

“Economy of Tomorrow”:
Socially Just, Sustainable and Dynamic Growth
for a Good Society:
A Case Study for Korea

First draft

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1. General macroeconomic overview

The Korean economy had experienced a high rate of growth since the 1960s as shown in <Table 1-1> and is now considered to be one of the developed countries. In 2011 Korea's nominal per capita GDP is estimated to be about \$24,000, but its figure in terms of PPP (purchasing power parity) has reached the level of \$32,000 that is not so much inferior to that of other developed countries. In the cases of the USA, Sweden, Germany, France, Japan, Italy and New Zealand, the corresponding GDP (PPP) figures are \$48,000, \$37,000, \$38,000, \$35,000, \$34,000, \$30,000, \$27,000 respectively.

<Table 1-1> Annual Average 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 the medium level of 4~5% after the 1997 financial crisis. The slowdown was caused by various factors such as business restructuring, fewer opportunities for domestic investment and aging population. Hence, the annual average per capita GDP growth rate decreased to 2.7% during the 2000s, while it remained at above 5% during the first half of 1990s.

The slower growth has caused the problem of insufficient social welfare system to be more noticeable. For instance, in 2009 the suicide rate of elderly people was at a level five times as high as in 1990. Furthermore, the polarization of the Korean society has become more severe. So even the conservative ruling party is compelled to adopt left-leaning policy of expanding social welfare expenditures to some extent.

<Table 1-2> indicates the change of the structure of aggregate demand in Korea. The year 1987 was a turning point. Korean people's discontent with the dictatorship ended the military regime in 1987 and brought about the democratization of government. Along with the 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 with export.

This demand structure was transformed again with the outbreak of the 1997 crisis. As the crisis went on, unemployment rose 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 export-oriented growth strategy of the 1970s and 1980s. Through the restructuring process Chaebols, namely Korean conglomerates, came to abandon the old way of overinvestment depending on heavy debt.

As can be seen in <Table 1-2> the proportion of export in the aggregate demand rose greatly during the 2000s, while those of private consumption and investment decreased. The high proportion of export together with the low proportion of private consumption demonstrates

<Table 1-2> Change of the Structure of Aggregate Demand

year	1986	1996	2009
private consumption	55	60	53
capital formation	28	39	24
export	38	23	40
govn't expenditure	16	20	26

Source: <http://kosis.kr>

the weakening of so-called trickle-down effect and also makes Korean economy vulnerable to external shocks.

During the 1960s-1980s the Korean government pursued high growth with the regime of developmental despotism. It guided 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 the increase of social welfare spending.

Until the 1970s the population in Korea grew rapidly and the family planning was implemented to reduce the population pressure. From the 1990s on, however, the population increase slowed down and its rate remains nowadays at the level of around 0.5%. Korean fertility rate has gone down to barely above 1% and belongs to the lowest fertility countries 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 is by thousand. Employment rate (f) means female employment rate.

The labor force among the population has changed as demonstrated in <Table 1-3>. The unemployment rate is low in comparison with other countries, but the employment rate, especially that of women, has not reached the level of Nordic countries and the US yet. Korean laborers are working for hours 25% longer than the OECD average a year and this long working hour is one of the reasons for the low employment rate. The low female employment rate is related mainly with the lack of child care system for working mothers.

During the development era of the 1970s, typical large companies were 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> gives the trend of employment by establishment size. The

employment share of all large establishments with 300 or more workers fell from 27% in 1981 to 12% in 2005.

By contrast, the employment share of all tiny establishments with fewer than 10 workers rose from 37% to 44% during that period. This change in employment shares happened mainly in manufacturing and construction industries. Korea's case is quite different from that of Germany where the employment shares of large and tiny companies are about 55% and 7% respectively in 2010. This indicates Korea's weakening of middle class under the dominance of Chaebols which results in increasing inequality.

<Table 1-4> Employment Shares 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: Hahn, C. H. & 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 galloping inflation since the 1945 emancipation, but the inflation rate has dropped to a mild level since the 1980s with the introduction of 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 general price change. <Table 1-6> demonstrates how the real estate prices fluctuated under the different governments. Nonetheless, this trend does not describe the real estate bubble exactly. That is because the bubble has broken out in some special areas. The housing prices of Seoul, capital of Korea, went up more than 30% even under the Kim Dae-Jung and Roh Moo-Hyun government, in which the whole 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 the 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 government sought to suppress speculative housing demand through various kinds of policies and those policies took effect under the current Lee Myung-Bak government. Thus, the housing bubble has come to a halt for now. However, the busting of the bubble has not appeared yet in so drastic a form as in the case of 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 decrease of the proportion of private consumption in 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 that of other OECD countries. But the concern is that the speed of its increase is fast. By contrast, enterprise debts have not risen since the 1997 crisis because the crisis forced Chaebols to reduce the debt-capital ratio. The ratio is now around 100%, whereas it was around 400% before the crisis.

Korea is a very dynamic society which has experienced an accelerated development in a short period of time. Workers with a high level of education, favorable world market environment and entrepreneurship suitable for imitating the technology and management 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 phone and shipbuilding Korean enterprises are enjoying dominant position in the world market. Consequently, it has to develop its own growth and (re)distribution model, which is creating controversies among various interest groups. Conservative people are oriented to a great extent toward the US model of capitalism, while progressive people are oriented toward European, especially Nordic, model of capitalism.

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

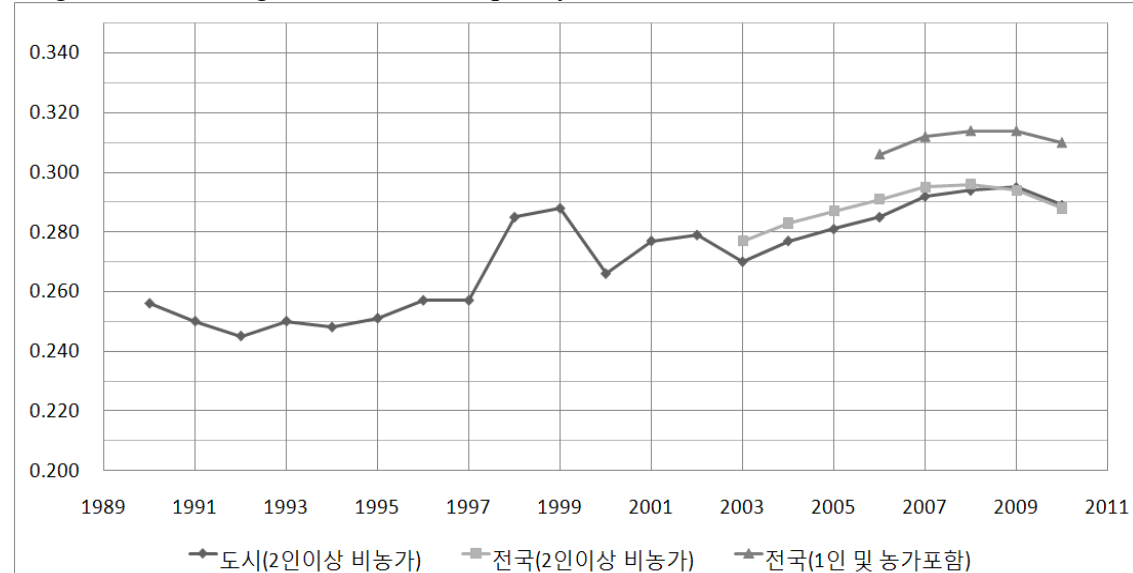
2. Income Distribution, Consumption Demand and Sustainable Development

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

However, it is to be pointed out that the period of early 1990s happened to be the time with the best record in income distribution in Korea. The relatively good state of income distribution in Korea did not last long, and all of a sudden aggravated after the financial crisis in 1997 hit Korea along with other Asian countries. As <Figure 2-1> shows Gini ratio of income inequality in Korea jumped up from around 0.26 in 1997 to 0.29 in 1998, and has hovered high ever since with no sign of going down.

The reason for the rising inequality may be found in some factors. One may be the skill factor, namely the rise in the demand for highly educated people in this age of information technology. There is some evidence of 'digital divide' in Korea. Another factor may be the concentration of economic power in the hands of small number of chaebols (Korean conglomerates). One more factor behind the rising inequality may be the recession and restructuring after the Asian financial crisis which made job creation very hard.

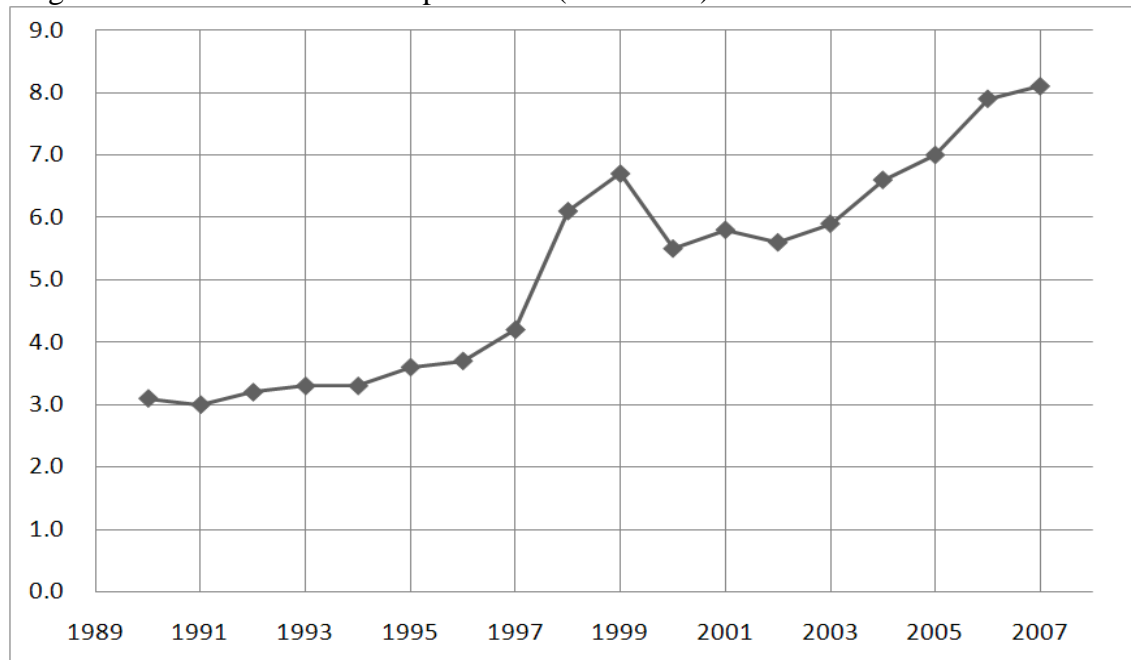
<Figure 2-1> Changes in Income Inequality (Gini ratio)



As you see in the diagram, there was a small decrease in income inequality in 2010 which was a surprise to many. People expected a rise in inequality during the current conservative government because their policy agenda must have contributed to worsening income distribution. Suppressing the minimum wages, and tax cut for the rich were the major policy

agenda of the current Lee Myung-Bak government. The minimum wages which rose rather fast under the relatively liberal regimes of the last decade, has seen only minimal increase since the current government. Worse still, it introduced a large scale tax cut of the size of around 5% of GDP for the whole five year term. And it has supported big business by starting a large scale 'Four River Projects', and by lifting some key regulations. Doubtlessly such policies will definitely leave footprints in income inequality, but with some time lags. Despite all the efforts of two successive relatively progressive, by Korean standard, governments of Kim, Dae Jung(1998-2003) and Roh, Moo Hyun(2003-2008), the record shows no noticeable improvement in income distribution or poverty. This fact made people doubt the ability of the so called progressive governments in redressing the inequality and poverty issues, and certainly contributed to the landslide victory for the conservative party in 2007 presidential election which put a life-long businessman Lee, Myung-Bak as a new president. It is evident that people who were dismayed by the poor record of both growth and income distribution during the so-called progressive period, expected a businessman like Mr. Lee to bring back a high growth and plentiful job opportunities.

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



The conservative politicians, academics, and press attacked the progressives as a total failure in bringing forth economic growth because of their indulgence in distribution and welfare issues largely neglecting growth. This hypothesis does not conform with the data of welfare expenditures in Korea. To give the simple fact, <Figure 2-2> shows the trend in social expenditures in Korea for the last two decades.

Conservative governments in the 1990s and before typically paid 3% of GDP on social expenditures. It changed drastically during the Kim, Dae Jung government which spent 6%. This change was inevitable to overcome the financial crisis in 1997 and its aftermath of high unemployment and widening income disparity. Public assistance given to the poor increased

a lot and some welfare reforms were done during this period. The rising trend in welfare spending continued during the next regime of Roh, Moo Hyun. Social expenditures went up to 8 percent of GDP. The conservative circle in Korea attacked Roh regime as leftist and even distributionist, a peculiar naming to accuse the political opponents.

Is 8% of GDP on welfare expenditure too much indulgence on welfare and distribution? Is it really distributionist? Not at all. This is only minimal by international standard. <Table 2-1> illustrates the size of social expenditures in some countries, and it is evident Korea is no comparison at all 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 Expenditure	28.7	26.2	27.7	21.3	16.5	19.3	8.1	19.8

Sources: OECD (2011), Social Expenditure-Aggregated data, stats.oecd.org.

Note: Social expenditure means public expenditure plus mandatory private expenditure on social items.

Korea is far behind the Western welfare states. It is true Korea has imported almost all policies and institutions of the welfare state, including social insurances, public assistance, and social welfare services. Medical insurance, unemployment insurance, workingmen's compensation, social security are there, and the public assistance to the poor has the largest share of the social expenditures. The problem with the welfare state in Korea is there are so many exceptions and exclusions in the social safety nets that they are not effective enough. For example, the coverages of social insurances for contingent workers are less than 50%, and much lower than those of standard workers. Korea is a country with very high social risk because her safety nets have many holes.

From a very low figure of welfare expenditure in Korea, it is quite natural to imagine the redistributive effects of fiscal policy would be weak. The international comparisons of redistributive effects of government taxes and public expenditures are 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 meagre 7.8% in Korean case(OECD, 2008). In terms of the magnitude of redistribution effects, Korea ranks last among 24 countries reported. It becomes clear that the accusation of Korean conservatives against the Kim, Dae Jung and Roh, Moo Hyun governments indulging too much on distribution and welfare is totally groundless and farfetched. The truth is Korea has spent too little on social safety nets to save those who fall down from poverty and social distresses. Korea is a nation where people are exposed to the systemic risk of falling down to the ground with little help from the government.

The accusation from the conservatives in Korea against the relatively progressive regimes of last 10 years rather reflects the overwhelming mentality of the ruining class in Korea who cares only for growth while ignoring or even opposing redistribution and welfare. Former

<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
Czecko	14.1	21.8	4.4	7.7
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
Czecko	36.3	43.4	15.1	20.6
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

conservative governments always paid attention to growth only, and growth rates were deemed as the single indicator of their achievement. This mentality has been deeply rooted in the policy 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 opposed to an even moderate demand for 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. The 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. Extremely low fertility rate is the single most important factor behind the coming of the aging society in Korea. This is almost the same picture as that of Japan, the number one aged society in the world, but Korea's fertility rate is even lower, and the speed of the aging is even faster in Korea than Japan which sounds big alarm to the Korean economy. It is anticipated in the year 2050, Korea will be number two aged society in the world only after Japan. It is no surprise the two countries which have put all the energy on growth largely ignoring welfare are going to suffer because of the aged society and thwarted growth, and it is very ironical that the main reason for the suffering is because of their 'growth first' strategy. It would be no exaggeration to call this as the 'revenge of growth'.

<Table 2-3> The Portion of the 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 the self-employed in the Korean economy may be another symptom found in a weak welfare state. <Table 2-3> shows that the shares of the self-employed among total employment in Korea is very high by international standard. Korea has over 30% of its work force working in the self-employed sector which is double that of the OECD average. It means there is about 15% over-employment in the self-employed sector. As a result the competition among the self-employed is extraordinarily severe. Simply put, we have too many restaurants, taxis, barbers, beauty shops, coffee shops, and the list is endless. Because of the severe competition among the self-employed, the condition of labor is poor and the income level is low. The average income of the self-employed has lagged that of the workers in the last decade, which gives great agony and dissatisfaction to the former.

Besides the self-employed, 30% of the total employment, the remaining 70% is employees. Here arises another problem of employment in Korea which is the unusually high ratio of contingent laborers. They occupy more than half of the employees. In many cases they do almost the same jobs as the regular workers but get paid only half of the latter. Evident is discrimination, not only in pay, but also in labor conditions, job security and promotion.

To sum up, the Korean work force can be divided into three almost equal segments, the self-employed, the contingent workers, and the regular workers. Among the three the regular workers are in relatively good shape in terms of pay, labor conditions and job security, but their number is only one third of the total work force. This is a big contrast to other OECD countries where about 70% of the work force is regular employees. Furthermore, the quality of life among the self-employed in other countries is better than that of Korea because there does not exist a harsh competition such as one experienced by Korean counterparts. The

quality of life of the contingent workers in other countries is not comparable to Korean counterparts either, because there is no discrimination as experienced by Korean contingent workers. These kinds of cut-throat competition, and extreme discrimination can hardly be found in other countries.

Even the relatively happy workers in Korea who have the title of regular workers are not happy either since they may tomorrow morning fall into either a contingent worker or a self-employed. In Korea no worker is safe enough to feel happy. It is no wonder the rate of committing suicides in Korea is near the top in the world. This is the true picture of the so-called miracle economy which has driven solely towards economic growth, totally neglecting welfare and distribution.

It is very hard to make a living in Korea. The price levels of key items are very high by international standards. The costs of schooling, hospitals, and baby-sitting are very expensive because the subsidies given by the government are much lower than other countries. People have to pay the bills out of their own pockets. It is no surprise the young couples hesitate to get married, and to have babies considering the high costs, hence the low fertility rate and the coming of the aged society.

In an aging society, the labor supply is restrained. One potential source of labor supply may be women. But Korea has bottlenecks because of the long tradition of gender discrimination. Women are discriminated in the labor market both in employment and wages. The sudden coming of aging society in Korea has a deep rooted cultural background.

It becomes clear Korea is now facing a crossroad. One road is the stagnating aged society, and the other is reviving welfare state. To build up a long overdue welfare state is far from easy in Korea where the ruling class forms a strong union against the welfare state. They refuse to pay higher taxes, and even refuse the free school meal project which needs only small amount of money. The future of the Korean economy may be doomed if the strong anti-welfare status-quo keeps their powerful political position for long.

A new trend in Korean politics is the welfare competition among political parties, including even the conservative ruling party. It is a good sign that political parties are now moving toward the welfare state although belatedly. The remaining time to revive the Korean economy is not long because the aged society time bomb is already ticking.

3. World market strategy and protection from external shocks

3.1 Past integration into the world market (2 pages)

Korea has followed the export-led growth strategy from the beginning of industrialization in the 1960s¹. In the past five decades, the international trade has played a crucial role for economic growth in Korea. To promote the export, the government intervened actively in the resources allocation, especially in the 1960s and 1970s and fostered ‘Chaebols’ (Korean conglomerates) for the sake of economies of scale.

3.1.1 Exchange rate

The exchange rate was an important instrument in the export promotion policy. Before 1980, Korea had a fixed exchange rate system, with the currency pegged to the U.S. dollar. During this period, the most influential elements were three times of devaluations that were undertaken in the 1960s. After 16 years of 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 the foreign exchange market conditions and caused the Korean won to remain overvalued against dollar despite continuous current account deficits. This led to a rise in foreign debt and a fall in foreign reserves. The overvaluation is cited as one of the causes for the currency crisis in 1997. At the risk of fostering inflation, the government now maintains the undervaluation of won to promote exports.

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 experienced again sharp fluctuations, as the foreign investors flew out of the Korean market. The volatility increased further up to 1.69% during the global financial crisis, after then decreased to 0.58% (<Table 2>). During the European financial crisis in April through October 2011 the won-dollar exchange rate showed fluctuation as large as 14.3%.

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

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 export reached 20 million

¹ In the first phase of economic growth, the Korean government was simultaneously pursuing export promotion and import substitution that were contributing to conflicting purposes. But these two policies had joint effects of raising the relative prices of traded goods vis-à-vis non-traded services, making the manufacturing sector more attractive, so that export expansion was facilitated by increased investment in the manufacturing sector(KDI 2010, 136f).

dollars per year and average import 370 million dollars. During this period, Korea's trade policy was highly protectionist, which was in vogue at that time in the developing countries. From the mid-1960s Korean government focused on export promotion and since then this has been a top priority in the economic policy. In fact, there were all-out efforts for export promotion. During the 1960s export grew 45% per year on average and rapid expansion continued in the next decades.

The composition of export has experienced radical changes (<Table1>). Already in 1964, the share of labour-intensive light manufactures surpassed the share of non-manufactures. In the mid-1980s, the share of heavy and chemical industrial products exceeded 50%, in the mid-1990s, 70%, and in the mid-2000s, 90%. As regards the export composition, Korea shows no difference from that of the developed countries.

Rapid increase in exports has been accompanied by rapidly increasing imports, as most of exports are products manufactured with imported materials. Import was gradually liberalized from the mid-1960s, as the balance of payment improved. In 1967, Korea joined the GATT. The Uruguay Round (1986-1994) was one of the most significant events that changed 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 IMF in 1997, Korea gradually abolished trade-related subsidies, the rule of diversifying import origins, and regulatory import licence etc. With a few exceptions, more rapidly increasing import had resulted in accumulated trade deficits until 1997, when the Currency Crisis broke out. The Crisis was for Korean economy an extremely expensive experience that taught, how important the foreign reserves are. Since 1998, Korea has been continuously accumulating them by way of export promotion. As of end Oct. 2011, Korea holds around 311bill. dollars foreign reserves, the seventh largest in the world.

The trade has been expanding much more rapidly than the GDP. So Korea's trade/GDP ratio is increasing continuously. It increased much more sharply in the aftermath of the Currency Crisis and the global financial crisis of 2008. The ratio of about 50% in the 1990s increased to over 60% since 1998, then up to over 80% since 2008.²

3.1.3 Capital market liberalization

In the 1980s, foreign exchange market liberalization coincided with capital market liberalization. But most of the important capital market liberalization measures 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 markets, were completely opened to foreign investors. The ceilings on foreign ownership of stocks were abolished. 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 foreigners were allowed to head Korean banks.

² In the meantime, Korea's trade dependence with China is growing continually. The ratio of trade with China to GDP exceeds 20%p, so nearly a quarter of the trade/GDP ratio. 'China risk' is gradually becoming a reality for the Korean economy. There is another aspect in Korea-China relation. Korea's diplomacy under the Lee Myung Bak-government has been shifting to one-sidedly pro-american course. This mismatch between economy and diplomacy remains a potential risk.

In 2003, the Korean government declared the goal of becoming a financial hub in the North East Asia. In 2009, the Capital Market Integration Act that set the goal of growing up investment banks, was enacted. In the wake of the global financial crisis, the government adopted a few regulatory measures: introduction of financial transaction tax, restriction of use of foreign loans, introduction of forward exchange position limit for foreign exchange banks. Mega banks are still regarded as a precondition for competitive financial sector. The saving banks scandal in 2011 that had resulted from excessive deregulation and insufficient supervision resulted in providing public funds without any institutional reforms.

3.1.4 FDI and ODI

Foreign Direct Investment(FDI) into Korea was allowed in 1962. At the beginning of the industrialization, however, Korea had highly restricted the 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 list system to a negative list one. From the 1990s, Korea began to attract the FDI to facilitate the development of technology-intensive industries. Low wages could be no longer the strong base for the competitiveness of the Korean economy, as the democratization of society since the mid-1980s was accompanied by the rise of labour union movement and wage increases. Nonetheless, FDI into Korea was minimal until the mid-1990s. After joining the OECD in 1996, the government took further liberalization steps on FDI to open 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 that allowed hostile M&A and liberalized the acquisition of real estate by foreigners.

Many Korean companies were sold to foreign investors at bargain prices. The volume of FDI exceeded 15 billion dollars in 2000 on the notification basis. But since 2001, it decreased to about 11 billion dollars annually. The U.S. is the largest foreign investor in Korea, followed by Japan, the Netherlands, and Germany (<Table 3>).

FDI played a crucial role in building up foreign exchange reserves in the aftermath of the currency crisis: 17% in 1998 and 42% in 1999.³ FDI also increased production. From 1999 to 2006, the share of output by foreign-invested firms in total output rose from 8.1% to 13.4% in manufacturing production, from 4.1% to 9.9% in services.

Until 1981, Korea's overseas direct investment (ODI) amounted only 57 million dollars, because the government restricted capital outflows (<Table 4>). Since 1986 on, however, the government began to liberalize the capital outflows. Liberalization measures since 1994 led to rapid increase of ODI. The upward trend was briefly interrupted in 1998 in the wake of Currency Crisis. Its volume has been increasing dramatically since 2005 and reached over 23 bill. dollars in 2010. Korean multinational enterprises have been main drivers of this trend. Most of ODIs have been undertaken in Asia. Nearly half of them went to China. Since 2006, however, the share of Asia has been declining, whereas the shares of North America

³ These results accrued from the government policy in the wake of currency crisis that strongly appealed to Chaebols to sell first lucrative firms to foreign investors.

and Europe have been increasing.

The share of ODI by Korean multinationals in agriculture, forestry and fishing has been falling continuously and stood under 0.5% in 2010, whereas the share of investment in the mining sector increased from 0.2% in 1981 to over 30% in 2010, reflecting the enhanced interest in securing foreign sources of raw materials. ODI were biggest in the manufacturing sector until 2006, followed by services. But this trend was reversed in 2007, when the share for services exceeded 50%.

3.1.5. FTA and ODA policy

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

Korea is also active in pursuing regional cooperation. In 1989, Korea took leading role in establishing APEC to facilitate economic cooperation in the Asian and Pacific region, where most of Korea's exports and investments are concentrated. Until the early 2000s, APEC was given priority as the main organization to promote regional economic cooperation. In the wake of the currency crisis, Korea has taken active part in regional cooperation through ASEAN (Association of Southeast Asian Nations), ASEAN + 3, and ASEM (Asia-Europe Meeting). Korea is the first country in the world that has transformed from once a beneficiary nation to a donor nation. In the 1950s, the 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. In this regard, Korea set a goal of raising the ratio ODA/GNI from 0.09% in 2008 to 0.15% by 2012 and 0.25% by 2015.⁴ Korea gives a high priority to transferring its development experiences to beneficiary economies.

EU has become the largest investor in Korea, and the second largest export market after China. With the Korea-EU FTA signed in 2010, it is vital for Korea to strengthen cooperation in science and technology to upgrade its own industrial bases and participate in the joint development of new technologies for the environment and energy sectors.

3.2 Present debate about the integration in the world market

In 2011, Korea's trade volume exceeded one trillion dollars. Korea belongs to a group of countries that through export expansion not only fosters growth, but dampens the adverse effects of the global financial crisis. So the external dependence of the Korean economy has been deepening.

⁴ The UN's recommendation is 0.7% and the average ratio of the OECD DAC members 0.3%.

In Korea, the high foreign reserves achieved by export promotion are playing very important roles especially in the era after the currency crisis. It is worth recognizing the fact that growth based on export promotion is a zero-sum-game on the global level, so that it is not sustainable after all. It could be at best controversial, whether the current foreign reserves of over 300 billion dollars is optimal for the Korean economy and which currencies they have to be composed of.

The high trade/GDP ratio, however, began to be conceived as a matter of concern in recent years. Even the neoliberal government and the Korea Economic Institute funded by 'Chaebols' recognize that the domestic demand has to be fostered. This new perspective, however, finds no noticeable resonance either in the mainstream economics, or in the government policy. It just remains as lip service.

In the wake of the global financial crisis in 2008, the Bank of Korea has kept the prime rate at low levels for a long time, in spite of concerns about inflation. In face of growing threats of inflation, the government has introduced old-fashioned price control again. And even the commodity basket has been 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 the sake of growth.

The high exchange rate volatility results from the high fluctuations and structural vulnerability of the exchange market and geopolitical risk on the Korean peninsula. The Korean capital market is nearly so open as in the developed countries, so that it has experienced high pro-cyclicality. The capital market is sometimes called 'automatic teller machine (ATM)' for foreign hot money. The high volatility has resulted in the export reduction, inflation risk, and decreasing investment (BOK, 2011). According to an empirical study, 1% increase in exchange rate volatility has led to 7.1% reduction of export and 2.7% import price increase.

To reduce the volatility, for example, the BOK makes a suggestion that in the long run the Korean currency has to become an international currency. It is further suggested, that, as an intermediate stage, the won could be gradually expanded in the intra-regional trade with Asian countries. It is, however, doubtful, that the internationalization of the won is a precondition for its stability, not vice versa. FDI, especially from developed countries, is generally considered to be able to play an important role in sustainable economic growth and job creation in Korea. According to UNCDAD, however, Korea is classified in the list of countries where FDI performance falls below its potential (KDI 2010, 146).

3.3 Likely future development

The Korean economy is an economy exposed to two external vulnerabilities; on the one hand due to high dependence on trade, on the other, due to wide openness of the financial market. Korea's export-led growth strategy will be maintained in the long run in spite of the concerns about the external vulnerability. The foreign reserves would not be reduced, but rather augmented in principle for the purpose of stabilizing exchange rate and minimizing the country risk. In the future too, Korea will be characterized as a small open economy. So economic policies in general focus on the global competitiveness.

But the ever increasing interests and demands for the various welfare political measures in recent years show that growing numbers of Koreans have recognized that they can rely no more on economic growth as such to secure their jobs and incomes. Preparing for the elections 2012, political parties are making various kinds of welfare policy proposals. These tendencies, combined with the recent statutory reduction of overtime, will result in the increasing domestic demands. It should be emphasized that fostering domestic demand via various welfare benefits could function as an 'automatic stabilizer' in the event of economic crisis. It is, however, uncertain whether the trade/GDP ratio can decrease substantially. Sudden reversals of foreign capital flows were responsible for the volatility until now. But not only the government including central bank, but financial market participants show hardly any interests in regulating speculative capital transactions. They seem to regard the volatility as a 'necessary evil' so as to induce more foreign capital in the capital market. Without considering any directly stabilizing measures, the government seems to make endeavors to consolidate macroeconomic fundamentals as a precondition for financial market stability. Contrary to the global tendency toward financial market stability, they are making endeavors to foster financial innovations: they celebrated the first issuing of the 'Korean type hedge fund' in November 2011. Due to the 'ratchet' clause in the Korea-USA FTA, it is doubtful, whether eventual re-regulations on the capital market could be introduced.

<Table 1>. Composition of export by sector(1988-2010)

(Unit: million dollars, %)

	Total	primary sector	manufacturing sector				
			Subtotal	light industries	heavy & chemical 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(KITA).

<Table 2>. 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

<Table 3>. Trends of FDI by countries

(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.

<Table 4>. Korea's overseas direct investments(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.

<Table 5>. 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 the third quarter.

Source: Bank of Korea(<http://ecos.bok.or.kr>)

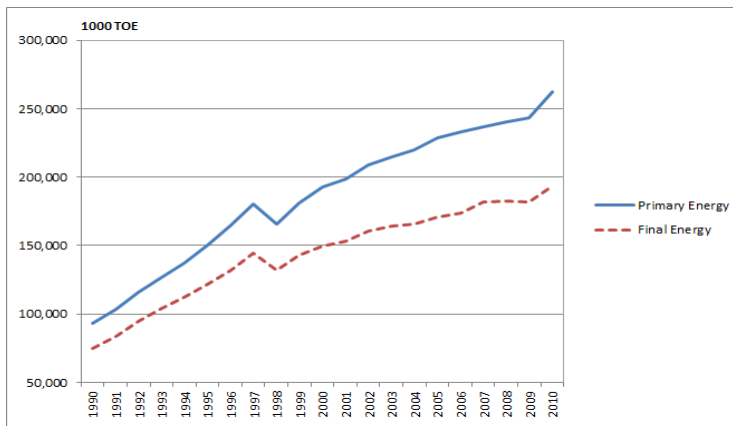
4. Green New Deal and Ecological Problems

4.1 An Overview

As Korea has almost no energy resources of her own, she has to depend upon imported energies from abroad. 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 the high oil prices, and the other is the issue of reducing the greenhouse gas. Let us examine those problems confronting the Korean economy within the context of environment, equity, and growth.

Firstly, the energy consumption and the emission of the greenhouse gas in Korea has been steadily increasing (<Fig 4-1>). The energy consumption is increasing fast especially because of rapid growth in energy consuming industries like steel and petro-chemicals on the one hand, and the rise in the electricity consumption on the other.

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

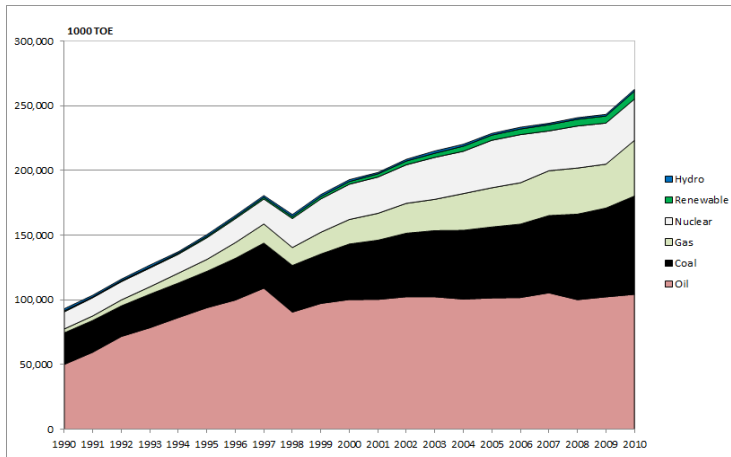


Source : Korea Energy Statistics Information System

<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. The increase in the use of coking coal and the municipal gas has contributed to this trend. However, the single most important factor behind this trend is increase in the demand for electricity, and hence the demand for steam coal and gas to generate electricity.

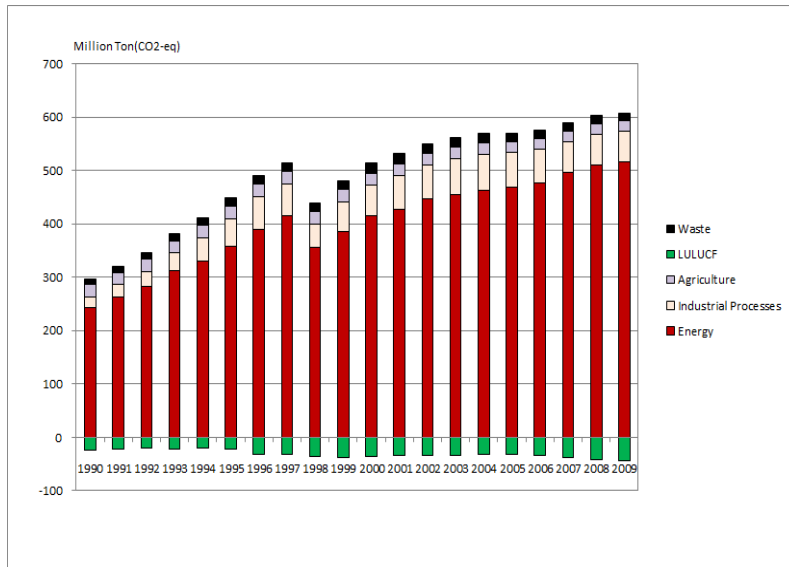
Korean economy while conforming to the international effort to reduce the greenhouse gas, it is essential for Korea to contain the rise of greenhouse gas emissions in energy industries, especially in the electricity industry.

<Fig.4-2> Total Primary Energy Supply



Source: Korea Energy Statistics Information System

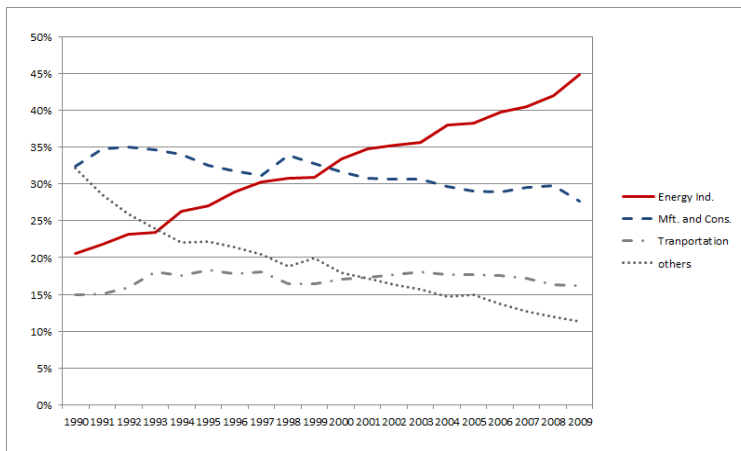
<Fig. 4-3> Greenhouse Gas Emission (CO2-eq)



Source: Greenhouse Gas Inventory and Research Center of Korea

Secondly, the skyrocketing rise in the oil price does not give the same impact to the rich and poor. It usually deals hard blow to the low income groups which have higher propensity to consume energy out of total expenditure than the high income groups. Therefore the oil price hike means hardships to the poor, and gives rise to the 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 consuming more than 10 percent of their income on energy. It is estimated approximately 1.2 million

<Fig. 4-4> Composition of Fuel Combustion Emission by Sector

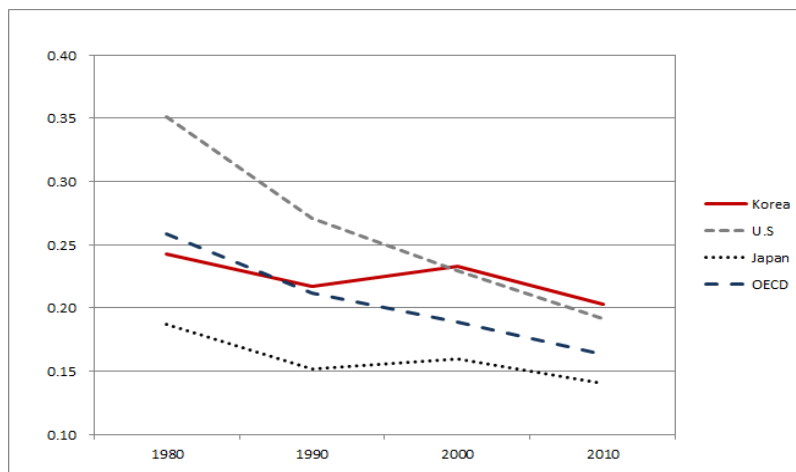


Source: Greenhouse Gas Inventory and Research Center of Korea

households in Korea belong to this category. As the oil price is expected to rise again after the current worldwide recession is over, and the carbon tax or the new scheme of tradable carbon emission is introduced, it is very likely the pressure on the energy poor in Korea will be ever heavier in the future.

Thirdly, oil price hike is very likely to harm the international competitiveness and economic growth of Korea which has a high ratio of energy intensive industries. As <Figure 4-5> shows, the energy intensity(measured in 2000 constant US dollars, ppp standard) of Korea,

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



Source : Energy Balances of OECD Countries, 2011

due to the expansion of energy intensive industries in the 1990s, has surpassed OECD average and no comparison at all with Japan which has similar industrial structure.

Using more energy in generating the same value added than other countries means the oil price hike hits the Korean economy harder. As the Korean economy heavily depends on the imported energy, the rise in energy price may lead to the lowering of the value added ratio for the Korean economy. The increase in the import bill of energy will give pressure to the balance of payments. Furthermore, it may raise the domestic price level, and hence hurt the export sector. So the problem of energy price is critical for the sustained growth of the Korean economy.

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

4.2 The Debate on Low Carbon Economy and Green Growth

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

First, the Korean government has promised to reduce 30% of the greenhouse gas by 2020 on BAU standard. In order to attain this seemingly very ambitious target, the government has given efforts to expand the nuclear power plants. However, the government strategies should overcome the following criticisms.

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

Another difficulty lies in energy industries including the electricity. 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 be hardly an answer until 2020. And the renewable energy target which is supposed to be approximately 10% of total electricity supply by 2020 is under doubt considering its high cost, and difficulty in finding suitable sites. Therefore in order to reduce the greenhouse gas in electricity sector at all, it is essential to contain the rising demand for the electricity that leads us to the sensitive issue of electricity pricing.

The hottest issue in green growth strategy may be reducing the greenhouse gas by means of expanding nuclear energy. According to the National Basic Energy Plan Korea, 2008-2030, the government is expecting to increase the portion of electricity supply out of nuclear power plants up to 60% by 2030. But, people's sentiment is turning against the nuclear energy after the Fukushima nuclear accident in 2011. And it is not easy to transfer the

electricity produced in nuclear power plants in the seashores to Seoul and its vicinities, because building the 765-kV transmission line is exposed to severe oppositions from many areas and communities. More fundamental question is whether it is possible to regard nuclear energy as a source of low carbon green growth. Based on these considerations we reach a conclusion that the target of reducing greenhouse gas 30% by 2020 seems to be too ambitious. Doubtlessly the nuclear question will raise lots of troubles and controversies in the future.

Secondly, the issue of social justice comes out in energy poor people. The recent rise in oil price gives big trouble to poor people to make ends meet, and makes their quality of life fall. According to a survey taken recently, people with low income reportedly feel big pressure by the rising fuel cost and the electricity bill. The poorest group feels huge burden even with the already very low electricity price.

Keeping the energy price unusually low for the poor, however, brings about both energy waste and greenhouse gas emission. Therefore, in order to catch the two rabbits of greenhouse gas reduction on the one hand, and to solve the energy poverty problem on the other, it is essential to build up an energy assistance program based on direct subsidy to the poor. Unfortunately, there are little considerations 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. Specialists doubt the effects of those projects on economic growth, employment, and even environment. The government spends over 22 trillion won for 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 that made the national debt rise fast.

The employment effect of the projects is minimal since most of the projects depend heavily on large equipments rather than labor power. Besides the economic effects, the contents of the Four River Projects themselves make people worry in terms of the environment. The big scale dredging and building dams in four rivers will destroy the river aquatic eco-system. Some specialists point out that the projects go to a wrong direction since the current trend to renew the rivers is to take away existing dams and recover their natural flow

In sum, the Korean version of green growth is dubious because the focus lies in nuclear renaissance on the one hand, and the old-fashioned Four River Projects on the other. Neither seems to match the true green growth with sound ecological basis.

4.3 How to Reduce Greenhouse Gas and Reshape Energy Policy

The current government's policy of green growth lacks coherence and sound ecological basis. Therefore it is necessary to reshape the policy orientation from the basis.

Firstly, to give efforts to reduce the greenhouse gas is important, but the over-ambitious target needs some revision based on realistic judgements. Reducing the greenhouse gas is a very hard job being attained only after the regulatory pricing of energy is reformed, and some new basis for energy industry is provided.

The National Basic Energy Plan Korea, 2008-2030, which plans to expand the nuclear power plants needs definite revision in the era of after-Fukushima. Nuclear energy brings

about a large scale social distress not only in selecting the plant sites, but also in building the transmission lines. More desirable course may be building a more balanced mix of electricity generation covering natural gas, renewable energy, clean coal, and nuclear energy. On top of that, we need to introduce systematic efforts to reduce the waste of electricity and to raise the energy efficiency which requires a demand management. The key of the demand management should be controlling the ever increasing demand for electricity which is derived from the politically determined low electricity price. The electricity price should be adjusted to reflect the opportunity cost thereby reducing the over-use and waste in electricity. In this regard, a thorough examination of energy pricing system including energy taxes is inevitable.

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

Thirdly, confronting the oil price hike it is essential to enhance the energy efficiency of industries and develop renewable energy industries. Although both are important, it is desirable to focus on the energy efficiency rather than renewable energy for the time being. Especially, it is necessary to raise the energy efficiency of IT, auto, and shipbuilding industries thereby making those high value-added sectors. Some eco-friendly techniques and renewable industries can be nurtured to grow to become a promising export industries in the future.

One important point in developing the renewable energy industries to help the Korean economy attain the sustainable development, is to make the big and small business coexist and cooperate each other. The polarization between the ever growing big business and the dwindling small business is currently a big headache in the Korean economy, and it is no exception in the renewable energy industries.

5. General Evaluation

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

Nowadays Korean economy has become a battleground among remnants of developmental despotism, liberalistic reformism, social democracy and market fundamentalism. The current government has been leaned toward the idiosyncratic policy mix of developmental despotism and market fundamentalism. We saw the instance of the former policy in the suppression of prices by mandate and that of the latter in the decrease of the tax rate for large enterprises and rich people.

And yet it emerged quite recently that the policy orientation shifted a little into stressing social welfare in the ruling party, being faced with the coming elections. The issue between the ruling party and opposition parties is to what extent welfare expenditures should increase and how the funding for those expenditures should be arranged. Another recent hot agenda is Chaebol reform. It is one of the most important tasks for liberalistic reformism, which is seeking to rectify the unfair market order. In regard of 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 Korean economy.

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 capital market. On the other hand, it resulted from the structural defects of Chaebol and financial system. Since then Korea has come to terms with the 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 now has to tackle the problem of aging population, inadequate social safety net, unfair market competition among enterprises, unfair distribution among workers, South-North Korea relations and so forth.

Korea has spent too little on 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. The low level of Korean welfare has left several prominent features in the society. One of them is the sudden drop in the fertility rate, which endangers the sustainability of Korean economy.

Another symptom is a very high proportion of the self-employed. Many self-employed people are working in the so-called informal sector such as small restaurants and small retail shops. The labor conditions there are poor and the income level is low. The recent deterioration of those people's income level is a factor of rising inequality in the Korean society. The rising inequality 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. This is one of the most significant sources of people's discontent with the present Korean economy. There continues a controversy concerning the possibility of developing flexicurity (flexibility + security) model as a way of resolving this contradiction.

Korea has followed the export-led growth strategy since the 1960s and its volume of export has been greatly influenced by the fluctuations of exchange rate. The most significant trading partner has shifted from the US to China. So the slowdown of China's growth rate might have a damaging effect on Korean economy. It is inevitable for Korea to adjust to world market in a flexible way as its export has a high proportion in aggregate demand. In this regard the lack of sufficient social safety net makes structural adjustment unbearable to the affected people 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 Korean capital market and foreign funds have become important players in the stock and bond market of Korea. Yet it has increased the instability of Korean economy as well. The sudden outflow of foreign capital from Korea has led to very unstable exchange rate fluctuations, namely currency crises.

The amount of FDI into Korea was rather insignificant until the mid-1990s. As Korea joined OECD and was hit by the financial crisis, the volume of FDI increased to a considerable extent. 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 partly to get an easy access to foreign markets. The increase of ODI is associated with the decreasing proportion of employment in manufacturing industry and the weakening of trickle-down effect among enterprises and people.

Korea has concluded FTAs with Chile, Singapore, ASEAN, India, 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 do harm to Korean sovereignty and various parts of industry. After all, the main issue is how to regulate the speed and terms of trade liberalization on the one hand, and how to distribute its costs and benefit on the other hand.

The emission of greenhouse gas has been rising rapidly in Korea due to the continuous increase in energy consumption. With regard to its composition, the proportion of transportation is stagnating and that of manufacturing and construction is declining, while electricity and gas industry has a increasingly higher proportion. The high oil price is dealing a hard blow to poor people in Korea and it is very likely to harm the international competitiveness and economic growth of Korea, as the Korean economy depends very heavily on imported oil and gas.

The current government has sought to reduce greenhouse gas by raising energy efficiency, expanding renewable energy sources and building more nuclear power plants. However, the supplies of renewable energy are still minimal. Building nuclear power plants is increasingly faced with the opposition of environmental movement groups and concerned local people. Furthermore, the current government pursued the Four River project which were thought to be harmful to environment by many people.