Second Quarter 2015 / Vol.2015-2

HRI Quarterly Economic Review

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[Annex] Domestic and Global Economic indices

Hyundai Research Institute

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The HQER is a quarterly English publication of
the Hyundai Research Institute.

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Since 2000, newly emerging nations including China, India, and ASEAN are fast increasing their shares in the global export market as their manufacturing capability improves. China, in particular, which has an export structure similar to Korea's, is already surpassing Korea in global market share in most export industries. Although technical advancement and higher value-added in export products have been put forward in response to this competition, not much analysis has been done so far as to the current level of Korea's technology and value-added levels. This report aims to compare the current technological level of Korean manufacturing industry to that of advanced nations that are strong in manufacturing such as Germany, Japan, and the US, and include a comparison with newly emerging manufacturing powerhouses such as China, using an export upgradability index.

『Analysis of Domestic Fiscal Policy Position Using the IMF Fiscal Impulse Indicator』

The Korean economy is currently facing a series of difficulties: depressed consumption and investment, slowdown inflation and worsening business sentiment in different economic units. When the gross demand of all economic units is sluggish, as it is now, policy-makers may consider economic controls, employing new monetary and fiscal policies. Recently the Bank of Korea has maintained a quantitative-easing monetary policy, reducing the base rate to a record low of 1.75%, while at the same time the government's fiscal policy is expected to stop the economic slowdown and stabilize the economic cycle. This report aims to assess the direction of current fiscal policy by means of the fiscal impulse indicator, and examine economic effect expected.

『Local Residency Status of Foreign Professionals in Korea』

The need to employ foreign professionals is growing, to cope with the changing demography of Korea - growing intellectual capital, a low birth rate, and an aging population. Local foreign professionals are generally referred to as alien manpower working in Korea with 'professional knowledge'. It is understood that foreign professionals experience difficulties living and working in Korea due to the language barrier and rigid Korean working culture. It is therefore necessary to understand the exact status of foreign professionals working in Korea, so as to make sure they are happy in their work, and to attract more of them.

2. The North Korean Issues

The Korean peninsula peace index for the 1st quarter of 2015 was 33.6. Although the index for the previous quarter(4th quarter 2014) accounted for 40p plus, a bounce-back for the first time in a year, it fell back again by 11.1p after one quarter. The expectation index for the 2nd quarter 2015 shows 40.2, a quarter-on-quarter drop of 11.6p.

Ⅰ. Economic Issues Facing Korea

1. The Task of Improving the Export Upgradability of the Korean Manufacturing Industry

Newly Emerging Manufacturing Powerhouses are fast catching up with Korea

Since 2000, newly emerging nations including China, India, and ASEAN are fast increasing their shares in the global export market as their manufacturing capability improves. China, in particular, which has an export structure similar to Korea's, is already surpassing Korea in global market share in most export industries. Although technical advancement and higher value-added in export products have been put forward in response to this competition, not much analysis has been done so far as to the current level of Korea's technology and value-added levels. This report aims to compare the current technological level of Korean manufacturing industry to that of advanced nations that are strong in manufacturing such as Germany, Japan, and the US, and include a comparison with newly emerging manufacturing powerhouses such as China, using an export upgradability index.

Current Technological Level of the Korean Manufacturing Industry

The Korean manufacturing industry has achieved relatively fast progress in its export upgradability index, reaching a similar level to Germany and Japan as of 2013. Korea's export upgradability index stood at 94.3p in 2000, lower than Germany (104.8p), Japan (103.4p) and the US (100.8p), but rose to 106.9p in 2013, still lower than Japan (111.7p), but higher than the US (103.0p), and close to Germany (108.5p). China showed a

remarkable improvement from 77.3p in 2000 to 91.7p in 2013, although this was still much lower than the figures for advanced nations. Classified by major industry, Korea's upgradability index for the precision industry recorded 100.3p in 2013 thanks to the increasing exports of Flat Display Panels (FDP), higher than Germany at 98.3p and Japan at 95.1p. However, Korea lacks diversification in its exports compared to Germany and Japan, since FDPs make up 66% of all Korea's precision industry exports. When it comes to general machinery items, Korea's upgradability index was 96.1p in 2000, lower than Germany (100.7p) and Japan (105.3p), but this grew to 101.6p in 2013, similar to Germany (101.1p). Semiconductors and electronic components among IT products, Korea's main export items, have enhanced their export upgradability index (107.0p in 2013) since 2007 due to the rapid growth of the semiconductor market, steadily maintaining a higher index compared to major advanced countries such as Japan (100.4p) and the US (101.0p); however audiovisual telecommunication apparatus and instruments did not perform well compared to the major exporting nations, due to the fact that Korean exports focus on too few items. However, the gap between Korea and competing nations appears insignificant. The upgradability index for chemical products was 96.5p in 2013, showing a sizeable gap with that of Germany (103.3p), Japan (104.9p), and the US (101.4p), while the gap with China (91.7p) has narrowed considerably. The lead over China in the area of petroleum and coal-based products has also substantially reduced, due to China's rapid progress. Korea's steel product manufacturing industry recorded 116.9p in 2007, the highest of all major countries, but dropped markedly in 2013, lagging behind the major competing nations. The upgradability index of China, in particular, rose from 89.8p in 2000 to 104.5p in 2013, narrowing the gap with Korea from 21.9p to a mere 4.1p. Korea's automobile industry is still well ahead of China, and at the same time has largely reduced the lead of Germany, Japan, and the US.

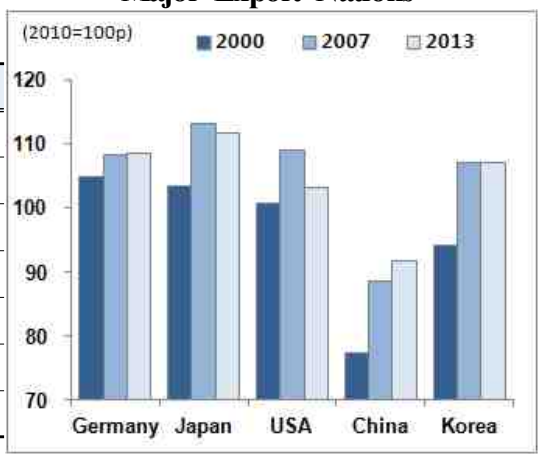
< Trend for Global Market Share of Products Manufactured by Major Export Nations>

(%)

	2000	2005	2010	2013
US	12.9	9.0	8.1	8.2
Germany	8.9	10.0	8.7	8.3
Japan	8.3	6.2	5.6	4.2
China	4.3	8.1	11.7	13.5
India	0.7	1.0	1.5	1.9
ASEAN	4.6	4.1	4.4	4.5
Korea	3.1	3.1	3.5	3.5

Source : UN Comtrade.
Note : Manufacturing items assumed on 21-96 of HS code 2 units.

< Export Upgradability Indices for the Manufacturing Industry of Major Export Nations >



Source : Calculated by HRI .
Note: Based on 100 as the average global manufacturers' export upgradability index for 2010.

Concerns over the Squeezing of Korean Manufacturing Industry

Although the precision, semiconductors and electronic components manufacturing industries have been upgraded to the level of major nations, and the gap between Korea and major nations is narrowing, China is also making swift progress in upgrading. The technological edge of Korea's general machinery and automobile industries appears to have considerably improved, and is still well ahead of China. Korea is set to face increasing competition from advanced nations rather than from newly industrialized countries. The Korean audiovisual telecommunication apparatus, steel, and petrochemical products industries are struggling to compete between the advanced countries and China, and are being squeezed between the two. These industries have their work cut out to narrow the gap with advanced countries, while competition from China has gained so much strength recently that we cannot entirely eliminate the possibility of Korea being left behind China in the future.

< Comparisons of Major Nation's Export Upgradability Indices by Industry (2013) >

(P)

	Germany	Japan	USA	China	Korea	Gap between Korea & China
Manufacturing Industry	108.5	111.7	103.0	91.7	106.9	15.2
Precision Instruments	98.3	95.1	91.7	99.1	100.4	1.3
General Machinery	101.1	104.4	97.7	92.6	101.6	9.0
Semiconductors/ Electronic Components	92.3	100.4	101.0	101.8	107.0	5.2
Audiovisual Telecommunication Apparatus	100.8	103.0	103.9	100.8	100.1	-0.7
Chemical Products	103.3	104.9	101.4	91.7	96.5	4.8
Petroleum & Coal Products	103.6	106.2	105.6	103.3	105.3	2.0
Steel	106.9	107.1	109.2	104.5	108.6	4.1
Automobile	104.3	101.6	98.1	85.7	97.7	12.0

Source: HRI

Policy Suggestions

The overall upgrading level of Korean manufacturing industry is now close to that of advanced countries, thanks to the rapid advancement of its IT industry, one of Korea's leading export industries. However, the following steps should be taken as a matter of urgency to alter the current export structure, which focuses heavily on just a few industries, to counter the fact that China is fast catching up:

First, policy support should be weighted towards a variety of industries rather than just focusing on the IT industry, to diversify the effort to upgrade different areas of industry.

Second, a sustainable industrial structure upgrading policy should be introduced by intensive promotion of manufacturing businesses engaged in creating new growth and higher value-added.

Third, potential to secure leading technology for businesses should be cultivated by creating an environment where first class researchers can be encouraged to work for the long term.

2. Analysis of Domestic Fiscal Policy Position Using the IMF Fiscal Impulse Indicator

Summary

The Korean economy is currently facing a series of difficulties: depressed consumption and investment, slowdown inflation and worsening business sentiment in different economic units. When the gross demand of all economic units is sluggish, as it is now, policy-makers may consider economic controls, employing new monetary and fiscal policies. Recently the Bank of Korea has maintained a quantitative-easing monetary policy, reducing the base rate to a record low of 1.75%, while at the same time the government's fiscal policy is expected to stop the economic slowdown and stabilize the economic cycle. This report aims to assess the direction of current fiscal policy by means of the fiscal impulse indicator, and examine economic effect expected.

Analysis of the Basis of Fiscal Policy and its Effect

A fiscal policy is an economic policy introduced to stabilize an over-heated economy or to boost a depressed economy by controlling the size of government revenue and expenditure. When the government introduces a fiscal policy, it needs to take into account the issue of stabilizing the domestic economy as well as national fiscal reserves.

Korea has more financial resources, compared to major nations, to implement a fiscal policy to boost the economy. The GDP/national debt ratio of Korea, which is generally employed to assess a nation's fiscal reserves, is 35.1% as of 2014. The GDP/national debt ratios of advanced nations such as the US, the UK, and Germany, and the PIIGS countries that experienced financial crisis was around 100%, and in the case of Japan, 200%. Other factors to be considered when adopting fiscal policies, such as additional interest for foreign exchange equalization bonds, CDS premiums,

and the sovereign credit rating are reasonably stable. However, there are some elements threatening medium-long term fiscal sustainability, such as increasing social costs due to the aging population, and the cost of the future unification of Korea. The effectiveness of fiscal policy for economic control is open to controversy. The pro-fiscal policy side argues that increasing government expenditure compensates for the lack of demand from households and businesses, and leads to household consumption and business investment, enhancing overall economic productivity as a result. The opposing side maintains that gross demand can drop due to shrinking private investment as a result of rising interest rates. It takes time before a fiscal policy can be implemented because they require the National Assembly's approval, which makes it difficult to speedily counter economic issues. In the case of Korea, the growth of government expenditure appears to have contributed to stimulating the economy. The expansionary fiscal policy adopted at the time of the economic crisis in 1998 and the credit card crisis in 2003 helped the Korean economy recover fast. The same policy employed in 2008 and in 2009 also contributed to achieving positive economic growth while major advanced nations suffered negative growth.

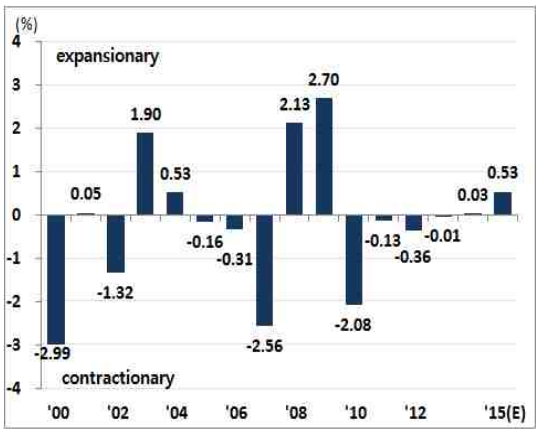
The fiscal policy basis of Korea can be interpreted by means of the IMF's fiscal impulse indicator, which is used to measure the discretionary fiscal policy of the government, excluding areas of economic fluctuation. The discretionary fiscal policy is interpreted to be an aggressive drive for expansion in the economy when the fiscal impulse index value is positive, and contraction when the index value is negative. The outcome of calculating the fiscal impulse indicator shows that the government has practiced an intensively expansionary fiscal policy since 2000-2004 when the credit card crisis took place.

The government adopted a policy of retrenchment from 2010 to 2012 to improve fiscal stability, which had deteriorated since the financial crisis, while it is assessed to have practiced a neutral fiscal policy in 2013 and 2014. The outcome of fiscal impulse indicator estimation based on the budget for 2015 shows that the

government is likely to adopt its most expansionary policy yet since the financial crisis.

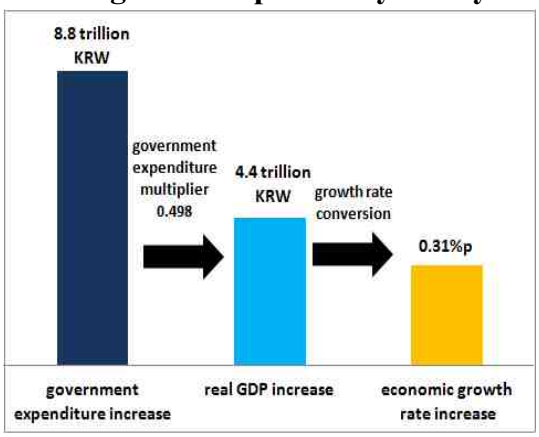
The difference between the budget for government expenditure for 2015 and a neutral fiscal impulse indicator is estimated to be US$8 billion (based on a consolidated budget). In other words, the size of discretionary spending for the expansionary fiscal policy of the government is US$8 billion. The government spending multiplier for Korea is approximately 0.498, and the GDP growth rate can be calculated using the government discretionary spending figure (US$8 billion) and the government spending multiplier. The expansionary fiscal policy for 2015 will increase the GDP of Korea by US$4 billion and the GDP growth rate by 0.31%p.

< Fiscal Impulse Indicator Trend for Korea >



Source: Estimated by HRI.
Note: Expansionary policy if fiscal impulse indicator is larger than 0, retrenchment policy if smaller than 0.

< Effect of Economic Stimulus resulting from Expansionary Policy >



Note: The increment of government expenditure is the difference between the budget for government expenditure and government expenditure making the fiscal impulse indicator neutral

Policy Suggestions

Policy makers need to increase aggregate demand with an expansionary policy while finding a way to maximize the effect of fiscal policy by: First, reinforcing expansionary fiscal policy to stimulate the economy. Second, speeding up the rate of government spending to underpin the beginning of economic recovery. Third, recreating positive sentiment in economic units such as households and businesses. Fourth, supporting an expansionary policy and maintaining monetary easing.

3. Local Residency Status of Foreign Professionals in Korea

Need for a Survey of how many Foreign Professionals have Residency Status in Korea

The need to employ foreign professionals is growing, to cope with the changing demography of Korea - growing intellectual capital, a low birth rate, and an aging population. Local foreign professionals are generally referred to as alien manpower working in Korea with 'professional knowledge'. Foreign professionals working in Korea increased from 13,000 in 2008 to 25,000 in September 2014, which accounts for only 0.6% of the total number of professionals in Korea. It is understood that foreign professionals experience difficulties living and working in Korea due to the language barrier and rigid Korean working culture. It is therefore necessary to understand the exact status of foreign professionals working in Korea, so as to make sure they are happy in their work, and to attract more of them. However, surveys of this sort have been of limited scope only hitherto. This study undertook a survey to better understand the exact status of foreign professionals in Korea.

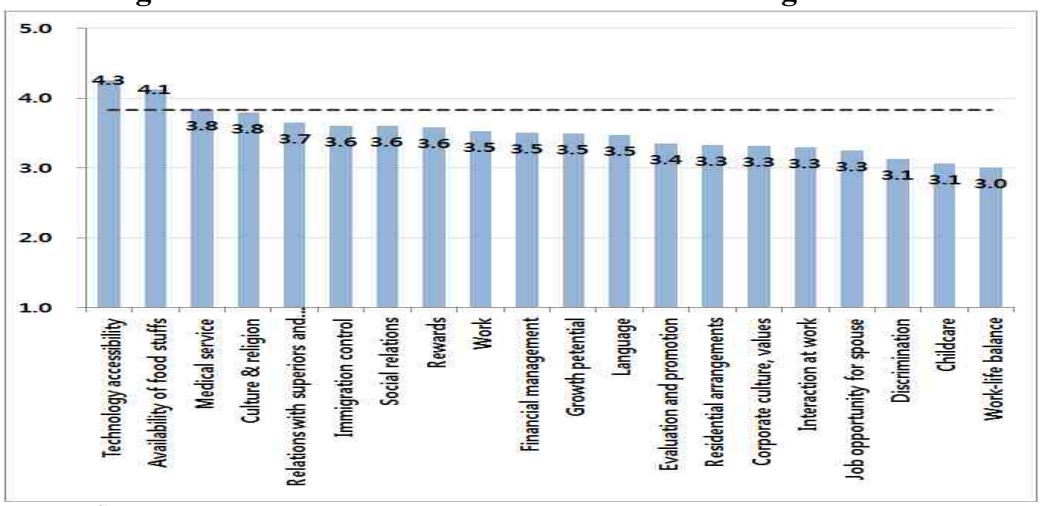
Outcome of the Survey of Foreign Professionals having Local Residency

The survey was conducted focusing on foreign professionals' level of expectation before entering Korea, their conditions of living in Korea, and their future plans. With 1 point for 'very low' to 5 points for 'very high', the outcome of the questionnaires on the level of expectation showed 3.6, which stands for 'average to somewhat high'. Regarding the motive for coming to Korea, most

respondents gave 'growth potential' followed by 'job description' and 'living environment'.

Foreign professionals appear to be reasonably satisfied with the living environment in Korea, with the result indicating 3.8. However, the level of satisfaction on 'discrimination', 'job opportunity for spouse', and 'work-life balance' looks lower.

< Foreign Professionals' Level of Satisfaction in Living in Korea>



Source : HRI

The degree of satisfaction for foreign professionals living in Korea indicates that they have a positive image of Korea. Respondents who agreed that their image of Korea had changed positively since their arrival in Korea accounted for 49.6% ('very positive' & 'pretty positive') as against a negative change of 8.7% ('very negative' & 'pretty negative'). Similarly, 50.4% ('very high' & 'pretty high') of the respondents showed a willingness to recommend their friends and relatives to live and work in Korea.

However, it is clear that many foreign professionals also experience difficulties with many aspects of life in Korea. 36.9% of them ('very difficult' & 'pretty difficult') confessed that it was not easy to keep a good balance between work and life in Korea. 'Language', 'corporate culture', and 'values' were also difficult aspects for them to accommodate. With regard to services available to support foreign professionals to settle comfortably in Korea, they

named ‘language training’ as a top priority followed by ‘administrative support’ and ‘other language-related support (such as interpreting)’. Among the people from whom they received help during their stay in Korea were work-related people (employer, boss, and colleagues) as well as Korean friends and friends of foreign nationals.

When it comes to future plans, 50.0% of respondents answered that they would stay in Korea for a further three years, and 20% for more than 10 years. Approximately half of them were planning to go back to their homelands or to leave for third countries when their term of contract expired. Among the reasons for wanting to leave Korea were issues of ‘corporate culture and values’, discrimination’, and ‘work-life balance’, similar to those categories that contributed to making it difficult to cope with life in Korea, and these should not go unheeded.

Policy Suggestions

To attract foreign professionals to, and retain them in Korea, and enhance their level of satisfaction in living in Korea:

First, language training services and assistance for their children’s education system should be stepped up to help foreign professionals settle in Korea comfortably.

second, a working environment attractive to foreign professionals should be created. Considering the fact that the main reasons for them coming to and leaving Korea are work-related, the government and corporates should work together to improve working conditions for them.

Third, public services provided by central and local governments for foreign nationals should be promoted quantitatively as well as qualitatively and implemented actively.

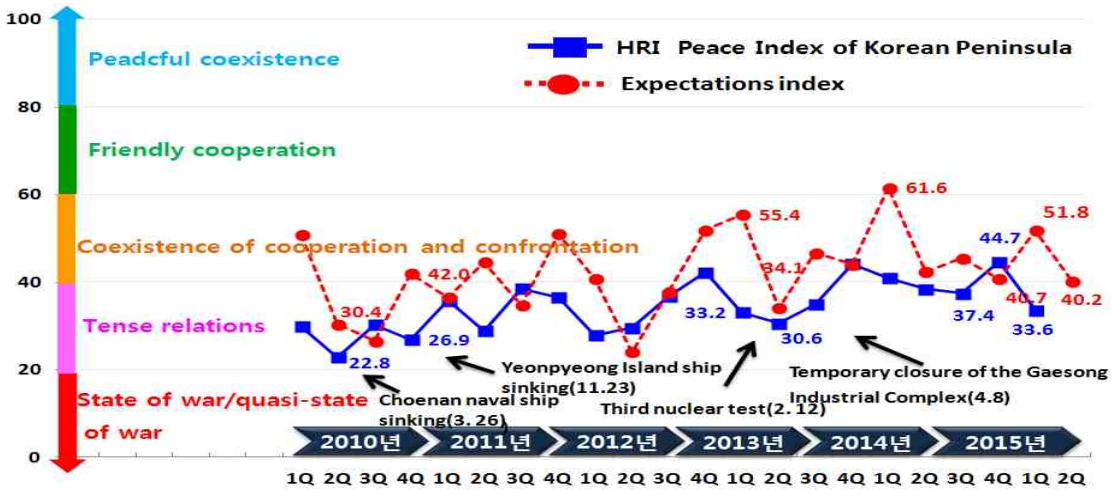
Ⅱ. North Korean Issues

1. Forecast for the Korean Peninsula Peace Index for the 2nd Quarter 2015

Overview

The Korean peninsula peace index for the 1st quarter of 2015 was 33.6. Although the index for the previous quarter(4th quarter 2014) accounted for 40p plus, a bounce-back for the first time in a year, it fell back again by 11.1p after one quarter. The expectation index for the 2nd quarter 2015 shows 40.2, a quarter-on-quarter drop of 11.6p.

< Trend for HRI Korean Peninsula Peace Index for 2010-2015 >



Major Characteristics

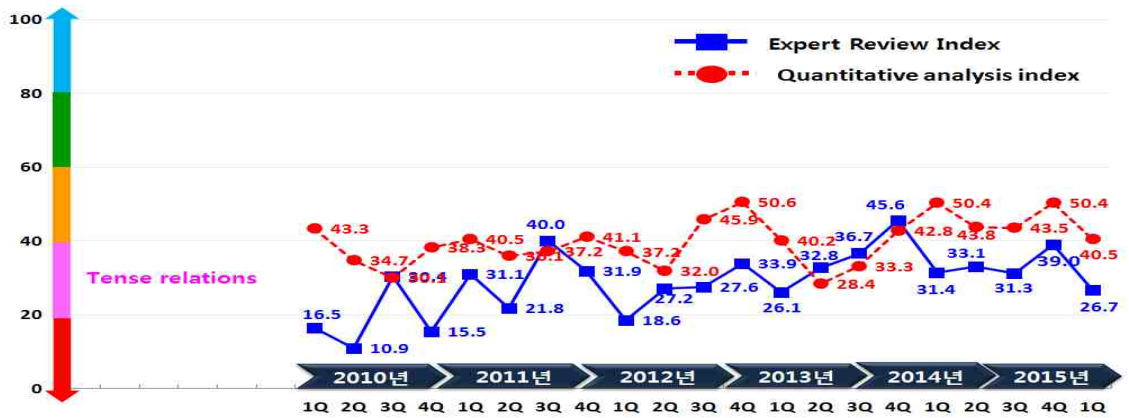
The characteristics of the peace index for Q1 2015 and the expectation index for Q2 2015 are as follows:

First, the peace index for Q1 2015 is divided into an expert assessment index which is subjective, and a quantitative analysis index which is objective, and both dropped in Q1 2015. The expert assessment index for Q1 2015 was 26.7 while quantitative analysis

was 40.5, both of which fell compared to the previous quarter. The expert assessment index, the subjective indicator, rose by 7.7p to 39.0, but dropped this quarter by 12.3p.

Second, the expert assessment index dropped more than the quantitative analysis index. The expert assessment index recorded 26.7, a quarter-on-quarter fall of 12.3p, with the North-South relationship kept in a 'state of high tension'. In particular, the expert assessment index dropped to the 20p plus level for the first time in 8 quarters, which is understood to reflect the disappointment due to the failed attempt to improve North-South relations at the beginning of the year. Meanwhile, the quantitative analysis for Q1 2015 fell by 9.8p to 40.5 from 50.4 in the previous quarter, reflecting North-South relations remaining in a state of high tension.

< Trends for the Expert Assessment Index & Quantitative Analysis Index for 2010-2015 >



Third, the majority of experts appear to have a negative view of the prospect for peace, especially experts with a liberal tendency. The expert assessment index for Q1 2015 showed a sharp drop with the progressive experts' index falling by 14.8p compared to the previous quarter. The expectation index for the next quarter for progressive experts showed 33.3, lower than that of experts of different political disposition. It also fell by 22.1p from the previous quarter, one of the worst forecasts on the prospects for North-South relations.

< Experts' Assessment Index by Political Disposition >

Section	Conservatives		Moderate		Progressive		Expert review index	HRI Peace Index	Expectation Index
	Now	Expected	Now	Expected	Now	Expected			
Q1 2015	31.8 (▽7.2)	45.0 (▽8.9)	27.3 (▽12.2)	43.2 (▽4.1)	24.6 (▽14.8)	33.3 (▽22.1)	26.7 (▽12.3)	33.6 (▽11.1)	40.2 (▽11.6)
Q4 2014	39.0 (▲2.4)	53.9 (▲7.7)	39.5 (▲5.2)	47.3 (▲5.2)	39.4 (▲15.0)	55.4 (▲20.0)	39.0 (▲7.7)	44.7 (▲7.3)	51.8 (▲11.1)
Q3 2013	36.6 (▲4.0)	46.2 (▲1.1)	34.3 (▽1.4)	42.1 (▽4.3)	24.4 (▽7.1)	33.4 (▽11.0)	31.3 (▽1.8)	37.4 (▽1.0)	40.7 (▽4.8)
Q2 2014	32.6 (▲1.5)	45.1 (▽0.9)	35.7 (▲4.6)	46.4 (▲3.4)	31.5 (▲5.2)	44.4 (▲3.2)	33.1 (▲1.7)	38.4 (▽2.4)	45.5 (▲3.2)
Q1 2014	31.1 (▽10.8)	46.0 (▽12.2)	31.1 (▽14.9)	43.0 (▽20.1)	26.3 (▽21.2)	41.2 (▽21.4)	31.4 (▽14.2)	40.9 (▽3.3)	42.3 (▽19.3)

Note: Due to certain corrections, this peace index maybe slightly different from the peace index previously published.

Policy Suggestion

To find a breakthrough in the strained North-South relationship, the following measures should provide momentum to improve matters:

First, with a joint event to be held with North Korea to celebrate the 70th anniversary of independence coming soon, the government should look for humanitarian projects, such as regular reunions of separated families, North-South economic cooperation, and social/cultural exchanges.

Second, this year being meaningful because of the 70th anniversary of national liberation, the government should make every effort to realize the unification policy – for example with the DMZ Peace Park Project, taking one step at a time closer to peaceful unification, to reunify the Korean people.

Third, North Korea's reform and opening-up policy should be encouraged by promoting private sector North-South economic cooperation as well as multilateral cooperation projects, and by supporting normalization of existing North-South cooperation projects such as Mt. Geumgang tourism and the Gaesong Industrial complex. At the same time, multilateral cooperation projects involving both Koreas and China or Russia in North Korean border areas should be actively promoted. It is also worth considering linking North-South cooperation projects to North Korea's plan for economic development zones.

[Annex] Domestic and Global Economic Indices

☐ Global Growth Rate

Category	2013					2014					2015
	Annual	1/4	2/4	3/4	4/4	Annual	1/4	2/4	3/4	4/4	Annual(E)
US	2.2	2.7	1.8	4.5	3.5	2.4	-2.1	4.6	5.0	2.2	2.5
Euro Region	-0.5	-0.2	0.3	0.1	0.3	0.9	0.3	0.1	0.2	0.3	1.5
Japan	1.6	1.5	0.7	0.4	-0.4	-0.1	1.2	-1.8	-0.5	0.3	1.0
China	7.8	7.7	7.5	7.8	7.7	7.4	7.4	7.5	7.3	7.3	6.8

Note: 1) IMF figures of April 2015 for 2015 global projections.
2) Annual rates were compared with those of previous term for the US and Japan, with the rates of the previous term for Euro region, and with the same term in the previous year for China.

☐ Economic Indicators of South Korea

Division		2013	2014			2015(E)
			the first half	the second half(E)	Annual(E)	
National Account	Economic Growth rate (%)	2.9	3.7	3.0	3.3	3.0
	Private Consumption (%)	1.9	2.2	1.5	1.8	1.9
	Construction Investment (%)	5.5	1.9	0.4	1.0	3.1
	Facility Investment (%)	-0.8	7.5	4.2	5.8	5.0
	Intellectual Property Investment(%)	4.4	6.4	2.9	4.6	5.2
Foreign Trade	Current Account (100 million Dollars)	811	394	498	892	1,010
	Exports (100 million Dollars) [Increase rate, %]	5,596 [2.1]	2,832 [2.4]	2,895 [2.2]	5,727 [2.8]	5,515 [-3.7]
	Imports (100 million Dollars) [Increase rate, %]	5,156 [-0.8]	2,633 [2.7]	2,622 [1.2]	5,255 [1.9]	4,705 [-10.5]
Consumer Price (Average, %)		1.3	1.4	1.2	1.3	0.7
Employment rate (15~64, Average, %)		64.4	65.0	65.7	65.3	65.5

☐ Economic Indicators of North Korea

		2006	2007	2008	2009	2010	2011	2012	2013	2014
Per capita GNI (10,000 won)		103	104	114	119	124	133	137	138	-
Amount of Trade by Year (USD million)	South-to-North	830.2	1,032.6	888.1	744.8	868.3	800.2	897.2	520.6	1,136.2
	North-to-South	519.5	765.3	932.3	934.3	1,043.9	913.7	1,074.0	615.2	1,206.8
	Total	1,349.7	1,797.9	1,820.4	1,679.1	1,912.2	1,713.9	1,971.2	1,135.8	2,343.0

Source: THE BANK OF KOREA, Ministry of Unification.

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