year against average imports worth 370 million dollars. During this period, Korea's trade policy was highly protectionist, which was common at that time for developing countries. From the mid-1960s, the Korean government focused on export promotion and since then this has been a top priority in economic policies. In fact, there were all-out efforts to promote exports. During the 1960s, exports grew by 45% annually on average and this rapid expansion continued for the next decades.

The composition of exports has undergone radical changes (<Table2>). Already in 1964, the share of labor-intensive light manufacturers surpassed the share of non-manufactures. In the mid-1980s, the share of heavy industrial and chemical products exceeded 50%, in the mid-1990s, 70%, and in the mid-2000s, 90%. With regard to the composition of exports, Korea shows no difference from developed countries.

Rapidly increasing exports have also been accompanied by fast growing imports, as most exported goods are manufactured with imported materials. Imports were gradually liberalized from the mid-1960s, as the balance of payment improved. In 1967, Korea joined the General Agreement on Tariffs and Trade (GATT).

<Table 3-3> Current account surplus/deficit and exchange rate to dollar (Unit: million dollars, won)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
current account	-5,071	-3,927	-2,134	-1,428	-286	-1,513	4,492	10,779	14,838	5,267
exchange rate*	n.a.	n.a.	n.a.	n.a,	n.a,	n.a,	n.a,	n.a,	n.a,	n.a,

1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
-1,390	-7,511	-2,240	2,973	-3,508	-8,012	-22,953	-8,183	42,644	24,479	14,803
n.a,	733.8	781.1	802.8	803.5	771.0	805.1	953.6	1,395.0	1,188.7	1,131.1

2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011**
8,428	7,542	15,584	32,312	18,607	14,043	21,770	3,198	32,791	28,214	15,272
1,291,0	1,250.7	1,191.9	1,143.7	1,024.1	955.1	929.2	1,103.9	1,276.4	1,156.0	1,085.1

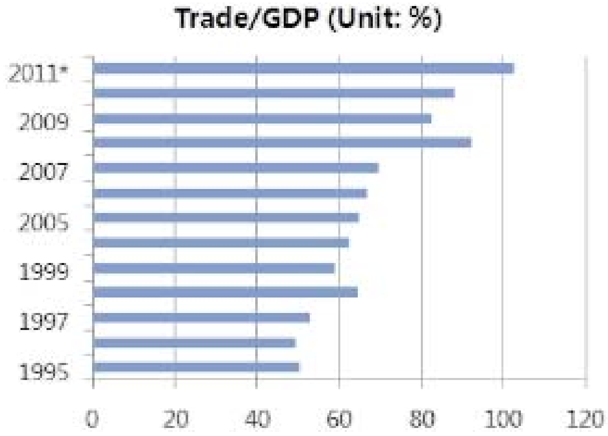
*: average closing rate; **: as of third quarter; Source: Bank of Korea, http://ecos.bok.or.kr.

The Uruguay Round (1986-1994) was one of the most significant events affecting Korea’s trade and economic policy. The average tariff rate fell from 12.7% in 1989 to 7.9% in 1995. According to the agreement with the IMF in 1997, Korea gradually abolished trade-related subsidies, the diversification rule of import country origin, regulatory import licenses etc.
With a few exceptions, rapidly increasing imports had resulted in accumulated trade deficits until 1997, when the currency crisis broke out. The crisis was an extremely expensive lesson for the Korean economy, which taught the nation how important foreign reserves are. Since 1998, Korea has been continuously accumulating foreign reserves by way of export promotion (<Table 3>).

As of end Oct. 2011, Korea held around 311 billion dollars in foreign reserves, the seventh largest amount in the world. Korea belongs to the group of East Asian countries who are jointly to blame for the ‘global imbalances’ on the creditors’ side.

Trade has been expanding much more rapidly than the GDP. So Korea’s trade/GDP ratio has been increasing continuously. It increased much more sharply in the aftermath of the currency crisis and the global financial crisis of 2008, as the government set high priority on export promotion to buffer dampening impacts from the crisis. The ratio of about 50% in the 1990s increased to over 60% since 1998, then exceeded 80% in 2008, to reach over 100% in 2011 (<Figure 1>).

<Figure 3-1> Trade/GDP ratio



* provisional.
Source: Ministry of Strategy and Finance, Statistics, http://www.mosf.go.kr.

3.1.3 Capital Market Liberalization

In the 1980s and 1990s, foreign exchange market liberalization coincided with capital market liberalization. This liberalization is cited as one of the decisive causes for the currency crisis of 1997. Most of the important capital market liberalization measures, however, were adopted under the IMF program in the wake of the currency crisis. The capital market, including short-term money market, and the real estate market were completely opened to foreign investors. The ceilings on foreign ownership of stocks were abolished completely. The trading of corporate and government bonds was completely opened to foreign investors. Foreign banks and securities firms were allowed to establish subsidiaries. 100% foreign ownership of Korean financial institutions was allowed and foreign nationals were allowed to head Korean banks. In 2003, the Korean government declared the goal of becoming a financial hub in North East Asia. In 2009, the Capital Market Integration Act that set the goal of fostering investment banks was enacted. In the wake of the global financial crisis, the government also adopted some regulatory measures: introduction of a financial transaction tax, restrictions on the use of foreign loans, and the introduction of a forward exchange position limit for foreign exchange banks. The basic direction in financial market policy, however, pointed towards liberalization. Mega banks are still regarded as a precondition for a competitive financial sector. The saving banks corruption scandal in 2011, as a result of excessive deregulation and insufficient supervision, consumed public funds without any institutional reforms.

3.1.4 FDI and ODI

Foreign Direct Investment (FDI) into Korea was first allowed in 1962. At the beginning of industrialization, however, Korea had highly restricted FDI and preferred foreign loans until the early 1980s, because the government worried that foreign firms might dominate the Korean economy. In the early 1980s, when foreign debt became a serious problem in developing countries, the government changed its policy from a positive to a negative list system. From the 1990s, Korea began to attract FDI to facilitate the development of technology-intensive industries. Low wages could no longer keep the Korean economy competitive, as the democratization of society since the mid-1980s was accompanied by an ever stronger labor union movement and wage increases. Nonetheless, FDI in Korea was minuscule until the mid-1990s.

With joining the OECD 1996, the government liberalized FDI further, opening up the service sector. In 1998, according to the bail-out agreement with the IMF, the government promoted FDI by enacting the Foreign Investment Promotion Act, which allowed hostile M&A and liberalized the acquisition of real estate by foreigners. Many Korean companies were sold to foreign investors. The FDI volume increased to over 15 billion dollars in 2000 (on notification basis). Since 2001, however, it decreased to about 11 billion dollars annually. This trend has again turned around since 2008. The FDI/GDP ratio reached 12.6% in 2010. The U.S. is the largest foreign investor in Korea, followed by Japan, the Netherlands, and Germany (<Table 4>). FDI played a crucial role in building up foreign exchange reserves in the aftermath of the currency crisis: 17% in 1998 and 42% in 1999.

Until 1981, Korea's overseas direct investment (ODI) only amounted to a total 57 mill. Dollars, because the government restricted capital outflow (<Table 5>). From 1986 onwards, however, the government began to liberalize capital outflow. Further liberalization measures since 1994 led to a rapid increase of ODI. The rising trend was briefly interrupted in 1998, in the wake of the currency crisis. Its volume has been increasing dramatically since 2005 and reached over 23 billion dollars in 2010. The ODI/GDP ratio reached 13.8% in 2010. Korean multinational enterprises have been main drivers of this trend. Most of ODI has been undertaken in Asia. Nearly half of it went to China. Since 2006, however, the Asian share has been declining, whereas ODI in North America and Europe has been increasing.

<Table 3-4> FDI trends by country (Unit: million dollars, %)

	1970	1980	1990	2000	2005	2006	2007	2008	2009	2010
Total	76 (100.0)	143 (100.0)	803 (100.0)	15,265 (100.0)	11,566 (100.0)	11,242 (100.0)	10,514 (100.0)	11,705 (100.0)	11,484 (100.0)	13,072 (100.0)
U.S.	45 (59.5)	71 (49.3)	318 (39.6)	2,921 (19.1)	2,690 (23.3)	1,705 (15.2)	2,341 (22.3)	1,328 (11.3)	1,486 (12.9)	1,974 (15.1)
Japan	21 (28.1)	43 (29.7)	236 (29.3)	2,452 (16.1)	1,881 (16.3)	2,111 (18.8)	990 (9.4)	1,423 (12.2)	1,934 (16.9)	2,083 (15.9)
Nether-lands	1 (1.2)	2 (1.3)	36 (4.5)	1,775 (11.6)	1,150 (9.9)	800 (7.1)	1,979 (10.5)	1,224 (10.5)	1,898 (16.5)	1,185 (9.1)
Germany	1 (1.6)	9 (6.0)	62 (7.8)	1,627 (10.7)	705 (6.1)	484 (4.3)	439 (4.2)	685 (5.9)	570 (5.0)	268 (2.1)

Source: Ministry of Knowledge and Economy, Foreign Direct Investment by Country, http://mke.go.kr.

<Table 3-5> Korean overseas direct investment (ODI) by region(Unit: million dollars, %)

	1981	1990	2000	2005	2006	2007	2008	2009	2010
Asia	5 (9.6)	366 (34.3)	1,646 (31.2)	4,139 (59.5)	6,283 (54.3)	11,039 (51.3)	10,809 (51.3)	6,665 (33.1)	9,520 (40.9)
Middle East	3 (6.0)	40 (3.8)	31 (0.6)	43 (0.6)	170 (1.5)	158 (0.7)	179 (0.8)	370 (1.8)	330 (1.4)
N. America	33 (58.7)	455 (42.5)	1,436 (27.7)	1,293 (18.6)	2,195 (19.0)	3,599 (16.7)	5,097 (23.4)	6,004 (29.8)	4,506 (19.4)
L. America	1 (1.7)	67 (6.2)	1,506 (28.5)	542 (7.8)	1,213 (10.5)	1,464 (6.8)	1,617 (7.4)	1,040 (5.2)	1,950 (8.4)
Europe	2 (2.6)	82 (7.7)	292 (5.5)	654 (9.4)	1,213 (10.5)	4,372 (20.3)	2,988 (13.7)	5,156 (25.6)	5,915 (25.4)
Africa	1 (1.6)	27 (2.5)	156 (3.0)	129 (1.9)	214 (1.8)	239 (1.1)	292 (1.3)	378 (1.9)	292 (1.3)
Oceania	11 (19.7)	32 (3.0)	90 (1.7)	154 (2.2)	193 (1.7)	539 (2.5)	730 (3.3)	538 (2.7)	772 (3.3)
Total	57	1,066	5,283	6,954	11,579	21,508	21,808	20,152	23,285

Source: Korea Export-Import Bank, Foreign Investment Statistics by Region, http://www.koexim.go.kr.

As a result of such different developments of FDI and ODI, net capital outflow has been rapidly increasing since 2006, which recently causes concerns about the industry hollowing out.

3.1.5. FTA and ODA policy

From the late 1990s, Korea began pursuing an active FTA policy, turning away from a trade policy which only focused on the WTO's multilateral trade liberalization. It was argued that it was inevitable for Korea, highly dependent on trade, to enter FTAs so as not to be put in an unfavorable situation. Releasing the "FTA Road Map" in 2003, Korea has simultaneously pursued FTAs with major economies and concluded free trade agreements with Chile, Singapore, EFTA, ASEAN, India, and the EU. In November 2011, the FTA with the U.S. was ratified by the ruling party only, amidst vehement controversies.

As regards development aid, Korea is the first country that made the transition from beneficiary to donor. In the 1950s, U.S. aid accounted for up to 10% of GDP. In 1987, Korea established the Economic Development Cooperation Fund (EDCF). In November 2009, Korea became the 24th member of the OECD DAC and set the goal of raising the ODA/GNI ratio from 0.09% in 2008 to 0.15% by 2012 and 0.25% by 2015. Korea gives high priority to transferring its development experiences to beneficiary economies.

In regard to economic relations with the EU, the European Union has become the largest investor in Korea, and Korea's second largest export market after China. With the Korea-EU FTA signed in 2010, Korea hopes to strengthen cooperation in science and technology to upgrade her own industrial bases and participate in the joint development of new technologies for the environment and energy sectors.

3.2 Present Debate about World Market Integration

In 2011, Korea's trade volume exceeded one trillion dollars. Korea belongs to the group of countries which not only foster growth through export expansion, but also dampen adverse effects from the global financial crisis. As a result, external dependencies of the Korean economy have deepened continuously.

In Korea, the necessity of high foreign reserves achieved by export promotion is in fact out of the question, especially after the currency crisis. It is, however, not recognized that growth based on export promotion is a zero-sum-game on the global level, so that it is not sustainable. It could be at best controversial, whether current foreign reserves of more than 300 billion dollars are optimal for the Korean economy and which currencies they have to be composed of.

The high trade/GDP ratio, however, began being conceived as a matter of concern in recent years. Even the neo-liberal government and the Korea Economic Institute funded by 'Chaebol' recognize that domestic demand has to be fostered. This perspective, however, finds no resonance in either mainstream economics or in government policy. It just remains lip service. The argumentation stops short of the simple truth that increasing domestic demand requires growing wages and an improved distribution of income. On the contrary, the conservative, neo-liberal media and scholars go through severe ideological struggles against improving the Korean 'welfare state', despite the fact that the pitfalls of the export-led strategy have to be met with socio-political measures.

In the wake of the global financial crisis, the Bank of Korea has kept the prime rate for a long time at low levels, despite concerns about inflation. In the face of growing inflation, the government again introduced price regulation. And the commodity basket was modified to lower the price index. As of December 2011, the central bank reckons on reducing the prime rate to counter deterring global economic recovery. The central bank is criticized for sacrificing stability for growth.

The high exchange rate volatility results from high fluctuations, combined with a structural vulnerability of the exchange market and geopolitical risk on the Korean peninsula. The Korean capital market is nearly as open as in developed countries, so that it has experienced high pro-cyclicality. The Korean capital market is an 'automatic teller machine (ATM)' for foreign hot money, as it can flow in and out at any time. Such high volatility has resulted in reduced exports, inflation risk, and decreasing investment (BOK 2011). According to an empirical study, a 1% increase of exchange rate volatility leads to a 7.1% reduction of exports and a 2.7% import price increase.

To reduce volatility, the central bank suggested, among others, that in the long run the Korean currency has to become an international currency. It was further suggested, that, as an intermediate stage, the won could be gradually introduced to intra-regional trade with Asian countries. It is, however, doubtful, that an internationalization of the won is a precondition for its stability, not vice versa.

FDI, especially from developed countries, is generally considered to play an important role in sustainable economic growth and job creation in Korea. According to UNCTAD, however, Korea is classified in the list of countries where FDI performance falls below its potential (KDI 2010, 146).

The FTA with the US is the only extremely controversial one. Fostering economic growth, job creation, and balancing trade are part of supporting arguments. For opponents, it is a one-sided agreement, including 'poisonous clauses' such as the Investor State Dispute (ISD), a ratchet clause, and a negative system for the service market, which are advantageous to the USA only. Whether the ISD, the most criticized clause, is to be really renegotiated, as mutually agreed, is uncertain.

3.3 Likely Future Development

The Korean economy is an economy of double external vulnerability; on one hand highly dependent on trade, on the other, financial markets are wide open. Korea's export-led growth strategy will be maintained in the long run, despite concerns about this external vulnerability. Foreign reserves will not be reduced, but rather increased in principle for the purpose of stabilizing the exchange rate and minimizing the country risk. In the future too, Korea will be characterized as a medium open economy, so economic policies in general will focus on global competitiveness. It is uncertain whether the trade/GDP ratio can be substantially lowered in the foreseeable future.

On the other hand, ever increasing interests and demands for various socio-political measures in recent years, show that an ever growing number of Koreans have recognized that they can just rely no more on economic growth to secure their jobs and income. Preparing for presidential elections in 2012, political parties are quick to announce various socio-political proposals. These developments, combined with a recent statutory reduction of overtime, will result in increasing domestic demand. It should be emphasized that fostering domestic demand via various welfare benefits could function as an 'automatic stabilizer' in the event of an economic crisis.

Sudden reversals of foreign capital flows were to blame for the volatility until now. Not only has the government, including the central bank, but also financial market participants showed hardly any interest in regulating speculative transactions. They seem to regard volatility as a 'necessary evil to induce more (foreign) participants to the capital market. Contrary to a global tendency toward financial market stability, they are fostering financial innovations, like the celebrated introduction of a 'Korean-style hedge fund' in November 2011. Without considering any direct stabilization measures, the government seems to be bent on consolidating macroeconomic fundamentals as a precondition for financial market stability. Due to the 'ratchet clause' in the Korea-USA FTA, it is doubtful, whether revised regulations on the capital market will eventually be introduced.

Literature

KDI (2010), The Korean Economic History. Six Decades of Growth and Development, Seoul.
Bank of Korea (2011), "Increasing volatility of the won-dollar exchange rate: causes and implications", BOK Economic Brief. 2011-1. (in Korean)

4. Green New Deal and Ecological Problems

4.1 Overview

As Korea has almost no energy resources of her own, she has to depend upon imported energy sources. Energy use and greenhouse gas emissions are increasing very fast because the portion of the energy intensive industries is high by international standard. Therefore, there are two major problems confronting the Korean economy today. One is the energy problems highlighted in high oil prices, and the other is the issue of reducing the greenhouse gas emissions. Let us examine those problems confronting the Korean economy in the context of the environment, equity, and growth.

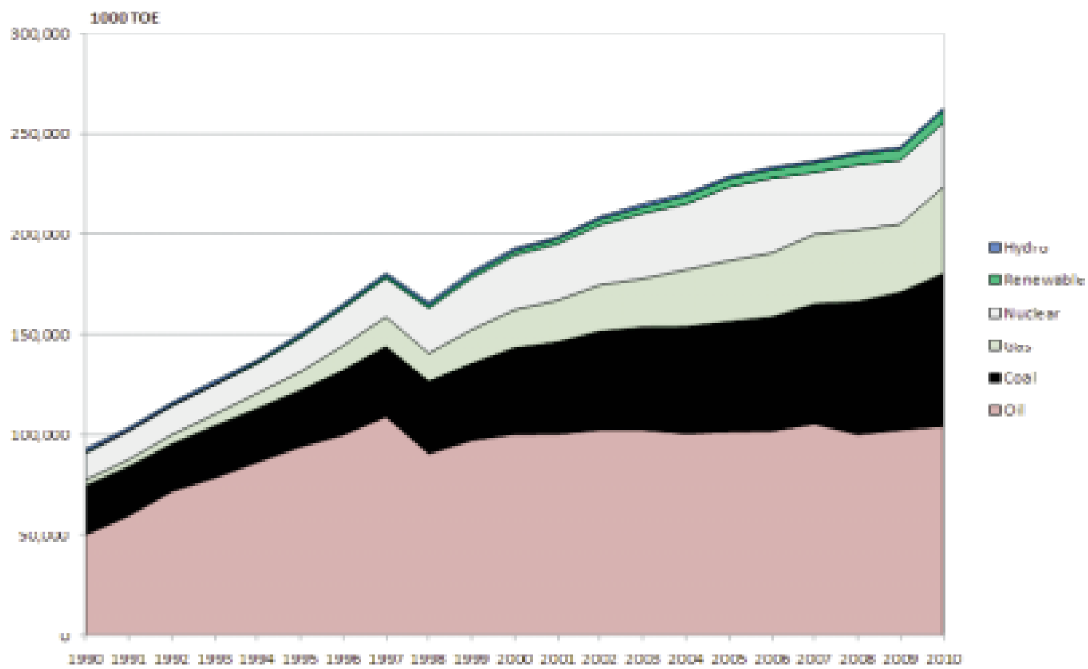
<Figure 4-1> Energy Consumption (1990-2010)

Source: Korea Energy Statistics Information System, http://www.kesis.net.

Firstly, energy consumption and emissions of greenhouse gases in Korea has been steadily increasing (<Figure 4-1>). Energy consumption is rising fast, especially because of rapid growth in energy-hungry industries like steel and petrochemicals on one hand, and a general rise in electricity consumption on the other.

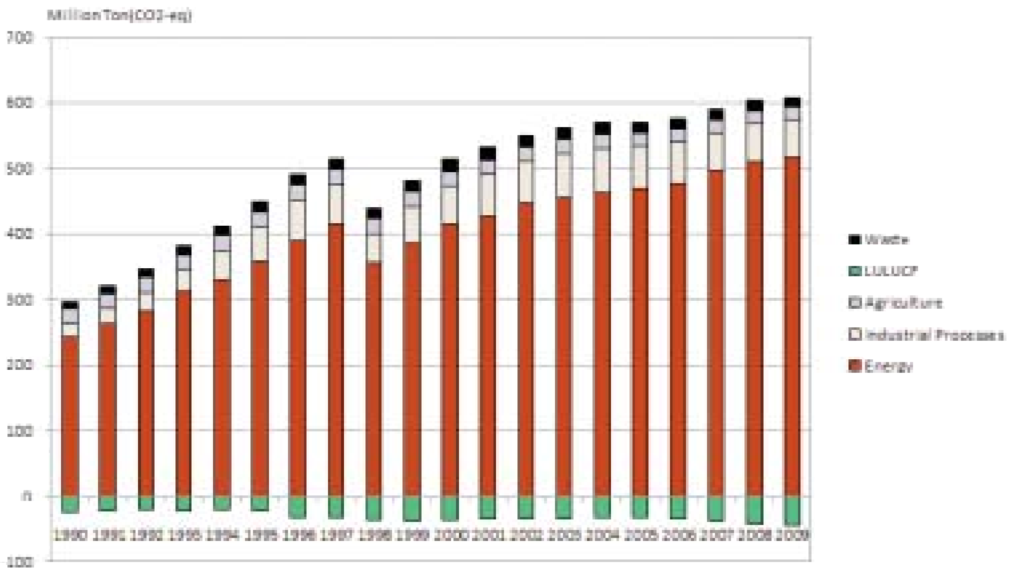
<Figure 4-2> shows the changing patterns in the sources of energy supply in Korea. Oil continues to be the number one source, but stagnating, while coal, gas, and nuclear energy have raised their shares. An increase in the use of coking coal and city gas has contributed to this trend. However, the single most important factor behind this trend is increased demand for electricity, and hence the demand for steam coal and gas to generate electricity.

<Figure 4-2> Total Primary Energy Supply



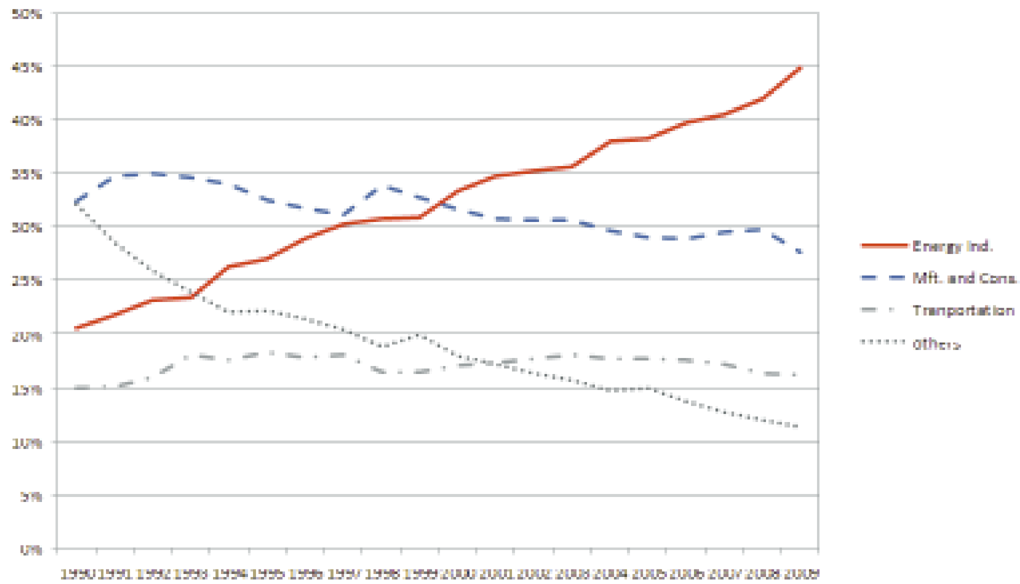
Source: Korea Energy Statistics Information System, http://www.kesis.net.

<Figure 4-3> Greenhouse Gas Emission (CO2-eq)



Source: Greenhouse Gas Inventory and Research Center of Korea, http://www.gir.go.kr.

<Figure 4-4> Composition of Fuel Combustion Emission by Sector



Source: Greenhouse Gas Inventory and Research Center of Korea, http://www.gir.go.kr.

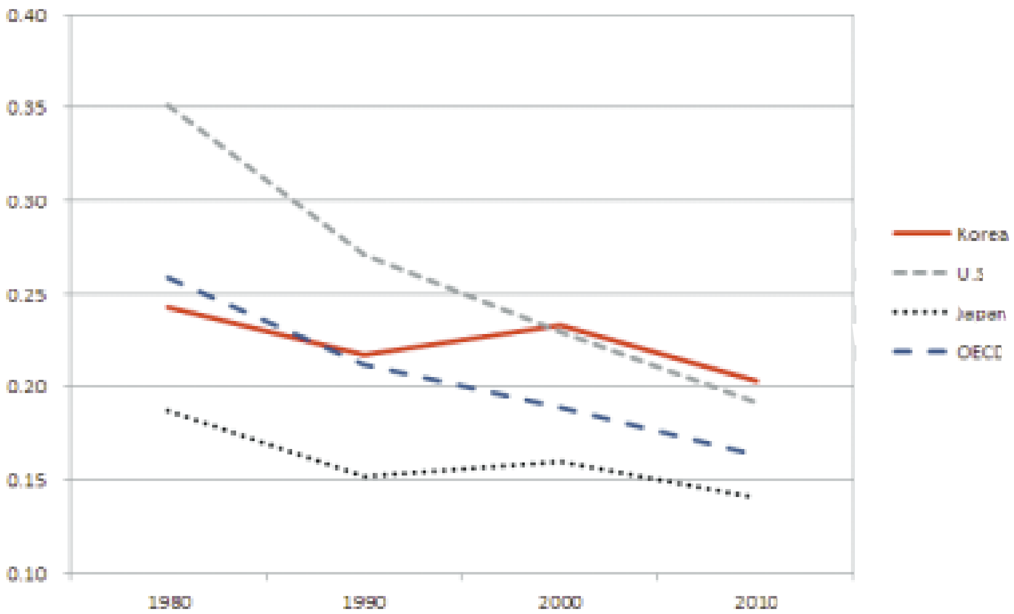
While conforming to the international effort to reduce greenhouse gas emissions, it is essential for Korea to contain the rise of greenhouse gas emissions in energy industries, especially in the electricity-generating sector.

Secondly, skyrocketing oil prices do not have the same impact on the rich and poor. It usually creates considerable hardship for low income groups, which are more likely to spend a higher percentage of total expenditures on energy than high income groups. Therefore, oil price hikes creates hardship to the poor, and raises the number of households in “fuel poverty”.

Along with the notorious problem of the so called 'house poor', the issue of the 'energy poor' in Korea needs more attention. Energy poor households are defined as those spending more than 10 percent of their income on energy. An estimated 1.2 million households in Korea belong to this category. As the oil price is expected to rise again after the current worldwide recession is over, and a carbon tax or new scheme of tradable carbon emission is introduced, it is very likely that the pressure on the energy poor in Korea will become ever heavier in the future.

Thirdly, oil price hikes are very likely to harm international competitiveness and economic growth of Korea, which has a high ratio of energy intensive industries. As <Figure 4-5> shows, energy intensity (measured in 2000 constant US dollars, ppp standard) of Korea, due to the expansion of energy intensive industries in the 1990s, has surpassed the OECD average and is no comparison at all with Japan, which has a similar industrial structure.
Using more energy in generating the same value added than other countries, means rising oil prices hit the Korean economy harder. As the Korean economy heavily depends on imported energy, rising energy prices may erode value added for the Korean economy. The increase in the import bill of energy will put pressure on the balance of payments. Furthermore, it may raise domestic prices and therefore hurt the export sector. So the problem of energy price is critical for sustained growth of the Korean economy.

<Figure 4-5> Energy Intensity (TOE per thousand 2000 US$, PPP)



Source: Energy Balances of OECD Countries, 2011.

In summary, in order to have a Korean economy which is environmentally sustainable, socially just, and dynamically growing, we have to reduce greenhouse gas emissions, while solving the problem of "energy poverty" and ensuring international competitiveness even under the pressure of ever rising oil prices.

4.2 Debate on Low Carbon Economy and Green Growth

Concerning the problems described above, the Lee Myung-Bak government has spent great efforts on 'Low Carbon Green Growth' and the 'Green New Deal'. In contrast to the favorable evaluation from international circles, these strategies have caused various problems and evoked debates in Korea. The major reasons are that the key to 'low carbon' is to reduce greenhouse gases by expanding nuclear energy generation, and the backbone of 'green growth' is the problematic 'Four River Project'. We need to check the validity of these strategies in the context of environment, equity, and growth.

First, the Korean government promised to reduce greenhouse gas emissions by 30% (BAU standard) until 2020. In order to attain this seemingly very ambitious target, the government has invested considerable efforts to expand nuclear power generation. However, these government strategies should first overcome the following criticism:

As mentioned above, the Korean economy, by international standards, has a high share of energy intensive industries. As these industries started later than in advanced countries, their plants are new and modern, so that it is not easy increase energy efficiency further. In the steel, petrochemical, and cement industries, which consume 70% of the total energy in manufacturing, it is very hard to reduce greenhouse gases other than by radical industrial restructuring or out-shoring.

Another challenge lies in energy industries, including electric power generation. It will be almost impossible to attain the 2020 target if we continue the current trend of ever rising electricity consumption. Nuclear power plants, which require at least 10 years for construction, will hardly offer a solution until 2020. And the renewable energy target, which is supposed to cover approximately 10% of total electricity supply by 2020, is doubtful considering its high cost, and difficulty in finding suitable sites. Therefore, in order to reduce greenhouse gases in the electricity sector at all, it is essential to contain rising demand for electricity, which leads us to the sensitive issue of electricity pricing.

The hottest issue in the green growth strategy may be reducing greenhouse gas emissions by means of expanding nuclear energy generation. According to the National Basic Energy Plan Korea, 2008-2030, the government is expecting to increase the proportion of electricity supplied from nuclear power plants up to 60% by 2030. But people's sentiment is turning against nuclear energy after the Fukushima nuclear accident in 2011. And it is not easy to transport the electricity produced in nuclear power plants from Korea's seashores to Seoul and its suburbs, because construction of 765 kV transmission lines faces severe opposition from many areas and communities. The more fundamental question is, whether it is possible to regard nuclear energy as an energy source of "low carbon green growth". Based on these considerations, we reach a conclusion that the target of reducing greenhouse gases by 30% until 2020 seems to be too ambitious. Doubtlessly, the nuclear energy issue will raise lots of problems and controversies in the future.

Secondly, the issue of social justice is exemplified by energy poor people. The recent rise in oil prices created great difficulties for poor people to make ends meet, and erodes their quality of life. According to a survey taken recently, people with low income reportedly feel overwhelming pressure from rising fuel costs and electricity bills. For the poorest group, these come as a huge burden, even at the already very low cost of electricity.

Keeping energy prices especially low for the poor, however, brings about both energy waste and greenhouse gas emission. Therefore, in order to successfully deal with a greenhouse gas reduction on one hand, and to solve the energy poverty problem on the other, it is essential to establish an energy assistance program based on direct subsidies to the poor. Unfortunately, there is little consideration of this sort in the policy packages of the current government.

Thirdly, the Four River Projects pursued by the Lee government with the aim of obtaining economic growth and generating jobs are very controversial. Experts doubt the effects of those projects on economic growth, employment, and even the environment. The government spends over 22 trillion won on these projects, which have at best very dubious effects. The grand projects went on under a tight budget condition of tax cut for the rich, which made the national debt rise fast.

The employment effect of the projects is minimal, since most of the projects depend heavily on large equipment rather than manpower. Besides the economic effects, the impact of the Four River Projects themselves creates grave worries about the environment among the people. Large-scale dredging and building dams in four rivers will destroy the rivers' aquatic eco-system. Some experts point out, that the projects go in the wrong direction, since "renewing" the rivers should mean to remove existing dams and restore their natural flow.

In summary, the Korean version of "green growth" is highly dubious, because key aspects are a "nuclear renaissance" on one hand, and the old-fashioned pursuit of the Four River Projects on the other. Neither seems to match true green growth with a sound ecological basis.

4.3 How to Reduce Greenhouse Gases and Reshape Energy Policy

The current government's policy of green growth lacks coherence and a sound ecological basis. Therefore, it is necessary to adjust the policy direction from the basis.

Firstly, to invest efforts to reduce greenhouse gas emissions is important, but the government's over-ambitious target needs some revision based on realistic judgment. Reducing greenhouse gases is a very complex issue, which can only be resolved after the regulatory pricing of energy is reformed, and a new basis for the energy industry is established.

The National Basic Energy Plan Korea, 2008-2030, which includes an increase in the number of nuclear power plants, needs definite revision in the "after-Fukushima" era. Nuclear energy brings about large scale social distress, not only in selecting plant sites, but also in building transmission lines. A more desirable course of action may be building a more balanced mix of electricity generation, including natural gas, renewable energy, clean coal, and nuclear energy.

On top of that, we need to apply systematic efforts to reduce waste of electricity and to raise energy efficiency through demand management. The key aspect of demand management should be controlling the ever increasing demand for electricity, which is a result of the politically determined low price of electricity. The electricity price should be adjusted to reflect the opportunity cost, thereby reducing over-use and waste of electricity. In this regard, a thorough examination of the energy pricing system, including energy taxes, is inevitable.

Secondly, to improve the distributive aspects of energy issues, we may consider the introduction of an energy assistance program with direct subsidies to energy poor groups. This step is necessary in order to reform the energy pricing system. Otherwise, the price increase for electricity, although absolutely necessary to prevent waste and to raise energy efficiency, will be a too heavy burden on poor people's shoulders.

Thirdly, to soften the impact of the oil price hike, it is essential to enhance the energy efficiency of the private sector and develop renewable energy industries. Although both are important, it is desirable to focus on energy efficiency rather than renewable energies for the time being. Especially, it is necessary to raise the energy efficiency of the IT, automotive, and shipbuilding industries, thereby making those high value-added sectors. Growth of some eco-friendly technologies and renewable energy industries can be nurtured, to develop into promising export industries in the future.

One important point in developing renewable energy industries to help the Korean economy attain sustainable development is to foster symbiotic co-existence and cooperation between big and small businesses. The present polarization between ever-growing big businesses and the dwindling number of small enterprises is a major concern for the Korean economy, and is no exception in the renewable energy sector.

5. General Evaluation

Under developmental despotism, Korea had experienced a high rate of growth since the 1960s. This regime consisted of a growth-first, outward-looking, government-driven and Chaebol-favoring strategy. Along with its positive effects on high growth rates, it also created negative effects of imbalance, instability and political oppression as well. The erosion of this developmental despotism started with Korea's political democratization in 1987. The role of government as the manager of industrialization has weakened, while its role as market judge and welfare provider has strengthened.

Nowadays, the Korean economy has become a battleground among the remnants of developmental despotism, liberalistic reformism, social democracy and market fundamentalism. The current government has been leaning toward an idiosyncratic policy mix of developmental despotism and market fundamentalism. We saw examples of the former policy in price regulation and of the latter in the decrease of taxes for large enterprises and rich people.

And yet it emerged quite recently that the policy orientation in the ruling party shifted a little into stressing social welfare, being faced with the upcoming elections. The issue between the ruling party and opposition parties is to what extent welfare expenditures should increase and were funding for those costs will come from. Another hot topic which recently emerged is Chaebol reform. Chaebol reform is one of the most important tasks for liberalistic reformism, which is seeking to rectify the unfair market order. Regarding Chaebol reform, progressive opposition parties are more active than the conservative ruling party. The election results might have a major impact on the future development of the Korean economy.

The financial crisis of 1997 hit the Korean economy severely. On one hand, the crisis was caused by the hastily implemented opening of capital markets. On the other hand, it resulted from structural defects of Chaebol and the financial system. Since then, Korea has come to terms with lower growth rates. The aggregate demand structure was transformed as well. The proportion of exports and government spending has surged, whereas private consumption and investments have declined. Korea now has to tackle the problem of an aging population, inadequate social safety net, unfair market competition among enterprises, unfair distribution among workers, and South-North Korea relations, among others.

Korea has spent too little on the social safety net, lacking attention to those who suffer from poverty caused by unemployment and old age. Furthermore, insufficient welfare support in education, healthcare and housing aggravates the unequal income distribution among people. This low level of welfare has left prominent marks in Korean society: a sudden drop in the fertility rate, which endangers the sustainability of the Korean economy and very high proportion of self-employed people. Many self-employed people are working in the so-called informal sector, such as small restaurants and small retail shops, where labor conditions are poor and income is low. The recently observed further deterioration of these people's income level is yet another factor of rising inequality in Korean society. Rising inequality is also attributed to the increase in contingent workers. There is extreme discrimination between regular and contingent workers, not only in pay, but also in labor conditions, job security and promotion. To make matters worse, this insider-outsider division derives from organization power and luck, rather than from labor productivity. This is one of the most significant sources of people's discontent with the present Korean economy. One possible solution, the development of a "flexicurity (flexibility + security)" model, is fuelling ongoing controversy.

Korea has followed an export-led growth strategy since the 1960s and its export volume has been greatly influenced by fluctuations of the exchange rate. The most significant trading partner shifted from the US to China, so the slowdown of China's economic growth might have a damaging effect on the Korean economy. It is inevitable for Korea to adjust to the world market in a flexible way, as exports occupy a considerable share of aggregate demand. In this regard, the lack of a sufficient social safety net makes structural adjustments unbearable to people affected and leads to social instability.

Capital market liberalization was introduced in the 1980s and accelerated since the 1997 financial crisis. This liberalization has brought forth the development of the Korean capital market and foreign funds have become important players in the stock and bond market of Korea. Yet, this has also increased the instability of the Korean economy as well. Sudden outflow of foreign capital from Korea has led to serious exchange rate fluctuations, triggering currency crises.

The volume of FDI into Korea was rather insignificant until the mid-1990s. As Korea joined the OECD and was hit by the financial crisis, FDI increased considerably. Korea's overseas direct investment (ODI) has also surged since the late 1980s, partly to tackle the problem of rising labor costs in Korea and to ease access to foreign markets. Increasing ODI is associated with decreasing employment in manufacturing industries and a weakening trickle-down effect among enterprises and people.

Korea concluded FTAs with Chile, Singapore, ASEAN, India, the EU and the US. The FTA with Chile was strongly opposed by farmers, and the Korea- US FTA was far more strongly opposed by many people, for fear that it might harm Korean sovereignty and various industrial sectors. After all, the main issue is how to control the speed and terms of trade liberalization on one hand, and how to distribute its costs and benefits on the other.

The emission of greenhouse gases has been rising rapidly in Korea due to the continuous increase in energy consumption. As to the sources of greenhouse gas emissions, the shares from transportation, manufacturing and construction are declining, while the electricity and gas industry emit more greenhouse gas. The high oil price is dealing a hard blow to the poor in Korea and is very likely to harm international competitiveness and economic growth, as the Korean economy depends very heavily on imported oil and gas.

The current government has sought to reduce greenhouse gas emissions by raising energy efficiency, expanding renewable energy sources and building more nuclear power plants. However, supplies of renewable energy are still minuscule. Construction of additional nuclear power plants is increasingly faced with opposition by environmental groups and local communities. Furthermore, the current government pursues the Four River project, which is considered to do more bad than good to the environment by many people.

About the authors:

Prof. Lee Joung-Woo, School of Economics and Trade, Kyungpook National University

Prof. Kim Ky-Won, Korea National Open University

Prof. Kim Ho-Gyun, Department of Business Administration, Myungji University

Professor Cho Young-Tak, Department of Economics, Hanbat National University

Commentator:

Prof. Yoon Jin-Ho, Dean, College of Economics, Inha University

Friedrich-Ebert-Stiftung
Korea Office
Rm. 1101, 88 Yulgok-ro,
Jongno-gu,
Seoul 110-742

Responsible:
Christoph Pohlmann,
Resident Representative
Korea Office
Tel.: +82-2-745-2648/9
Fax.: +82-2-745-6684
www.fes-korea.org