

2015

# TRILATERAL ECONOMIC REPORT

September 2015

2015中日韩三国经济报告  
2015日中韩三国經濟報告書  
2015 한중일 3국 경제 보고서

## Statement

The report was outsourced to Dr. LEE Chang Jae, Distinguished Research Fellow of Korea Institute for International Economic Policy (KIEP) in the Republic of Korea (ROK); Dr. TANAKA Kiyoyasu, Research Fellow of Institute of Developing Economics, Japan External Trade Organization (IDE-JETRO) in Japan; and Dr. LI Xiao, Associate Dean of Economics School of Jilin University in China.

The contents (including policy recommendations) of the report expressed by the three authors do not necessarily reflect the positions of the Trilateral Cooperation Secretariat (TCS).

# Foreword



I'm glad to introduce the 2015 Trilateral Economic Report, which is an annual flagship report of Trilateral Cooperation Secretariat (TCS). With an aim to follow up and have comprehensive understanding on the economic development and integration among China, Japan and ROK, the 2015 Trilateral Economic Report was outsourced to Dr. LEE Chang Jae, Distinguished Research Fellow of Korea Institute for International Economic Policy (KIEP) in the Republic of Korea (ROK); Dr. TANAKA Kiyoyasu, Research Fellow of Institute of Developing Economics, Japan External Trade Organization (IDE-JETRO) in Japan; and Dr. LI Xiao, Associate Dean of Economics School of Jilin University in China.

Since the trilateral cooperation among China, Japan and ROK started from 1999, the three countries achieved a lot on the trilateral economic cooperation. I hope the 2015 Trilateral Economic Report will provide useful information for you and give guidance for understanding the dynamic and close relations among the three countries as well.

A handwritten signature in black ink, consisting of stylized Chinese characters, likely '杨厚兰' (Yang Houlan).

YANG Houlan  
Secretary-General  
Trilateral Cooperation Secretariat

<b>Chapter I</b>	<b>Economic Profile</b>	<b>08</b>
	<b>I Macroeconomic Performance in CJK</b>	
	1 China: “Weak demand and supply”	
	2 Japan: “Ups and downs in consumption”	
	3 ROK: “Short recovery”	
	<b>II Economic Adjustment of CJK</b>	
	<b>III Economic Prospects for CJK</b>	
<b>Chapter II</b>	<b>Trade</b>	<b>21</b>
	<b>I Trade in Goods</b>	
	1 Trends of world trade	
	2 Trends of trade in goods of CJK	
	3 Status of CJK in terms of trade in goods	
	4 Structures of trade	
	5 Intra-regional trade	
	6 Prospects for trade in goods in CJK	
	<b>II Trade in Services</b>	
	1 Trends of trade in services in CJK	
	2 Structure of trade in services in CJK	
<b>Chapter III</b>	<b>Investment</b>	<b>37</b>
	<b>I Inward FDIs of CJK</b>	
	1 Trends of inward FDIs of CJK	
	2 China’s inward FDI	
	3 Japan’s inward FDI	
	4 ROK’s inward FDI	
	<b>II Outward FDIs of CJK</b>	
	1 Trends of outward FDIs of CJK	
	2 China’s outward FDI	
	3 Japan’s outward FDI	
	4 ROK’s outward FDI	
<b>Chapter IV</b>	<b>Financial Cooperation</b>	<b>48</b>
<b>Chapter V</b>	<b>FTA</b>	<b>49</b>
	<b>I Current Status of FTAs of CJK</b>	
	<b>II CJK FTA</b>	
	1 Brief history of CJK FTA	
	2 Current status of CJK FTA negotiations	
<b>Chapter VI</b>	<b>Energy</b>	<b>52</b>
	<b>I Current Status and Policy of Energy of CJK</b>	
	<b>II Future Possible Cooperation of Energy among CJK</b>	
<b>Chapter VII</b>	<b>Policy Recommendation for Trilateral Cooperation</b>	<b>66</b>

# List of Tables and Figures

## **Tables**

<b>Table I-1</b>	Macroeconomic indicators in China	<b>08</b>
<b>Table I-2</b>	Key indicators of China's monetary and financial markets (2015)	<b>12</b>
<b>Table I-3</b>	Macroeconomic indicators in Japan	<b>13</b>
<b>Table I-4</b>	Macroeconomic indicators in ROK	<b>14</b>
<b>Table I-5</b>	Forecasts for ROK's economic growth	<b>20</b>
<b>Table II-1</b>	Comparison of top CJK export products in 2014 (HS 2-digit code)	<b>24</b>
<b>Table II-2</b>	Comparison of top CJK import products in 2014 (HS 2-digit code)	<b>25</b>
<b>Table II-3</b>	CJK's major trading partners in 2014	<b>29</b>
<b>Table II-4</b>	China-Japan trade structure in 2014 (HS 2-digit code)	<b>30</b>
<b>Table II-5</b>	China-ROK trade structure in 2014 (HS 2-digit code)	
<b>Table II-6</b>	Japan-ROK trade structure in 2014 (HS 2-digit code)	<b>31</b>
<b>Table II-7</b>	Trade in goods of China, Japan and ROK (Jan-May in 2015)	<b>32</b>
<b>Table II-8</b>	Bilateral balance of trade in services of CJK	<b>34</b>
<b>Table II-9</b>	Japan's structure of trade in services (2014)	<b>35</b>
<b>Table II-10</b>	ROK's structure of trade in services (2014)	<b>36</b>
<b>Table II-11</b>	China's structure of trade in services (2014)	
<b>Table III-1</b>	Major sources of China's inward FDI flows	<b>38</b>
<b>Table III-2</b>	Sectoral structure of China's inward FDI flows	
<b>Table III-3</b>	Major sources of Japan's inward FDI flows	<b>39</b>
<b>Table III-4</b>	Sectoral structure of Japan's inward FDI flows	<b>40</b>
<b>Table III-5</b>	Major sources of ROK's inward FDI flows	<b>41</b>
<b>Table III-6</b>	Sectoral structure of ROK's inward FDI flows	
<b>Table III-7</b>	Major destinations of China's outward FDI flows	<b>43</b>
<b>Table III-8</b>	Sectoral structure of China's outward FDI flows	<b>44</b>
<b>Table III-9</b>	Major destinations of Japan's outward FDI flows	<b>45</b>
<b>Table III-10</b>	Sectoral structure of Japan's outward FDI flows	
<b>Table III-11</b>	Major destinations of ROK's outward FDI flows	<b>46</b>
<b>Table III-12</b>	Sectoral structure of ROK's outward FDI flows	<b>47</b>
<b>Table V-1</b>	Current status of FTAs in China, Japan and ROK	<b>49</b>

<b>Table VI-1</b>	China's GDP and its energy consumption	<b>52</b>
<b>Table VI-2</b>	Primary energy intensity in main countries / areas	<b>53</b>
<b>Table VI-3</b>	Shares of energy consumption of different sectors in China	<b>55</b>
<b>Table VI-4</b>	China's energy output and consumption in 2013	
<b>Figures</b>		
<b>Figure I-1</b>	Quarterly GDP growth rate from 2012 to 2015 in China	<b>09</b>
<b>Figure I-2</b>	Manufacturing PMI of China	
<b>Figure I-3</b>	Monthly year-on-year growth rate of CPI and PPI in China	<b>10</b>
<b>Figure I-4</b>	Growth rates of the sources of fixed asset investment	<b>11</b>
<b>Figure I-5</b>	Exchange rate	<b>15</b>
<b>Figure I-6</b>	ROK's policy interest rate	<b>18</b>
<b>Figure II-1</b>	Trends of world exports and the world economy	<b>21</b>
<b>Figure II-2</b>	Trends of trade in goods of China, Japan and ROK	<b>22</b>
<b>Figure II-3</b>	Trade balances	
<b>Figure II-4</b>	Share of world trade in goods of China, Japan and ROK	<b>23</b>
<b>Figure II-5</b>	Intra-regional trade	<b>26</b>
<b>Figure II-6</b>	Intra-regional trade intensity index	
<b>Figure II-7</b>	Regional introversion index	<b>27</b>
<b>Figure II-8</b>	China's trade with Japan and ROK	
<b>Figure II-9</b>	Japan's trade with China and ROK	<b>28</b>
<b>Figure II-10</b>	ROK's trade with China and Japan	<b>29</b>
<b>Figure II-11</b>	Service exports and imports of CJK and shares in the world	<b>33</b>
<b>Figure II-12</b>	Changes of balance of trade in services of CJK	<b>34</b>
<b>Figure III-1</b>	Trends of inward FDIs of China, Japan and ROK	<b>37</b>
<b>Figure III-2</b>	Trends of outward FDIs of China, Japan and ROK	<b>42</b>
<b>Figure VI-1</b>	China's energy consumption elasticity coefficient from 2003 to 2013	<b>53</b>
<b>Figure VI-2</b>	China's energy consumption structure from 1978 to 2013	<b>54</b>
<b>Figure VI-3</b>	Sources of domestic energy supply in Japan	<b>56</b>
<b>Figure VI-4</b>	ROK energy mix trend: 2000-2015	<b>59</b>

# Abbreviations

<b>ASEAN</b>	Association of South-East Asian Nations
<b>CJK</b>	China, Japan and ROK
<b>CPI</b>	Consumer Price Index
<b>PPI</b>	Producer Price Index
<b>PMI</b>	Purchase Management Index
<b>EU</b>	European Union
<b>FDI</b>	Foreign Direct Investment
<b>FTA</b>	Free Trade Area / Free Trade Agreement
<b>GDP</b>	Gross Domestic Product
<b>IMF</b>	International Monetary Fund
<b>NAFTA</b>	North American Free Trade Agreement
<b>RMB</b>	Renminbi
<b>US</b>	United States
<b>USD</b>	US dollar
<b>WTO</b>	World Trade Organization
<b>CMIM</b>	Chiang Mai Initiative Multilateralization
<b>QE</b>	Quantitative Easing
<b>AMRO</b>	ASEAN+3 Macroeconomic Research Office

# Executive Summary

The results of economic performances of China, Japan and ROK were somewhat mixed in 2014, and the prospects of their economies for 2015-16 do not appear very optimistic. In 2014, China showed a relatively weaker economic growth compared to previous years, and despite the government's efforts, China is likely to face with some continuous challenges of economic slowdown in the coming years. The Japanese economy was affected both by the negative side effects of consumption tax hike and by the positive effects of "Abenomics" policies, and its economic prospects will largely depend on the success or failure of those policies. Korea's economy appeared to continue its expansion in 2014 growing by 3.3 percent in 2014, compared with 2.9 percent in 2013; however, a closer look reveals that this recovery was not a solid one, and it is expected that the Korean economy will face internal and external challenges in 2015-16.

China, Japan and ROK are major trading countries. In 2014, China was the largest trading country in the world, while Japan and ROK ranked fourth and eighth, respectively. Currently, however, all three countries are facing serious difficulties in trade. Moreover, the situation worsened, for the most part, in 2015. In addition, when it comes to intra-regional trade among the three countries, its level has continued to decrease recently; it is presently much lower than those of other major economic regions.

Compared to trade in goods, the share of the three countries in terms of trade in services and investment in the world is much smaller. Moreover, their levels of intra-regional trade in services and intra-regional investment are significantly lower than that of intra-regional trade in goods.

Although China, Japan and ROK had a late start in joining their efforts toward economic regionalism, they have pursued rather active FTA policies since the turn of the 21st century. As a result, the three countries have concluded a large number of FTAs and many other FTA negotiations are in progress. As for the China-Japan-Korea FTA, after a decade of preparations among the three countries, the first round of CJK FTA negotiations took place in Seoul in March 2013. Till the end of September, 2015, eight rounds of FTA negotiations were held. After more than two years since the launch of CJK FTA negotiations, overall, the CJK FTA negotiations so far have not produced the expected results, although some limited progress has been made.

The three countries are at a historic juncture, indicating that it is time for them to accelerate the CJK FTA negotiations, because it would be needed for the following reasons: 1) it would revitalize CJK trade by increasing the intra-regional trade among them; 2) it could raise competitiveness of their service sectors; and 3) it could also deepen economic integration among the three countries by promoting intra-regional FDI flows. In addition, it is the most important to resume the Trilateral Summit soon, to expedite the CJK FTA negotiations by providing leadership and momentum.

China, Japan and ROK, which depend heavily on imported fossil fuels, share common interests in terms of energy issues: securing sufficient supply of energy sources, improving the efficiency of energy consumption, reducing environmental impacts, and enhancing safety in nuclear power plants. In this report, several concrete policy measures are suggested to pursue these common interests through trilateral cooperation.

## I Macroeconomic Performance in CJK

### 1 China: “Weak demand and supply” (Dr. LI Xiao)

#### 1-1 The weakening of key indicators

Since the beginning of the economic reforms, China has experienced a continued rapid economic growth. In 2014, China’s GDP was RMB 63.6 trillion, almost 160 times of its GDP in 1979, which was RMB 0.41 billion. Between 2001 and 2011, the average annual GDP growth rate achieved 10.25 percent, which reflected the so called “Chinese Miracle”. But in recent years, China’s growth rate is slowing down, the annual GDP growth rate declined from 10.4 percent in 2010 to 7.4 percent in 2014, and CPI declined from 103.3 in 2010 to 102 in 2014. The growth of exports and imports has also declined. In 2014, the growth rate of imports is -0.5 percent, which is the first negative rate since 2009 (see table I-1).

**Table I - 1 Macroeconomic indicators in China**

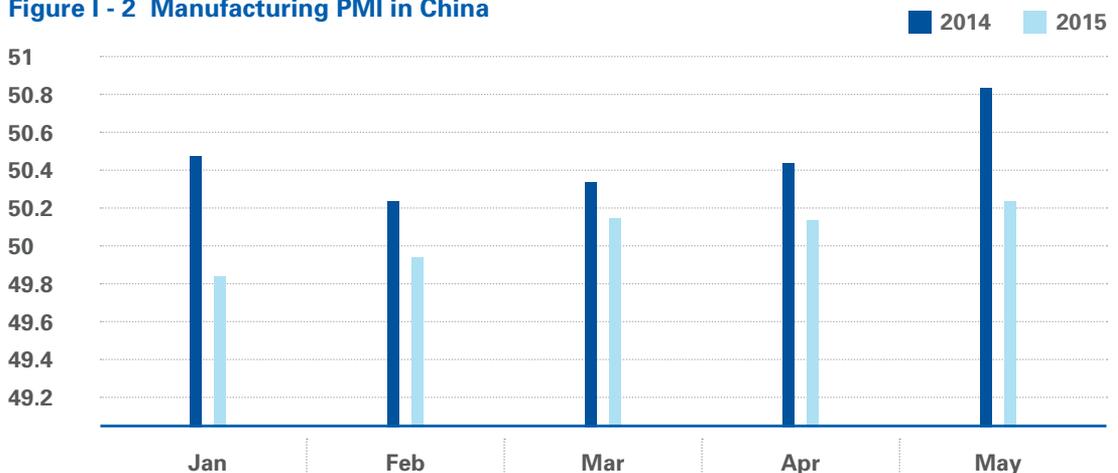
	2008	2009	2010	2011	2012	2013	2014
<b>GDP (RMB Billion)</b>	31,675.2	34,562.9	40,890.3	48,412.4	53,412.3	58,801.9	63,613.9
<b>GDP Growth Rate</b>	9.6	9.2	10.4	9.3	7.7	7.7	7.4
<b>CPI</b>	105.9	99.3	103.3	105.4	102.6	102.6	102
<b>Exports (RMB Billion)</b>	10,039.5	8,203.0	10,702.3	12,324.1	12,935.9	13,713.1	14,391.2
<b>Imports (RMB Billion)</b>	7,952.7	6,861.8	9,469.9	11,316.1	11,480.1	12,103.8	12,042.3
<b>Unemployment Rate</b>	4	4.2	4.3	4.1	4.1	4.1	4.1

Source: National Bureau of Statistics of China.

**Figure I - 1 Quarterly GDP growth rate from 2012 to 2015 in China**

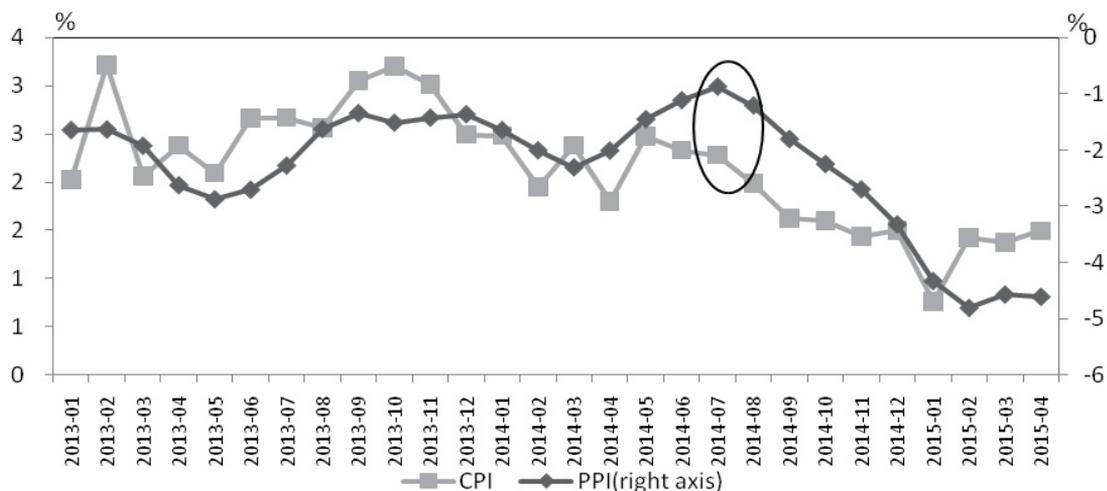
Source: National Bureau of Statistics of China.

In the first quarter of 2015, the GDP growth rate in China declined to 7 percent (see figure I-1) and its manufacturing PMI in the first 5 months in 2015 is significantly lower compared with those in 2014. The PMI in January and February were 49.8 and 49.9 respectively, although the index returned to the level higher than 50 percent from March, it still shows a slow growth. This situation reflected the downward pressure currently faced by manufacturing sector (see figure I-2). On the other hand, since July in 2014, the year-on-year growth rate of CPI and PPI has experienced a sharp decline, and touched the lowest level with 0.46 and -4.80 in January and February in 2015 respectively since 2012 (see figure I-3).

**Figure I - 2 Manufacturing PMI in China**

Source: National Bureau of Statistics of China.

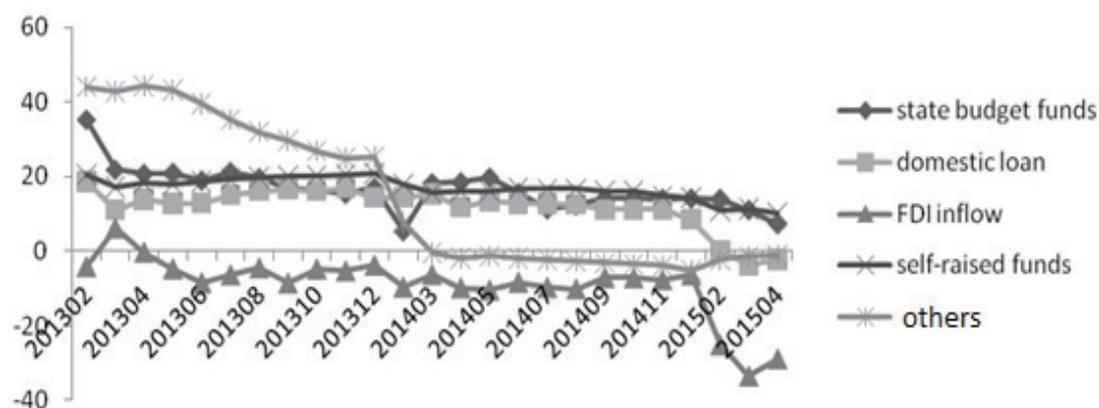
**Figure I - 3 Monthly year-on-year growth rate of CPI and PPI in China**



Source: National Bureau of Statistics of China.

## 1-2 Weak demand and supply

In addition to the influences by the weak world economy and poor external demand, the main reasons for the slowdown of China’s key indicators are weak domestic demand and supply. At the end of 2013, the year-on-year growth rate of total retail sales of consumer goods declined drastically, and the downward trend continued. In April 2015, the rate declined to 10 percent, which is 15.97 percent lower than the same month in 2014. Growth rate of fixed asset investment also slumped dramatically, from 21.2 percent in February 2013 to 12 percent in April 2015, declining by 43 percent. Looking at the growth rate of the sources of fixed asset investment, it can be told that the slowdown of domestic loan and FDI inflow is the main reason (see figure I-4). The weak domestic demand also caused slowdown of China’s import, for the first 5 months in 2015, the total value of import is 17.48 percent lower than the same period in 2014. The year-to-year growth rate of export maintained negative from March to May 2015.

**Figure I - 4 Growth rates of the sources of fixed asset investment (%)**

Source: National Bureau of Statistics of China.

The weak domestic supply is another reason for the weak macroeconomic performance. For the first 4 months in 2015, the year-on-year growth rate of industrial value added is 6.2 percent, down to the lowest level since 2009. In April 2015, the four main indicators for industrial activity, such as the freight turnover, electric energy production, steel production and cement production are 0.3 percent, 0.2 percent, 2.1 percent and -4.8 percent respectively, which are 10.6 percent, 5.4 percent, 3.8 percent and 9.1 percent lower than the same period in 2014.

### 1-3 Monetary and financial markets

Table 1-2 shows the key indicators of China's monetary and financial markets in 2015 and their changes compared with those in the same period in 2014. In the first four months in 2015, the aggregate financing to the real economy are RMB 5.65 trillion, and the value in January, March and April are all lower than those in 2014. Bank loan is still the most important way of financing, and its growth is higher than the same period in 2014. The decline of foreign currency loan, trust loan and entrusted loan to real economy are the main causes for the decline of total financing to real economy<sup>1</sup>. For the first four months in 2015, China's amount of currency issues are also less than those in the same period in 2014, and the exchange rate of the RMB against the US dollar appreciated after depreciation in early 2015, and still faces the pressure of further appreciation at the current stage. On the other hand, the stock market in China experienced an extraordinary boom in early 2015 with several signals of further economic reforms and policy promotions, but it turned to a sharp downward trend recently and its future trend is still unclear.

<sup>1</sup> In the first quarter of 2015, RMB bank loan to real economy are RMB 3.61 trillion, increasing by RMB 625.3 billion compared with that in 2014; foreign currency loan to real economy are equal to RMB 6.1 billion, decreasing by 376.8 billion compared with that in 2014; trust loan are RMB 1.3 billion, increasing by 286.5 billion compared with that in 2014; entrusted loan are RMB 324.2 billion, decreasing by 339.9 billion compared with that in 2014; non discounted bank acceptance draft grew RMB 60.4 billion, decreasing by RMB 513.2 billion compared with that in 2014; net financing of corporate bonds are RMB 318.7 billion, decreasing by RMB 67.8 billion compared with that in 2014; and domestic stock financing for non-financial enterprises are RMB 180.8 billion, increasing by RMB 83.3 billion compared with that in 2014.

**Table I - 2 Key indicators of china's monetary and financial markets (2015)**

Indicators	Jan	Feb	Mar	Apr	May
<b>Aggregate Financing to Real Economy (RMB Trillion)</b>	2.06 (-20.66%)	1.36 (44.87%)	1.18 (-43.55%)	1.05 (-31.19%)	-
<b>Loan in RMB (RMB Trillion)</b>	1.47 (11.5%)	1.14 (76.80%)	0.99 (-5.69%)	0.80 (3.29%)	-
<b>M2 Growth (year-on year)</b>	10.8 (-18.18%)	12.5 (-6.02%)	11.6 (-4.13%)	10.10 (-23.48%)	-
<b>CHIBOR Rate (China Inter-Bank Offered Rate ) (7 days)</b>	4.1063 [-73.19]	4.7341 [33.55]	4.7352 [126.83]	3.2021 [-41.56]	2.3523 [-95.91]
<b>Exchange Rate (RMB/USD)</b>	6.1272 (0.38%)	6.1339 (0.35%)	6.1507 (0.24%)	6.1302 (-0.41%)	6.1143 (-0.80%)
<b>Shanghai Stock Exchange Composite Index (period-end)</b>	3,210 (57.91%)	3,310 (61%)	3,748 (84.35%)	4,442 (119.23%)	4,612 (126.19%)

**Note:** data in blankets [] are the point change from the same period in 2014, data in blankets () are the percent change from the same period in 2014.

**Sources:** People's Bank of China, China Foreign Exchange Trading Center.

## 2 Japan: "Ups and downs in consumption" (Dr. TANAKA Kiyoyasu)

Recovering from the global financial crisis in 2008, the Japanese economy experienced the positive real GDP growth rates from 2011 to 2013. The quarterly real GDP growth rate was 1.3 percent in the first quarter of 2014, which should be in part accounted for by the last-minute demand resulting from an increase in consumption tax rate from 5 percent to 8 percent in April 2014. Consequently, the Japanese economy experienced the negative real GDP growth rates by -1.7 percent in the second quarter and -0.6 percent in the third quarter of 2014. Indeed, the major indicators on domestic consumption exhibit relatively sharp declines during these periods in terms of the changes relative to prior year. For instance, household consumption declined by 8.0 percent in May 2014 and by 4.7 percent in August 2014, respectively. While new car sales increased sharply by 14.7 percent in February 2014, compared with those in 2013, it decreased by 6.9 percent in May 2014 and by 5.9 percent in August 2014, respectively. Such patterns clearly indicate that consumers rushed to purchase new automobile before the consumption tax rate increases. Additionally, new residential construction declined by 15.0 percent in May 2014 and 12.5 percent in August 2014, respectively. As a result, the Japanese government decided to postpone the plan to further raise a consumption tax rate up to 10 percent in October 2015.

**Table I - 3 Macroeconomic indicators in Japan**

Period	2011	2012	2013	2014Q1	2014Q2	2014Q3	2014Q4
Real GDP Growth	0.4	1.0	2.1	1.3	-1.7	-0.6	0.6
Nominal GDP Growth	-1.3	0.1	1.8	1.5	0.2	-0.9	1.1
Period	2011	2012	2013	2014.02	2014.05	2014.08	2014.11
Household Consumption <sup>a</sup>	-1.3	1.6	0.9	-2.5	-8.0	-4.7	-2.5
New Car Sales <sup>b</sup>	2.2	5.0	5.2	14.7	-6.9	-5.9	-15.9
New Residential Construction <sup>c</sup>	2.7	6.2	10.6	1.0	-15.0	-12.5	-14.3
Consumer Price Index <sup>d</sup>	-0.1	-0.3	0.9	1.5	3.7	3.3	2.4
Unemployment Rate <sup>e</sup>	4.5	4.3	3.9	3.7	3.5	3.5	3.5
Unemployed Workers (mil.)	2.98	2.80	2.56	2.33	2.33	2.30	2.29
Monetary Supply (M2) <sup>f</sup>	802.5	822.5	854.3	861.4	871.9	875.5	885.7
Exchange Rate (JPY/USD)	79.8	79.8	97.6	102.0	101.8	103.0	116.2

**Note:** **a** Percentage change relative to prior year in household consumption for the households with more than 2 members; **b** Percentage change relative to prior year in the sales of common compact car; **c** Percentage change relative to prior year in the number of newly built residential houses; **d** Percentage change relative to prior year in the general consumer price index; **e** Percentage share of unemployed workers; **f** Volume of monetary supply in trillion Yen.

**Sources:** Bank of Japan, Cabinet Office of Japan, Ministry of Land, Infrastructure, Transport and Tourism of Japan, Ministry of Internal Affairs and Communications of Japan.

The Japanese economy experienced a moderate recovery from the temporary economic contraction as reflected by the real GDP growth of 0.6 percent in the final quarter of 2014. From a long-term perspective, it appears that the Japanese economy overcomes deflation. As the Bank of Japan sets a target of 2 percent annual inflation rate, a consumer price index (CPI) shows a 0.9 percent increase in 2013 and the positive increase throughout 2014. Accordingly, the number of unemployed workers declined from 2.98 million in 2011 to 2.56 million in 2013. In 2014, it declined from 2.33 million in February to 2.29 million in November. As a result, an unemployment rate declined from 3.9 percent in 2013 to 3.5 percent in November 2014. Finally, the massive quantitative easing monetary policy by the Bank of Japan resulted in a substantial increase in monetary supply (M2). As it contributed to depreciate Japanese Yen, the exchange rate of Japanese Yen per U.S. dollar depreciates from 102.0 in February 2014 to 116.2 in November 2014.

### 3 ROK: “Short recovery” (Dr. LEE Chang Jae)

After a period of subdued output growth in 2012, the ROK economy has rebounded since mid-2013, and continued its expansion in 2014. ROK’s real gross domestic product (GDP) grew by 3.3 percent in 2014, up from 2.9 percent in 2013. However, a closer look reveals that this recovery was not a solid one. In fact, compared with the previous year, the quarterly growth rate gradually diminished in 2014, which was 3.9 percent in the first quarter, 3.4 percent in the second, 3.3 percent in the third, and 2.7 percent in the fourth. Moreover, it dropped to 2.4 percent in the first quarter of 2015.

On the production side, manufacturing expanded to 4.0 percent in 2014, compared with 3.6 percent in 2013, and services increased 3.1 percent, compared with 2.9 percent in the previous year, while growth in construction was only 0.6 percent, compared to 3.0 percent in 2013. Regarding expenditure, private and government consumption increased by 1.8 percent and 2.8 percent, respectively, whereas gross fixed capital formation increased by 3.1 percent. The exports and imports increased by 2.8 percent and 2.1 percent respectively in 2014, and decreased by 2.9 percent and 15.4 percent in the first quarter of 2015 compared to the previous year. This recent contraction of ROK’s exports and imports were partly caused by lower oil prices.

**Table I - 4 Macroeconomic indicators in ROK**  
(Annual percentage change unless specified with “\*”)

	2011	2012	2013	2014	2015 <sup>^</sup>
<b>Real GDP</b>	3.7	2.3	2.9	3.3	2.4p
<b>Private consumption</b>	2.9	1.9	1.9	1.8	1.5 p
<b>Government consumption</b>	2.2	3.4	3.3	2.8	-
<b>Gross fixed capital formation</b>	0.8	-0.5	3.3	3.1	-
<b>Exports</b>	15.1	5.1	4.3	2.8	-2.9
<b>Imports</b>	14.3	2.4	1.7	2.1	-15.4
<b>* Net Exports (USD Billion)</b>	30.7	28.3	44.7	46.8	21.6
<b>* Inflation rate</b>	4.0	2.2	1.3	1.3	0.6 p
<b>* Unemployment rate</b>	3.4	3.2	3.1	3.5	4.1 p
<b>* Current account balance (% of GDP)</b>	1.6	4.2	6.2	6.3	-
<b>* Government budget balance (% of GDP)</b>	-1.0	-1.3	-1.5	-1.7e	-
<b>* General Government gross debt (% of GDP)</b>	33.3	34.8	36.5	37.9e	-

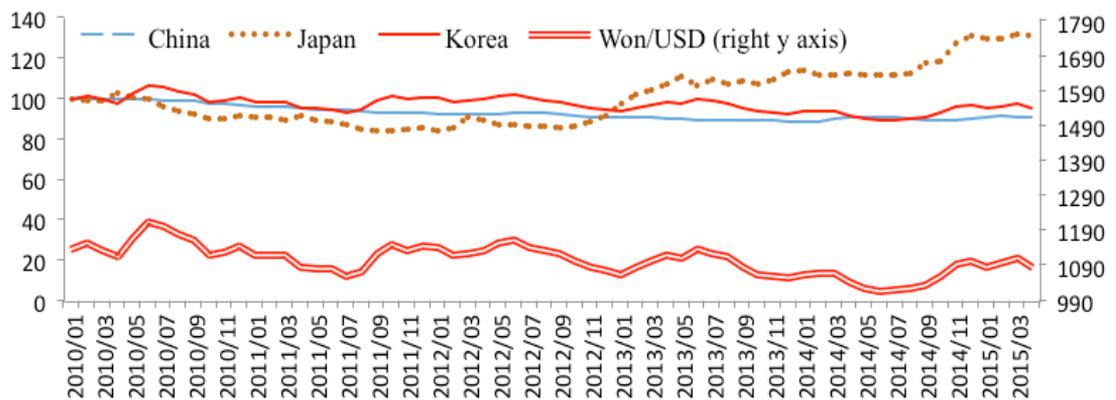
**Notes:** ‘e’ and ‘p’ indicate estimates and preliminary respectively; <sup>^</sup>First quarter of 2015.

**Sources:** Bank of Korea, Economic Statistics System; IMF, World Economic Outlook Database; OECD, OECD Economic Surveys Korea 2014.

ROK recorded a trade surplus of USD 46.8 billion in 2014, up from USD 44.7 billion in 2013; its current account balance amounted to 6.3 percent of the GDP in 2014, slightly higher than 6.2 percent in the previous year. On the other hand, ROK's government budget deficit accounted for 1.7 percent of GDP in 2014, up from 1.5 percent in 2013, and ROK's general government gross debt accounted for 37.9 percent of GDP in 2014, up from 36.5 percent in 2013.

Inflation rate was quite low at 1.3 percent in 2014 and further went down to 0.6 percent in the first quarter of 2015; the unemployment rate increased from 3.1 percent in 2013 to 3.5 percent in 2014 and swelled to 4.1 percent in March 2015.

**Figure I - 5 Exchange rate (2010/01=100)**



Source: Bank of Korea, Economic Statistics System

As for the trend of exchange rate, the Korean Won appreciated against the US dollar in the second quarter of 2014, before the reversal of the trend in the second half of the same year. Among the three countries' currencies, compared to January 2010, the Korean Won was a bit depreciated vis-à-vis the RMB in 2014 except for the period from May to August when the Korean Won was slightly appreciated. On the other hand, the Korean Won was greatly appreciated vis-à-vis the Japanese Yen: e.g., 100 Japanese Yen was exchanged for 1,248.26 Korean Won in January 2010, while 100 Japanese Yen was equivalent to 1,022.75 Korean Won in January 2014 and 925.1 Korean Won in December 2014.

---

## II Economic Adjustment of CJK

### 1 China (Dr. LI Xiao)

The slowdown of the macroeconomic indicators in China in current stage reflected that Chinese economy is entering a so called “New Normal”. Stabilizing the growth and adjusting the structure will be the basic direction of both the government and the society. The report of the 18th Party Congress in 2012 stated that: “Carrying out strategic adjustment of the economic structure is the major goal of accelerating the change of the growth model. We must strive to remove major structural barriers to sustainable and sound economic development, with a focus on improving the demand and industrial structures, promoting balanced development between regions, and pushing forward the urbanization.”

In September 2013, the China (Shanghai) Pilot Free Trade Zone was established, and institutional reform and innovation were carried out in six main sectors, such as financial services, transport services, business services, professional services, cultural services and social services. These six sectors in services sector substituted the traditional manufacturing and assembling sectors and realized a upgrading of regional economic structure. After 2013, the contribution of the tertiary industry to GDP is always higher than the secondary industry, and in the first quarter in 2015, this contribution achieved 56.8 percent.

Also in 2013, President XI Jinping proposed the strategic conception of building “Silk Road Economic Belt” and “21st-Century Maritime Silk Road”, which includes the five major goals, such as policy coordination, facilities connectivity, unimpeded trade, financial integration and people-to-people bonds, in order to improve the economic and cultural relations among the countries along the Belt and the Road and to provide new opportunities for China’s economic growth and structural adjustments. It is expected the Asian Infrastructure Investment Bank (AIIB) can provide a multilateral development financing platform to enhance the infrastructure investments in the countries along the Belt and the Road, and can not only absorb China’s excess production capabilities and be helpful for China’s industrial upgrading, but also improve the internationalization of RMB by promoting the RMB outward investment.

### 2 Japan (Dr. TANAKA Kiyoyasu)

From 2013 to 2014, the “Abenomics” policies have been implemented to overcome deflation and reinvigorate the Japanese economy. Three primary policy instruments include (1) unconventional monetary policy, (2) substantial fiscal stimulus, and (3) new growth package. The Japanese economy is expected to exit deflation and recover steadily for positive economic growth as a result of various factors including the monetary easing by the Bank of Japan, depreciation of Japanese Yen, falling crude oil prices, anticipated increases in real wages, and so on. Moreover, exports exhibited an upward trend while overseas profits of Japanese companies increased in Yen terms.

To further promote the positive trend of the Japanese economy, the Japanese government has made efforts to implement economic reforms in a wide range of sectors under the new growth package. For instance, a reform in agricultural sectors should encourage entrepreneurialism among farmers and an entry of new farmers. Specifically, a reform in the agricultural cooperative system is that the central union

---

of agricultural cooperatives is stripped of its exclusive authority to audit and supervise local co-ops. Local cooperatives become more independent and improve their management. The requirements for agricultural production corporations are relaxed to facilitate cooperation between farmers and companies. Also, a reform in healthcare sector should accelerate the commercialization of regenerative medicine, create a new system for combining insured and uninsured medical services, and promote consolidated and integrated management of multiple medical corporations. An expected effect is the provision of high-quality and efficient medical care services in Japan.

National strategic special zones have been established to overcome declining population and vitalize the local economy. For example, the zone is set up in Akita Prefecture, northern part of the Japanese mainland, to allow a private sector to utilize the national forest. It is also aimed to promote international exchange by accepting foreign doctors at local clinics under the advanced clinical training system. In the case of Miyagi Prefecture, the zone is established to accelerate the start-up procedures and conduct additional qualification exam for nursery teachers, which would promote start-ups by women, young people, and seniors. Additionally, labor market reforms are taken to change working styles of Japanese workers, to encourage female participation, and to attract talented people from foreign countries. Because a balance between work and life is a crucial issue, the reform improves practices of long working hours through promotion to take annual paid leave, revision of flex-time system, and revision of discretionary working system. Childcare leave benefits are increased to support female workers while companies are encouraged to increase the proportion of women in management positions.

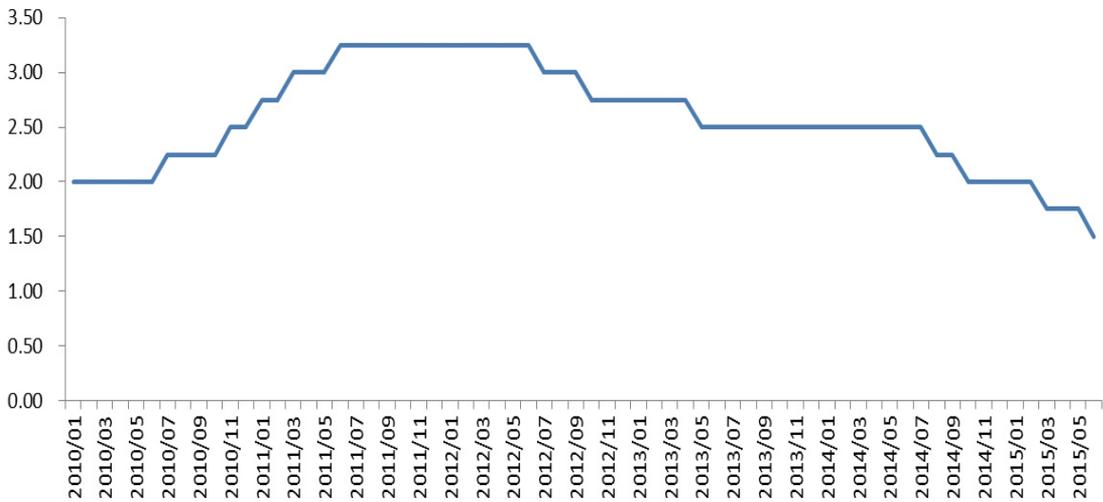
The Japanese government has also made efforts to promote foreign investors in Japan. Foreign direct investment in Japan has increased over time since the 1990s, and further promotion is expected to benefit the Japanese economy because foreign firms bring in advanced technology and superior management know-how. To reduce barriers for foreign investors, an effort will be made to mitigate language barriers in retail shops and restaurants for foreigners, to facilitate internet connection via free Wi-Fi, to receive business jets in local airports, to enhance educational environment for foreign children, and to strengthen consultation services for foreign companies.

### **3 ROK (Dr. LEE Chang Jae)**

In order to address the structural problems the ROK economy is faced with, such as low growth, weakening growth momentum and imbalances between industries and labor market, the government of ROK adopted in February 2014 the Three Year Plan for Innovation, including the following three pillars: 1) laying a solid economic foundation; 2) achieving growth through innovation; and 3) realizing balance between exports and domestic consumption. The strategy for laying a solid economic foundation consists of public sector reform, private sector reform and strengthening social safety nets. Public sector reforms are based on the principle of efficiency, and focus on terminating unfair trade practices between large enterprises and small and medium enterprises (SMEs) as well as on solving conflicts in the labor market, whereas private sector reforms concentrates on unfair subcontracting practices and tenants' rights for premiums. Additionally, strengthening social safety nets includes the issues related to unemployment benefits such as coverage expansion and size adjustment.

The key in the government’s growth-through-innovation strategy is to lift regulations and to encourage entrepreneurs to start new companies in order to promote the creative economy. The government of ROK plans to launch funds to support venture startups and to promote convergence of ICT and other industries. The government also plans to launch a joint venture capital fund to support joint venture exports. As for realizing the balance between exports and domestic consumption strategy, the government’s top priority is to boost domestic consumption by easing household debt burdens and high cost of rental housing. The government also plans to facilitate youth employment by further developing dual work-study programs and by updating public job training programs to reflect industrial demand. In addition, in order to facilitate female employment, various childcare services will be available. Furthermore, the New Economic Team under the Ministry of Strategy and Finance, which was formed in July 2014, announced more aggressive policies to stimulate domestic demand including additional fiscal expenditures. The government also plans to take measures to improve household income and promote job creation.

**Figure I - 6 ROK’s policy interest rate (%)**



**Source:** Bank of Korea, Economic Statistics System

On the other hand, given the sluggish economic growth, the Bank of Korea lowered its policy rate twice in 2014, to 2.25 percent in August 2014 and to 2 percent in October 2014 before an additional 25 basis point cut to 1.75 percent in March 2015. In the aftermath of MERS in June 2015, the Bank of Korea came up with additional 25 basis point cut to 1.5 percent to prevent further slowdown of the ROK economy.

---

## III Economic Prospects for CJK

### 1 China (Dr. LI Xiao)

With Chinese economy entering a new stage of transformation, according to the rationale, it is expected that in the next 1 to 2 years, the average GDP growth rate will reduce to 6 percent to 7 percent, while the average GDP growth rate was over 10 percent in the past three decades. The new driving forces for future growth will come from structural adjustment, and China's growth will be adjusted from an export-orientation model to a model driven more by domestic consumption. Currently, China's domestic resident income grows relatively rapidly, in the all four quarters in 2014, the year-on-year growth rate of disposable resident income per capita is above 10 percent, but the disproportion of the income distribution is still a key barrier for the growth of consumption demand. Therefore, the Chinese government should continue its anti-corruption and anti-monopoly efforts, and utilize the redistribution policy, to avoid the so called "Middle Income Trap".

Meantime, it is also important to lower the barrier to entry for private capital and to promote the innovation of the small and micro businesses for the future stable growth of Chinese economy. The Report on the Work of the Government (2015) issued by Chinese government pointed out: "Local governments must completely release the powers that should be delegated to the market or society,..... We will actively promote the Public Private-Partnership (PPP) model in developing infrastructure and public utilities." This will be helpful for the private capital to expand the scope of its investments. Also, the preferred loan and tax policy, and the new financing channels for the small and micro businesses will be beneficial to stimulate their innovation. All of these measures will help the market to form an independent risk-based pricing mechanism, and promote competition and efficiency of the market at the same time.

### 2 Japan (Dr. TANAKA Kiyoyasu)

It is generally expected that the Japanese economy will grow at a moderate rate during 2015. While an increase in consumption tax rate led to a sharp decline in domestic consumption in 2014, it is expected to recover and increase in 2015. As domestic companies experience an improvement in their profits, private investment is predicted to increase. These prospects are supported by a decrease in crude oil price, which consequently reduce the cost of gasoline consumption and intermediate materials. However, there exist negative factors that may drive down the growth of the Japanese economy: 1) the increase in consumption tax rate may continue to delay the recovery of new residential construction; 2) the offshoring of manufacturing bases by domestic companies can discourage the growth of exports, which have been recovered and promoted in part by a large depreciation in Japanese Yen; 3) there is a serious shortage of labor supply for construction sites in rural regions, which may have a negative influence on public investment in infrastructure.

By contrast with the real economy, the stock market in Japan appears to exhibit remarkable performance in 2015. The Nikkei average stock price has continued to increase over time. The upward trend in financial

markets should be related in part to the role played by the Bank of Japan in providing monetary supply substantially to the market through various instruments such as the purchase of government bonds. With a target of 2 percent inflation rate, monetary policies are expected to drive up general expectations for inflation and real interest rates, which consequently would encourage capital investment and domestic consumption.

### 3 ROK (Dr. LEE Chang Jae)

The ROK government's aggressive fiscal and monetary actions to boost demand began to bring some positive results. Recently, the domestic demand slowly but steadily recovered, helped by growing investment, even though the positive effects of lower oil prices on private consumption have yet to materialize. However, difficulties in the export sector are expected to drag down ROK's economic growth. Slowdown of ROK exports is likely to continue, due to a sluggish world economy and weakening of ROK's export competitiveness. According to economic forecasts done in April-June 2015, the growth rates of the ROK economy will be 3.0-3.3 percent and 3.1-3.6 percent in 2015 and in 2016, respectively, which are much lower than those published at the end of 2014. It was predicted that the ROK economy would grow 3.5-4.0 percent in 2015 and 4.0-4.1 percent in 2016.

**Table I - 5 Forecasts for ROK's economic growth (%)**

	2015		2016	
<b>Ministry of Strategy and Finance of ROK</b>	3.8 (Dec 2014)		-	
<b>Bank of Korea</b>	3.1 (Apr 2015)	3.5 (Oct 2014)	3.4 (Apr 2015)	3.9 (Oct 2014)
<b>Korea Development Institute</b>	3.0 (May 2015)	3.5 (Dec 2014)	3.1 (May 2015)	
<b>OECD</b>	3.0 (Jun 2015)	3.8 (Nov 2014)	3.6 (Jun 2015)	4.1 (Nov 2014)
<b>IMF</b>	3.3 (Apr 2015)	3.97 (Oct 2014)	3.5 (Apr 2015)	4.0 (Oct 2014)

**Sources:** Bank of Korea; IMF, World Economic Outlook Database; Korea Development Institute; Ministry of Strategy and Finance of ROK; OECD, Economic Outlook, Analysis and Forecasts.

The main external risk factors include slower-than-expected growth in ROK's main trading partners, the impact of a persistently weak Japanese Yen on ROK export industries, and side-effects of global financial conditions. In addition, there exist internal downside risks, the prospects for the ROK economy may be gloomier if the ROK government fails to implement the abovementioned structural reform policies on time or in case it is unable to curb the rise of household debt.

## Chapter II

## Trade (Dr. LEE Chang Jae)

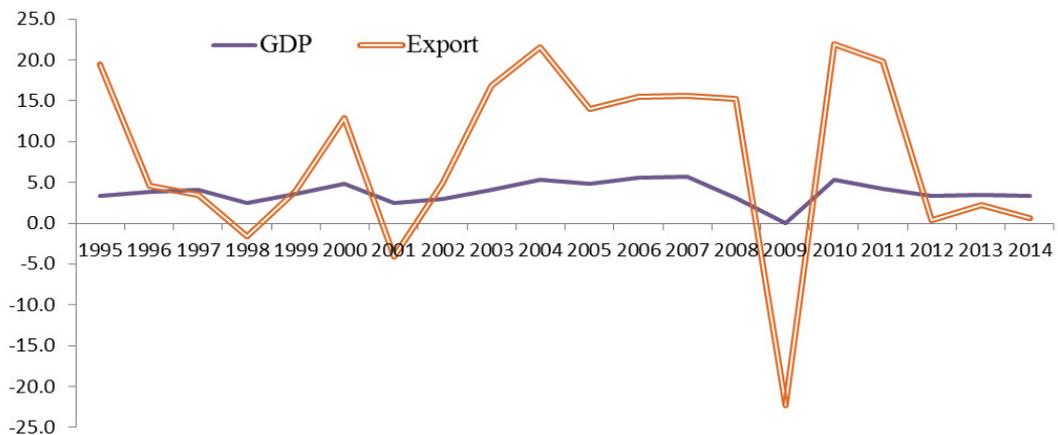
## I Trade in Goods

## 1 Trends of world trade

The world trade used to grow faster than the world economy except for the periods of crisis. In fact, the growth rate of world exports was much lower than that of the world GDP in 2009 following the global financial crisis in 2008. Afterwards, world exports recovered faster than the world economy and the growth rate of world exports was actually higher than that of world GDP both in 2010 and 2011.

However, the trend was reversed again. In 2012, the world export grew by 0.4 percent, while the world GDP increased 3.4 percent. The world economy also grew by 3.4 percent both in 2013 and 2014, whereas world exports increased 2.3 percent in 2013 and 0.6 percent in 2014.

**Figure II - 1 Trends of world exports and the world economy (Unit: growth rate, %)**



Sources: IMF, World Economic Outlook Database; WTO, International Trade Statistics Database

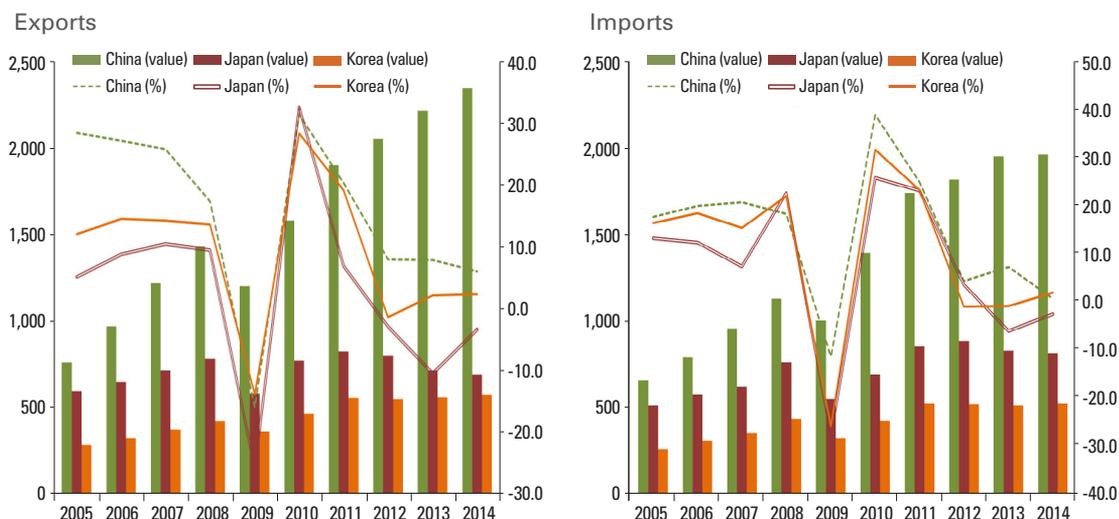
## 2 Trends of trade in goods of China, Japan and ROK

The deterioration of world trade since 2012 was also reflected in the trade in goods of China, Japan and ROK, which are the major trading countries in the world.

In the wake of the global financial crisis, China's exports have continued to grow rapidly. As a result, it amounted to USD 2,343 billion in 2014, up from USD 2,211 billion in 2013. However, its growth rate slowed markedly since 2012 and dropped to 6.0 percent in 2014. China's imports showed a similar pattern. In 2014, imports stood at USD 1,963 billion, which represented a mere 0.7 percent growth compared to the previous year.

After having recovered from the crisis and recording USD 823 billion in 2011, Japan's exports continued to decrease three years in a row since 2012 to USD 690 billion in 2014. It shrank by 2.9 percent in 2012, 10.5 percent in 2013, and 3.4 percent in 2014. Meanwhile, Japan's imports declined two consecutive years, down from USD 886 billion in 2012 to USD 812 billion in 2014. It shrank by 2.4 percent in 2014, compared to a 6.1 percent drop in 2013.

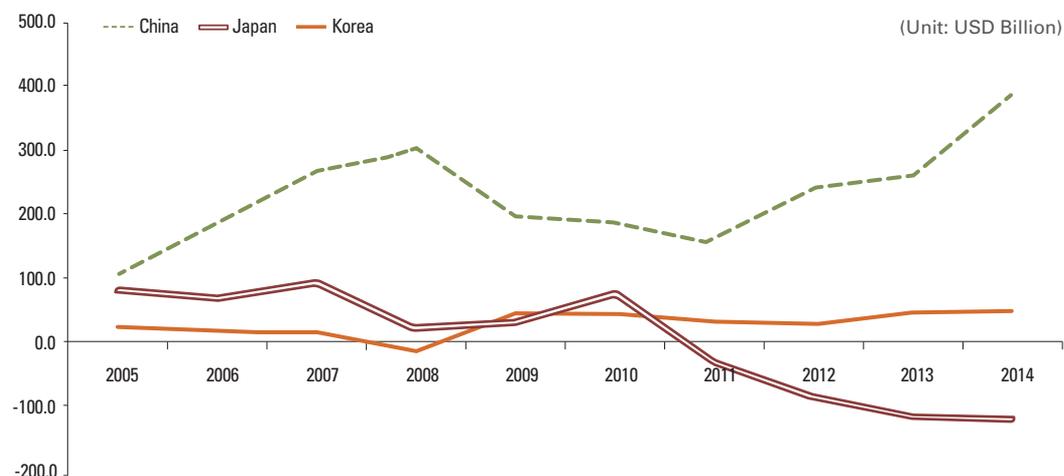
**Figure II - 2 Trends of trade in goods of China, Japan and ROK (Units: USD Billion, %)**



Source: IMF. 2015. Direction of Trade Statistics.

ROK experienced a reduction in its exports of 1.4 percent in 2012, while ROK's imports declined for two consecutive years, by 0.9 percent in 2012 and 0.8 percent in 2013. However, ROK's exports grew 2.1 percent in 2013 and 2.4 percent in 2014, whereas its imports increased 1.9 percent in 2014. ROK's exports and imports were USD 573 billion and USD 526 billion, respectively, in 2014.

**Figure II - 3 Trade balances**



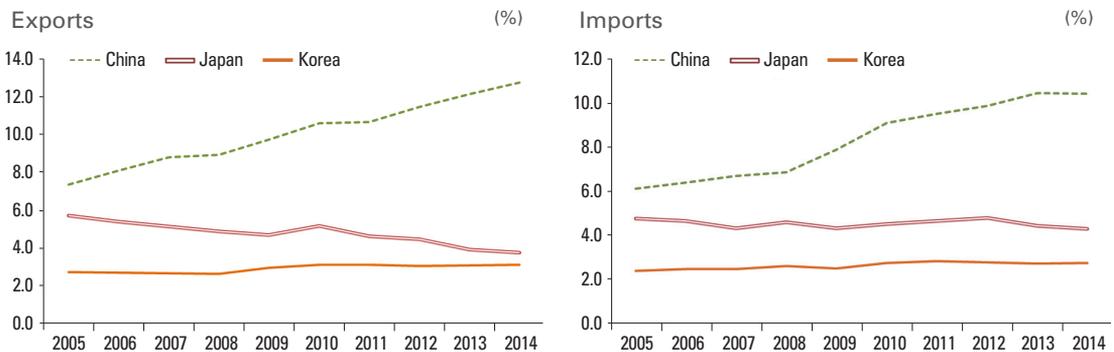
Source: IMF. 2015. Direction of Trade Statistics.

As for trade balances, China continues to enjoy a large trade surplus. It is interesting to note that the size of its trade surplus has actually become larger since 2012, reaching USD 389 billion in 2014. On the other hand, Japan, which used to record a large trade surplus, has experienced a trade deficit since 2011. Moreover, the size of its trade deficit continued to grow from USD 32 billion in 2011 to USD 122 billion in 2014. ROK continued to have a trade surplus except for 2008. In 2014, its trade surplus amounted to USD 47 billion, up from USD 44 billion in 2013.

### 3 Status of China, Japan and ROK in terms of trade in goods

China, Japan and ROK are major trading countries in the world. In 2014, China was the largest trading country in the world, while Japan and ROK ranked fourth and eighth, respectively. China was the largest exporter and the second largest importer, and Japan was the fourth largest exporter and importer, whereas ROK was the sixth largest exporter and the ninth largest importer in the world.

**Figure II - 4 Share of world trade in goods of China, Japan and ROK**



Source: IMF. 2015. Direction of Trade Statistics.

From 2005 to 2014, the share of China's trade in the world trade continuously increased, while that of Japan decreased. As for the share of ROK, it mostly increased for the first part of this period. During the same period, the share of China's exports and imports soared from 7.3 percent to 12.7 percent and from 6.1 percent to 10.4 percent, respectively. On the other hand, the share of Japan's export and import decreased from 5.7 percent to 3.7 percent and from 4.8 percent to 4.3 percent, respectively. ROK's share of exports and imports grew from 2.7 percent to 3.1 percent and from 2.4 percent to 2.8 percent, respectively. In 2014, it is worthwhile to note that only China's export share increased compared to the previous year, while the shares of China's imports, ROK's exports and imports remained about the same as that in 2013.

## 4 Structures of trade

China, Japan and ROK have quite similar export products. Among them, they shared eight identical products out of their top ten exports in 2014. Similarities in export products were more noticeable between Japan and ROK, as nine out of their top ten export products were the same. Moreover, the top three products were identical, even though their order was different. Transport equipment was the largest export product for Japan, accounting for 23.7 percent of its total exports, followed by general machinery (19.4 percent) and electrical machinery (15.2 percent), while ROK's top export product was electrical machinery (24.1 percent) followed by transport equipment (19.9 percent) and general machinery (11.0 percent). As for China, electrical machinery was also the largest export product (24.4 percent) as in ROK, whereas general machinery was the second largest export product (17.1 percent) as in Japan.

It is also interesting to note that the shares of three countries' top ranking export products in their total exports were quite important. For instance, their top three export products represented more than a half of their total exports: 50.1 percent for China, 58.3 percent for Japan and 55.0 percent for ROK. Also, the shares of their top ten export products in their total export were 84.5 percent in China, 92.4 percent in Japan, and 96.3 percent in ROK.

**Table II - 1 Comparison of top CJK export products in 2014 (HS 2-digit code)**

China		Japan		ROK	
HS code	Commodity description	HS code	Commodity description	HS code	Commodity description
85	Electrical machinery	86~89	Transport equipment	85	Electrical machinery
84	General machinery	84	General machinery	86~89	Transport equipment
61~63	Apparel and clothing	85	Electrical machinery	84	General machinery
72~83	Steel and base metal	72~83	Steel and base metal	25~27	Mineral products
94~96	Furniture, toy and miscellaneous	28~38	Chemical products	72~83	Steel and base metal
28~38	Chemical products	90~92	Optical instruments and apparatus	39~40	Plastics and rubber
86~89	Transport equipment	39~40	Plastics and rubber	28~38	Chemical products
39~40	Plastics and rubber	25~27	Mineral products	90~92	Optical instruments and apparatus
50~60	Textiles	71	Precious metal	50~60	Textiles
90~92	Optical instruments and apparatus	50~60	Textiles	16~24	Food, beverages and tobacco

Sources: UN Comtrade Database [online]; Korea International Trade Association, K-Stat [online].

The composition of import products among the three countries are also quite similar. In 2014, their top three import products and even the order were the same. The most important import products were mineral products which accounted for 23.4 percent in China, 35.8 percent in Japan, and 36.8 percent in ROK. The second largest import products were electrical machinery: 21.7 percent in China, 12.1 percent in Japan, and 14.3 percent in ROK, while the third ranking import products were general machinery representing 9.2 percent in China, 7.9 percent in Japan, and 9.3 percent in ROK. The shares of the three import products in their total imports represented 54.3 percent of China's imports, 55.8 percent for Japan, and 60.4 percent for ROK.

Based on common products among the three countries, the list of import products looked most similar between China and ROK, while the 'largest' differences were between China and Japan. There were 9 common products between China and ROK out of the top ten import products, 8 common products between Japan and ROK, and 7 common products between China and Japan. However, when taking into account the size of shares, as in export goods, the structures of import products seemed very similar between Japan and ROK.

**Table II - 2 Comparison of top CJK import products in 2014 (HS 2-digit code)**

China		Japan		ROK	
HS code	Commodity description	HS code	Commodity description	HS code	Commodity description
25~27	Mineral products	25~27	Mineral products	25~27	Mineral products
85	Electrical machinery	85	Electrical machinery	85	Electrical machinery
84	General machinery	84	General machinery	84	General machinery
28~38	Chemical products	28~38	Chemical products	72~83	Steel and base metal
86~89	Transport equipment	72~83	Steel and base metal	28~38	Chemical products
90~92	Optical instruments and apparatus	61~63	Apparel and clothing	90~92	Optical instruments and apparatus
72~83	Steel and base metal	86~89	Transport equipment	86~89	Transport equipment
39~40	Plastics and rubber	90~92	Optical instruments and apparatus	39~40	Plastics and rubber
6~14	Vegetable products	16~24	Food, beverages and tobacco	6~14	Vegetable products
71	Precious metal	1~5	Live animals; animal products	16~24	Food, beverages and tobacco

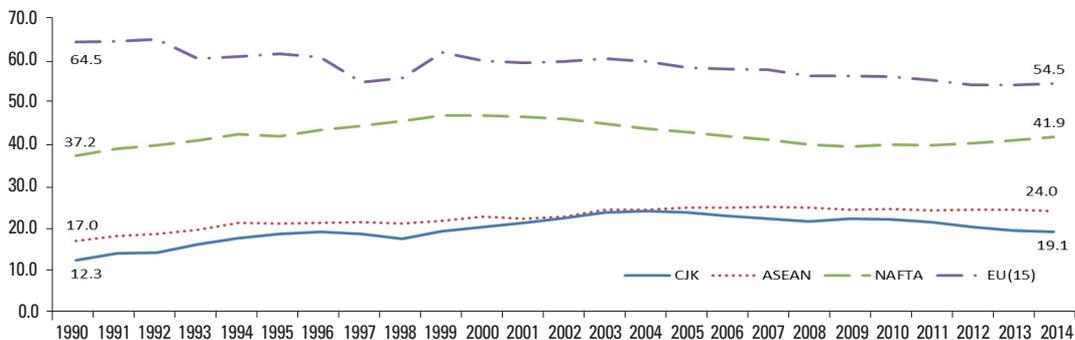
Sources: UN Comtrade Database [online]; Korea International Trade Association, K-Stat [online].

## 5 Intra-regional trade

In general, the share of intra-regional trade between China, Japan and ROK in their total trade increased until 2004, reaching 24.1 percent before diminishing gradually to 19.1 percent in 2014. It amounted to 19.3 percent in the previous year when the share dropped below 20 percent for the first time since 1999. It has been lower than that of ASEAN, let alone those of the EU and NAFTA. In 2014, the shares of intra-regional trade of ASEAN, NAFTA and EU represented 24.0 percent, 41.9 percent and 54.5 percent, respectively.

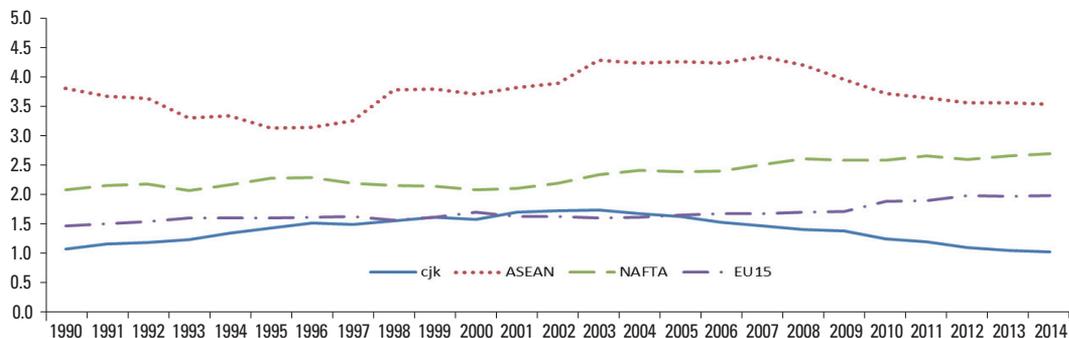
However, comparison across regions using shares of intra-regional trade could be misleading since a larger group exhibits a higher share of intra-regional trade. Therefore, a better indicator, namely, intra-regional trade intensity index (or simple concentration ratio) could be obtained, where intra-regional shares are adjusted by the region's share in world trade. If this indicator is bigger than 1, the region has a bias toward trading with itself. The intra-regional trade intensity of China, Japan and ROK increased from 1.08 in 1990 to 1.74 in 2003, and decreased to 1.03 in 2014. It's worth noting that the intra-regional trade intensity of the three countries in 2014 actually declined to levels lower than that of 1990, meaning that there is almost no bias toward trading among the three countries in 2014. During 1990-2014, the intra-regional trade intensity of the three countries has been much lower than those of the EU, NAFTA and ASEAN. Only between 2001 and 2004 was it slightly higher than that of the EU.

**Figure II - 5 Intra-regional trade (%)**



Source: IMF. 2015. Direction of Trade Statistics.

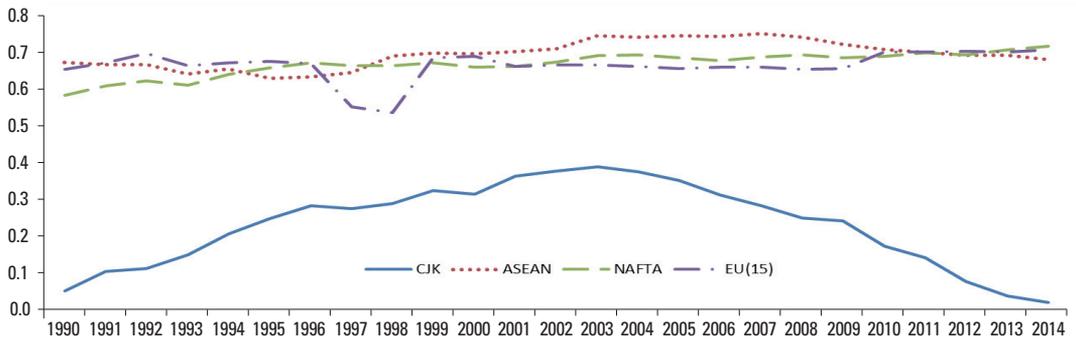
**Figure II - 6 Intra-regional trade intensity index**



Source: IMF. 2015. Direction of Trade Statistics.

But this intra-regional trade intensity indicator has a weakness that it considers only internal bias. Thus it is useful to see a third indicator, regional trade introversion index, which takes into account both intra-regional bias and extra-regional bias of trade. If it is greater than zero, the region's trade has an intra-regional bias. As shown in Figure II-7, the level of intra-regional trade integration between China, Japan and ROK rose gradually up to 2003 and fell steadily until 2014. Furthermore, there exist huge gaps between China-Japan-ROK and the other groups including ASEAN, the EU, and NAFTA, in terms of levels of intra-regional trade integration. Regional introversion index of the three countries increased from 0.052 in 1990 to 0.388 in 2003, and diminished to 0.021 in 2014. On the other hand, during the same period, those of other regions fluctuated between 0.535 and 0.749. According to regional trade introversion index, in 2014, there is almost no intra-regional trade bias (0.021) among the three countries, while high intra-regional trade biases exist in ASEAN (0.678), the EU (0.704), and NAFTA (0.715).

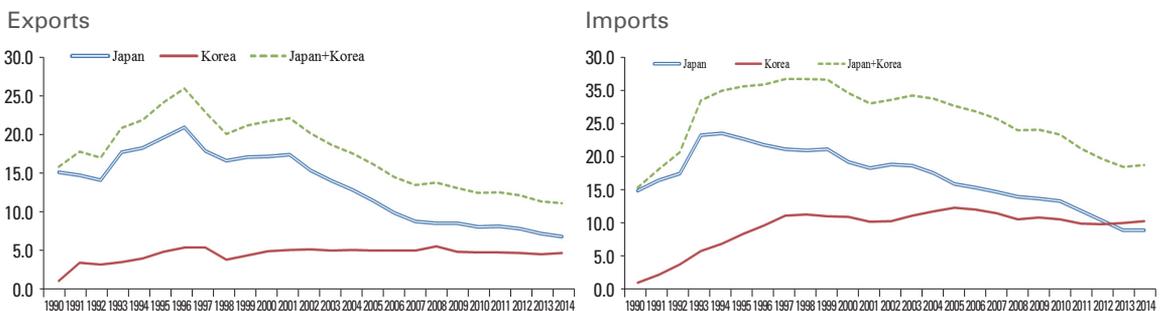
**Figure II - 7 Regional introversion index**



Source: IMF. 2015. Direction of Trade Statistics.

With regard to the bilateral trade trends among the three countries, even though overall bilateral trades have been active for 1990-2014, they vary significantly from one to another. Among them, the China-ROK trade has increased most rapidly, whereas the Japan-ROK trade has grown rather slowly.

**Figure II - 8 China's trade with Japan and ROK (%)**

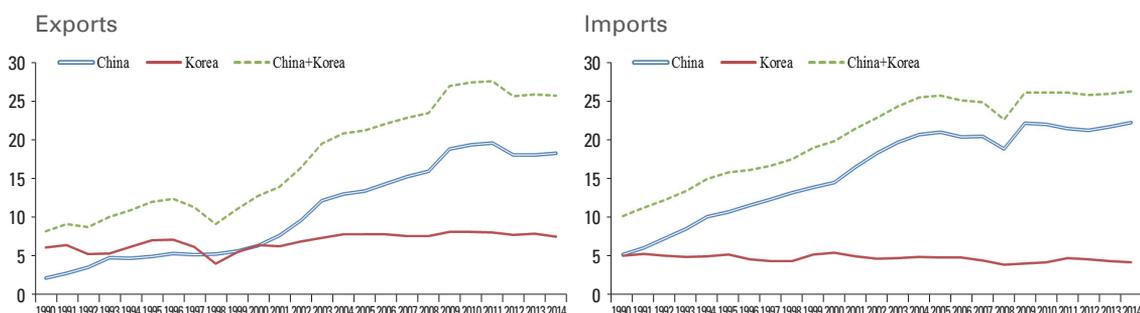


Source: IMF. 2015. Direction of Trade Statistics.

The share of China's intra-regional exports (to Japan and ROK) has continued to decrease after reaching 25.4 percent in 1996. It was mainly due to a gradual decline of Japan's share in its exports, whereas ROK's share in its exports remained relatively stable. In 2014, Japan's share in China's exports and ROK's share in China's exports was 6.4 percent (down from 6.8 percent in 2013) and 4.3 percent (up from 4.1 percent in 2013), respectively, while their combined share amounted to 10.7 percent (down from 10.9 percent in 2013).

After recording 30.9 percent in 1997-1998, the share of China's intra-regional import also continued to diminish, dropping to 17.7 percent in 2013 and bounced back to 18.0 percent in 2014. Such a decline was mainly caused by declines in its imports from Japan since 1995, while the share of its imports from ROK remained relatively stable since 1997. Japan's share in China's imports amounted to 8.3 percent both in 2013 and 2014, whereas ROK's share rose from 9.4 percent in 2013 to 9.6 percent in 2014 thus surpassing Japan's share.

**Figure II - 9 Japan's trade with China and ROK (%)**

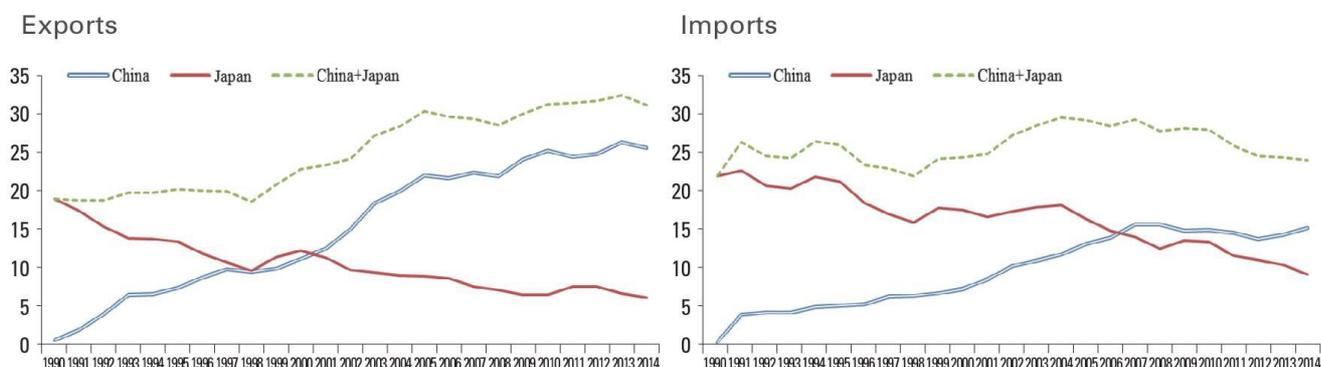


Source: IMF. 2015. Direction of Trade Statistics.

On the contrary, the share of Japan's intra-regional exports has continued to increase until 2013, and slightly diminished to 25.8 percent in 2014, mainly reflecting that of China's share in Japan's exports, while ROK's share was relatively stable. In 2014, shares of China and ROK in Japan's exports accounted for 18.3 percent (up from 18.1 percent in 2013) and 7.5 percent (down from 7.9 percent in 2013), respectively, while their combined share amounted to 25.8 percent (down from 26.0 percent in 2013).

In general, the share of Japan's intra-regional imports also showed a similar ascending trend. In 2014, it represented 26.4 percent, up from 26.0 percent in 2013. Indeed, the rise of China's share in Japan's imports also showed a similar pattern. On the other hand, ROK's share in Japan's imports declined slowly. As a result, in 2014, China's share in Japan's imports amounted to 22.3 percent, up from 21.7 percent in 2013, while ROK's share shrank from 4.3 percent in 2013 to 4.1 percent in 2014.

The share of ROK's intra-regional exports has continued to increase until 2013 before diminishing slightly in 2014. This ascending tendency was mainly due to the rise of China's share in ROK's exports. On the contrary, the share of Japan in ROK's exports showed a downward trend in general. In 2014, the shares of China and Japan in ROK's exports accounted for 25.4 percent (down from 26.1 percent in 2013) and 5.6 percent (down from 6.2 percent in 2013), respectively, where as their combined share amounted to 31.0 percent (down from 32.3 percent in 2013).

**Figure II - 10 ROK's trade with China and Japan (%)**

Source: IMF. 2015. Direction of Trade Statistics.

As for the share of ROK's intra-regional imports, it tended to diminish after recording 33.7 percent in 2004. It accounted for 27.4 percent in 2014 down from 27.8 percent in 2013. Overall, China's share in ROK's imports showed a rising trend, while Japan's share continued to decrease. As a result, in 2014, China's share in ROK's imports was 17.1 percent, up from 16.1 percent in 2013, while Japan's share was 10.2 percent, down from 11.6 percent in 2013.

**Table II - 3 CJK's major trading partners in 2014**

	China		Japan		ROK	
	Exports	Imports	Exports	Imports	Exports	Imports
1	United States	ROK	United States	China	China	China
2	Hong Kong	Japan	China	United States	United States	Japan
3	Japan	United States	ROK	Australia	Japan	United States
4	ROK	Taiwan	Taiwan	Saudi Arabia	Hong Kong	Saudi Arabia
5	Germany	Germany	Hong Kong	UAE	Singapore	Qatar
6	Netherlands	Australia	Thailand	Qatar	Vietnam	Germany
7	Vietnam	Malaysia	Singapore	ROK	Taiwan	Australia
8	United Kingdom	Brazil	Germany	Malaysia	India	Kuwait
9	India	Saudi Arabia	Indonesia	Indonesia	Indonesia	UAE
10	Russia	Russia	Australia	Russia	Mexico	Taiwan

Sources: IMF. 2015. Direction of Trade Statistics; Korea International Trade Association, K-Stat [online].

Consequently, in 2014, for China, Japan was the third largest export destination and the second largest import source, while ROK was the fourth largest export destination and the largest import source. For Japan, China was the second largest export destination and the largest import source, whereas ROK was the third largest export destination and the seventh largest import source. For ROK, China was the largest trading partner both for exports and imports, while Japan was the third largest export destination and the second largest import source.

**Table II - 4 China-Japan trade structure in 2014 (HS 2-digit code)**

China's exports to Japan		China's imports from Japan	
Commodity description	Share (%)	Commodity description	Share (%)
Electrical machinery	23.9	Electrical machinery	24.9
General machinery	17.4	General machinery	18.7
Apparel and clothing	14.5	Optical instruments and apparatus	10.5
Base metal	5.7	Chemical products	10.3
Furniture, toy and miscellaneous	5.6	Base metal	10.2
Chemical products	5.0	Transport equipment	10.2
Food, beverages and tobacco	4.1	Plastics and rubber	7.3
Optical instruments and apparatus	3.7	Textiles	1.9
Plastics and rubber	3.4	Ceramic products and glassware	1.7
Transport equipment	3.1	Mineral products	1.2

Source: UN Comtrade Database [online].

**Table II - 5 China-ROK trade structure in 2014 (HS 2-digit code)**

China's exports to ROK		China's imports from ROK	
Commodity description	Share (%)	Commodity description	Share (%)
Electrical machinery	36.8	Electrical machinery	23.9
Base metal	14.0	General machinery	17.4
General machinery	9.0	Optical instruments and apparatus	3.7
Chemical products	6.9	Chemical products	5.0
Apparel and clothing	5.4	Base metal	5.7
Optical instruments and apparatus	4.2	Transport equipment	3.1
Furniture, toy and miscellaneous	2.9	Plastics and rubber	3.4
Ceramic products and glassware	2.6	Textiles	1.4
Textiles	2.6	Ceramic products and glassware	1.4
Mineral products	2.5	Mineral products	1.3

Source: UN Comtrade Database [online].

**Table II - 6 Japan-ROK trade structure in 2014 (HS 2-digit code)**

Japan's exports to ROK		Japan's imports from ROK	
Commodity description	Share (%)	Commodity description	Share (%)
Chemical products	19.1	Mineral products	20.1
Base metal	17.6	Electrical machinery	19.2
General machinery	16.6	Base metal	13.8
Electrical machinery	13.8	General machinery	9.4
Plastics and rubber	7.9	Chemical products	7.0
Optical instruments and apparatus	7.8	Precious metal	7.0
Mineral products	6.3	Plastics and rubber	5.3
Transport equipment	2.2	Food, beverages and tobacco	3.5
Precious metal	0.9	Transport equipment	2.9
Paper products	0.8	Live animals; animal products	1.7

**Source:** UN Comtrade Database [online].

In terms of bilateral trades between China, Japan and ROK, the major trade products seem to be similar to one another. In particular, overall electrical machinery was by far the most important product in their bilateral trades, and general machinery was also important. In 2014, electrical machinery and general machinery were the top two products in both China's export to Japan and its import from Japan. Furthermore, electrical machinery ranked first both in China's exports to ROK and its imports from ROK, while it ranked second in Japan's imports from ROK and fourth in its exports to ROK. As for general machinery, it ranked second in China's imports from ROK, and third in both China's exports to ROK and Japan's exports to ROK, and fourth in Japan's imports from ROK. In addition, chemical products and base metal were also important.

## 6 Prospects for trade in goods in China, Japan and ROK

During the first five months of 2015, the exports of China and Japan increased by 0.5 percent and 7.5 percent, respectively, compared to the same period of 2014, while ROK's exports decreased by 5.7 percent. However, during the same period, the imports of China, Japan and ROK declined markedly, shrinking by 21 percent, 8.2 percent and 15.9 percent, respectively.

**Table II - 7 Trade in goods of China, Japan and ROK  
(from January to May in 2015)**

(Unit: USD Billion, %)

Countries	Month	Export		Import	
		Volume	Growth rate	Volume	Growth rate
China	Jan	200.1	-3.4	134.9	-23.0
	Feb	169.0	48.1	103.4	-24.6
	Mar	144.4	-15.1	134.6	-17.1
	Apr	176.2	-6.5	137.0	-19.5
	May	189.9	-2.9	125.5	-21.4
Japan	Jan	49.9	17.0	59.4	-9.1
	Feb	48.2	2.5	51.7	-3.5
	Mar	56.3	8.5	54.4	-14.4
	Apr	53.2	8.0	53.7	-4.0
	May	46.6	2.4	48.4	-8.6
ROK	Jan	45.1	-1.0	39.5	-11.8
	Feb	41.5	-3.3	33.9	-19.4
	Mar	46.9	-4.5	38.5	-15.5
	Apr	46.2	-8.0	37.7	-17.7
	May	42.3	-11.0	36.1	-15.4

**Note:** Growth rate is %, compared to the same period of the previous year.

**Source:** Korea International Trade Association, K-stat [online].

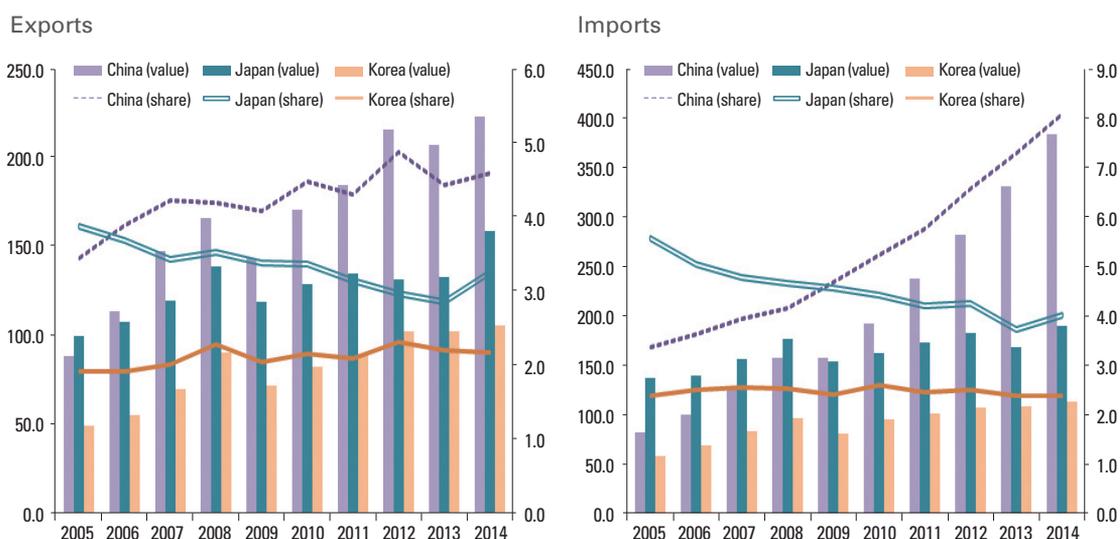
Thus, overall prospects for trade in China, Japan and ROK seem to have gloomy aspects in 2015, though circumstances could vary from one country to another. In particular, export of ROK will face with challenges of continuous slowdown in 2015, due to slowdown of economic growth among ROK's trading partners and ROK's diminished export competitiveness. In addition, the growth of China's exports will also face with challenges of slow down. However, Japan's exports are anticipated to grow in 2015 helped especially by the depreciated Yen. As for the imports, the prospects of all three countries are not likely to be optimistic in 2015.

## II Trade in Services

### 1 Trends of trade in services in China, Japan and ROK

China's service exports and service imports have shown, in general, a rising trend since 2005. In 2014, China's service exports and imports represented USD 222.2 billion and USD 382.1 billion, respectively, accounting for 4.6 percent and 8.1 percent, respectively, of the world's total exports and imports (compared to 3.4 percent and 3.4 percent in 2005).

**Figure II - 11 Service exports and imports of CJK and shares in the world (Unit: USD Billion, %)**

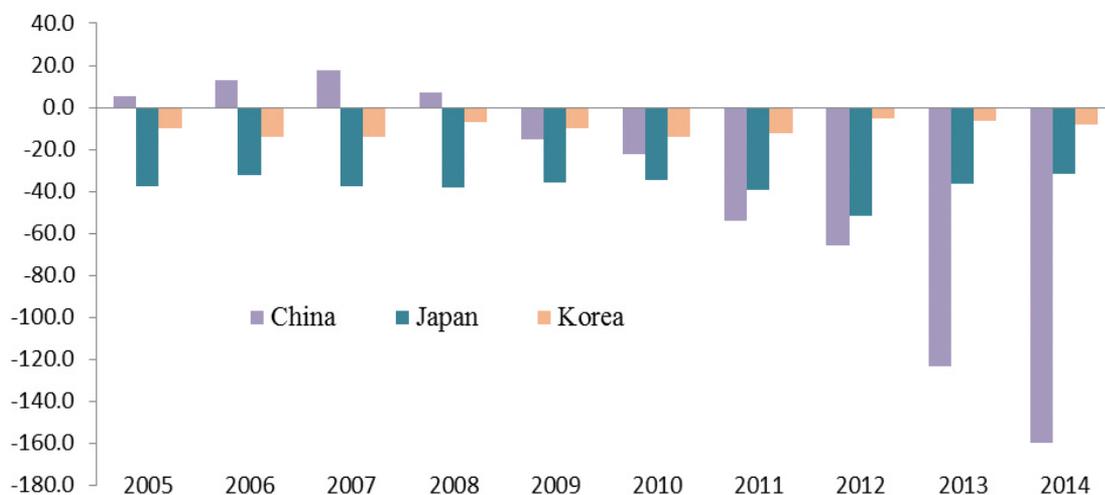


Source: WTO. Statistics Database [online].

Japan's service exports and service imports have also displayed an increasing trend since 2005. However, they grew much less rapidly than that in China. In 2014, Japan's service exports and imports amounted to USD 158.1 billion and USD 189.9 billion, respectively, accounting for 3.3 percent and 4.0 percent, respectively, of the world's total exports and imports. Their shares were lower than those of 2005, which were 3.9 percent and 5.5 percent, respectively, but higher than those of 2013, which were 2.8 percent and 3.7 percent, respectively.

ROK's service exports and service imports have also shown a similar rising tendency since 2005. In 2014, ROK's service exports and imports represented USD 105.8 billion and USD 114.0 billion, respectively, accounting for 2.2 percent and 2.4 percent, respectively, of the world's total exports and imports. Compared with China and Japan, ROK's shares have not showed significant change since 2005.

**Figure II - 12 Changes of balance of trade in services of CJK (Unit: USD Billion)**



Source: WTO. Statistics Database [online].

Overall, the sizes and shares of trade in services of all three countries are much smaller than those of trade in goods. In addition, as shown in Figure II-12, all three countries recorded the deficits in trade in services since 2009. In particular, China's deficits in trade in services grew quite rapidly. In 2014, China's deficit in trade in services amounted to USD 159.9 billion, while those of Japan and ROK were USD 31.9 billion and USD 8.2 billion, respectively.

**Table II - 8 Bilateral balance of trade in services of CJK (Unit: USD 100 Million)**

Year		2011	2012	2013	2014
Japan	ROK	-42.4	-60.1	-	-
	China	26.3	40.5	-	-
ROK	China	-8.2	12.3	53.4	75.2
	Japan	24.4	36.3	0.5	8.1

Sources: Bank of Korea [online]; UN Service Trade [online].

Among the three countries, in 2014, ROK recorded surpluses in trade in services vis-à-vis both China and Japan, and they amounted to USD 7.52 billion and USD 0.81 billion, respectively. Japan seemed to record a surplus in trade in services vis-à-vis China.

## 2 Structure of trade in services in China, Japan and ROK

In 2014, the most important component of Japan's trade in services was other business services, which represented 23.4 percent of its exports and 31.0 percent of its imports, followed by transport (representing 25.0 percent of exports and 24.1 percent of imports), charges for the use of intellectual property (representing 23.3 percent of exports and 11.0 percent of imports), and travel (representing 11.5 percent of exports and 10.3 percent of imports).

**Table II - 9 Japan's structure of trade in services (2014) (Unit: USD Million, %)**

	Value		Share	
	Exports	Imports	Exports	Imports
<b>Goods-related services</b>	2,309	12,007	1.5	6.3
<b>Transport</b>	39,501	45,774	25.0	24.1
<b>Travel</b>	18,262	19,442	11.5	10.3
<b>Other commercial services</b>	98,008	112,709	62.0	59.3
<b>Construction</b>	11,548	10,304	7.3	5.4
<b>Insurance and pension services</b>	1,816	5,162	1.1	2.7
<b>Financial services</b>	7,204	5,300	4.6	2.8
<b>Charges for the use of intellectual property</b>	36,832	20,916	23.3	11.0
<b>Telecommunications, computer, and information services</b>	3,197	11,341	2.0	6.0
<b>Other business services</b>	36,940	58,837	23.4	31.0
<b>Personal, cultural, and recreational services</b>	472	849	0.3	0.4

**Note:** Based on the classification of the sixth edition of the IMF Balance of Payments and International Investment Position Manual (BPM6).

**Source:** WTO. Statistics Database [online].

**Table II - 10 ROK's structure of trade in services (2014) (Unit: USD Million, %)**

	Value		Share	
	Exports	Imports	Exports	Imports
<b>Goods-related services</b>	3,479	8,664	3.3	7.6
<b>Transport</b>	35,319	31,571	33.4	27.7
<b>Travel</b>	18,147	23,465	17.2	20.6
<b>Other commercial services</b>	48,816	50,267	46.2	44.1
<b>Construction</b>	17,103	3,258	16.2	2.9
<b>Insurance and pension services</b>	684	812	0.6	0.7
<b>Financial services</b>	1,410	1,692	1.3	1.5
<b>Charges for the use of intellectual property</b>	5,151	10,369	4.9	9.1
<b>Telecommunications, computer, and information services</b>	2,876	1,997	2.7	1.8
<b>Other business services</b>	20,638	31,231	19.5	27.4
<b>Personal, cultural, and recreational services</b>	955	907	0.9	0.8

**Note:** Based on the classification of the sixth edition of the IMF Balance of Payments and International Investment Position Manual (BPM6).

**Source:** WTO. Statistics Database [online].

**Table II - 11 China's structure of trade in services (2014) (Unit: USD Million, %)**

	Value		Share	
	Exports	Imports	Exports	Imports
<b>Goods-related services</b>	22,890	700	10.3	0.2
<b>Transport</b>	199,310	381,400	89.7	99.8
<b>Travel</b>				
<b>Other commercial services</b>				

**Note:** Based on the classification of the sixth edition of the IMF Balance of Payments and International Investment Position Manual (BPM6).

**Source:** WTO. Statistics Database [online].

The most important components of ROK's trade in services was transport, which accounted for 33.4 percent of its exports and 27.7 percent of its imports, followed by other business services (representing 19.5 percent of exports and 27.4 percent of imports), travel (representing 17.2 percent of exports and 20.6 percent of imports), and construction, which represented 16.2 percent of its exports but only 2.9 percent of its imports. As for China, transport, travel and other commercial services seemed to be the most important components of its trade in services in 2014.

## Chapter III

## Investment (Dr. LEE Chang Jae)

Compared with the trade, the three countries' shares in the world's total investment are much smaller. In addition, although there exist some close investment links among them, the level of their investment interdependence is much lower than that of trade. For China, Hong Kong remains the most important investment partner while United States is the major investment partner for both Japan and ROK.

## I Inward FDIs of CJK

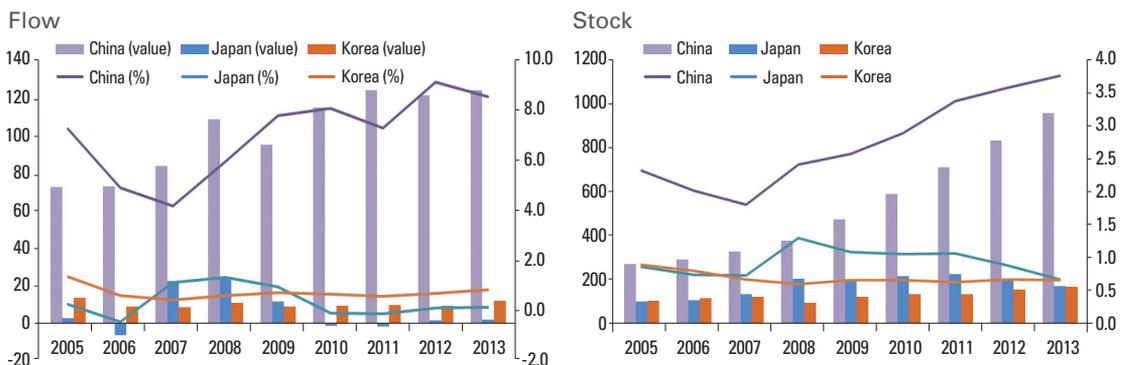
### 1 Trends of inward FDIs of China, Japan and ROK

In terms of flow, China's inward FDI has shown a rising trend until 2011 and remained almost constant. In 2013, it was USD 124 billion, which was 8.5 percent of world's total inward FDI. In terms of stock, China's inward FDI amounted to 3.8 percent of world's total in 2013.

In terms of flow, Japan's inward FDI has declined since 2009 and was only USD 2 billion in 2013 accounting for 0.2 percent of world's total inward FDI. In terms of stock, Japan's inward FDI amounted to 0.7 percent of world's total in 2013.

In terms of flow, ROK's inward FDI has remained almost constant, oscillating between USD 9 billion and USD 14 billion since 2005. In 2013, it was USD 12 billion, accounting for 0.8 percent of world's total inward FDI. In terms of stock, ROK's inward FDI amounted to 0.7 percent of world's total in 2013.

**Figure III - 1 Trends of inward FDIs of China, Japan and ROK (Unit: USD Billion, %)**



Source: UNCTAD Statistics.

### 2 China's inward FDI

As in the previous year, Hong Kong was by far the largest FDI provider to China accounting for 68.0 percent of China's total inward FDI in 2014. Other major investors included Singapore, the United States, Germany and Taiwan, as well as tax havens such as Virgin Islands, West Samoa and Cayman Islands.

Japan and ROK were the fourth and fifth largest investors to China, representing 3.6 percent and 3.3 percent, respectively, of China's total inward FDI in 2014. They ranked third and fifth accounting for 6.0 percent and 2.6 percent, respectively, in the previous year.

**Table III - 1 Major sources of China's inward FDI flows (Unit: USD million, %)**

Ranking	2013			2014		
	Region	Amount	Share	Region	Amount	Share
1	Hong Kong	73,397	62.4	Hong Kong	81,268	68.0
2	Singapore	7,229	6.1	Virgin Islands	6,226	5.2
3	Japan	7,058	6.0	Singapore	5,827	4.9
4	Virgin Islands	6,159	5.2	Japan	4,325	3.6
5	ROK	3,054	2.6	ROK	3,966	3.3
6	United States	2,820	2.4	United States	2,371	2.0
7	Taiwan	2,088	1.8	Germany	2,071	1.7
8	Germany	2,078	1.8	Taiwan	2,018	1.7
9	West Samoa	1,858	1.6	West Samoa	1,564	1.3
10	Cayman Islands	1,668	1.4	Cayman Islands	1,255	1.0

Note: Based on utilized FDI

Source: CEIC Data.

**Table III - 2 Sectoral structure of China's inward FDI flows (Unit: USD million, %)**

Sector	2013		2014	
	Amount	Share	Amount	Share
<b>Agricultural</b>	1,800	1.5	1,522	1.3
<b>Mining</b>	365	0.3	562	0.5
<b>Manufacturing</b>	45,555	38.7	39,939	33.4
<b>Textile</b>	1,228	1.0	827	0.7
<b>Chemical Material &amp; Product</b>	3,930	3.3	3,179	2.7
<b>Medical &amp; Pharmaceutical Product</b>	1,036	0.9	956	0.8
<b>Universal Machinery</b>	3,535	3.0	2,922	2.4
<b>Special Purpose Equipment</b>	3,489	3.0	2,302	1.9
<b>Communications, Computer &amp; Other Equipment</b>	6,406	5.4	6,148	5.1
<b>Non-manufacturing</b>	69,866	59.4	77,538	64.9
<b>Wholesale and Retail Trade</b>	11,511	9.8	9,463	7.9
<b>Real Estate</b>	28,798	24.5	34,626	29.0
<b>Leasing and Commercial Service</b>	10,362	8.8	12,486	10.4
<b>Scientific Research, Polytechnic Service</b>	2,750	2.3	3,255	2.7

Note: Based on utilized FDI

Source: CEIC Data.

In terms of sectoral distribution, non-manufacturing sectors received a larger portion of China's FDI inflows than manufacturing sectors. In 2014, non-manufacturing sectors received 64.9 percent of China's total inward FDI, up from 59.4 percent in 2013, while the manufacturing sector received 33.4 percent, down from 38.7 percent in 2013.

Among non-manufacturing sectors, real estate sector was the largest recipient accounting for 29.0 percent of China's total inward FDI in 2014, up from 24.5 percent in 2013; and followed by leasing and commercial service sector with 10.4 percent, up from 8.8 percent in 2013. Among manufacturing sectors, communications, computer & other equipment sector was the largest reception, accounting for 5.1 percent of China's total inward FDI, a slight decrease compared to 5.4 percent in 2013.

### 3 Japan's inward FDI

The United States ranked as the top investor to Japan in 2014 accounting for 47.7 percent of Japan's total inward FDI, down from 58.4 percent in 2013; Hong Kong, Singapore, and Taiwan were the second, third, and fourth largest investors; representing 21.0 percent, 15.8 percent, and 11.4 percent, respectively, of Japan's total inward FDI. Other important investors included Luxemburg, Germany, Australia, U.A.E., and Thailand. China and ROK were the seventh and eleventh largest investors, accounting for 6.5 percent and 1.5 percent, respectively, of Japan's total inward FDI in 2014, while they were the tenth and thirteenth largest investors accounting for 5.9 percent and 2.0 percent, respectively, in 2013.

**Table III - 3 Major sources of Japan's inward FDI flows (Unit: USD million, %)**

Ranking	2013			Ranking	2014		
	Region	Amount	Share		Region	Amount	Share
1	United States	1,378	58.4	1	United States	4,327	47.7
2	Luxembourg	1,279	54.2	2	Hong Kong	1,907	21.0
3	United Kingdom	618	26.2	3	Singapore	1,431	15.8
4	Netherlands	537	22.8	4	Taiwan	1,036	11.4
5	Sweden	505	21.4	5	Luxembourg	854	9.4
6	Australia	366	15.5	6	Germany	626	6.9
7	Singapore	325	13.8	7	China	594	6.5
8	Taiwan	186	7.9	8	Australia	414	4.6
9	Hong Kong	172	7.3	9	U.A.E.	286	3.2
10	China	140	5.9	10	Thailand	154	1.7
13	ROK	48	2.0	11	ROK	144	1.6

**Note:** Based on Balance of Payments, net

**Source:** JETRO, Japanese Trade and Investment Statistics.

**Table III - 4 Sectoral structure of Japan's inward FDI flows (Unit: USD million)**

Sector	2013	2014
<b>Manufacturing</b>	2,488.6	-2,265
<b>Food</b>	-220.7	38
<b>Chemicals and pharmaceuticals</b>	-360.8	-1,625
<b>Petroleum</b>	-43.6	-193
<b>Glass and ceramics</b>	912.3	105
<b>Iron, non-ferrous and metals</b>	50.2	42
<b>General machinery</b>	128.6	229
<b>Electric machinery</b>	1,501.5	-637
<b>Transportation equipment</b>	246.6	-906
<b>Precision machinery</b>	-209.5	407
<b>Non-manufacturing</b>	-131.2	4,356
<b>Construction</b>	-5.5	-26
<b>Transportation</b>	216.4	-875
<b>Communications</b>	-101.4	849
<b>Wholesale and retail</b>	160.0	-2,076
<b>Finance and insurance</b>	640.9	4,827
<b>Real estate</b>	224.8	318

**Note:** Based on Balance of Payments, net

**Source:** JETRO, Japanese Trade and Investment Statistics.

In 2014, the net FDI inflows to Japan's manufacturing sectors were negative amounting to USD 2,265 million, while those to Japan's non-manufacturing sectors was USD 4,827 million. Among non-manufacturing sectors, finance and insurance sector was the largest FDI recipient with USD 4,827 million, followed by USD 849 million for the communications sector.

## 4 ROK's inward FDI

The United States was the largest investor to ROK in 2014, representing 19.0 percent of ROK's total inward FDI, down from 24.2 percent in 2013. Netherlands, Luxemburg, and Singapore were the third, fourth, and fifth largest investors representing 12.5 percent, 10.1 percent, and 8.8 percent, respectively, of ROK's total inward FDI. Other key investors included Hong Kong, Canada, Ireland, and United Kingdom.

Japan and China were the second and sixth largest investors accounting for 13.1 percent and 6.3 percent, respectively, of ROK's total inward FDI in 2014. While in 2013, Japan was also the second largest investor accounting for 18.5 percent, and China was the eighth largest investor, representing 3.3 percent.

**Table III - 5 Major sources of ROK's inward FDI flows (Unit: USD million, %)**

Ranking	2013			2014		
	Region	Amount	Share	Region	Amount	Share
1	United States	3,525	24.2	United States	3,609	19.0
2	Japan	2,690	18.5	Japan	2,488	13.1
3	Malta	1,785	12.3	Netherlands	2,380	12.5
4	Hong Kong	976	6.7	Luxembourg	1,920	10.1
5	Luxembourg	712	4.9	Singapore	1,673	8.8
6	Netherlands	618	4.2	China	1,189	6.3
7	France	530	3.6	Hong Kong	1,061	5.6
8	China	481	3.3	Canada	572	3.0
9	Cayman Islands	450	3.1	Ireland	448	2.4
10	Singapore	431	3.0	United Kingdom	432	2.3

**Note:** Based on notified FDI

**Source:** Ministry of Trade, Industry and Energy of ROK.

**Table III - 6 Sectoral structure of ROK's inward FDI flows (Unit: USD million, %)**

Sector	2013		2014	
	Amount	Share	Amount	Share
<b>Agricultural</b>	4	0.0	5	0.0
<b>Mining</b>	2	0.0	11	0.1
<b>Manufacturing</b>	4,648	32.1	7,649	40.6
<b>Chemical Material &amp; Product</b>	867	6.0	3,178	16.9
<b>Medical &amp; Pharmaceutical Product</b>	510	3.5	59	0.3
<b>Machinery and Equipment</b>	393	2.7	907	4.8
<b>Electrical Machinery &amp; equipment</b>	524	3.6	600	3.2
<b>Transport equipment</b>	1,091	7.5	322	1.7
<b>Non-manufacturing</b>	9,848	67.9	11,188	59.4
<b>Banking &amp; Insurance</b>	2,925	20.2	1,791	9.5
<b>Real Estate &amp; Leasing</b>	2,550	17.6	2,729	14.5
<b>Business service</b>	2,514	17.3	4,153	22.0
<b>Wholesale and Retail Trade</b>	657	4.5	986	5.2
<b>Accommodation &amp; Catering Trade</b>	937	6.5	742	3.9

**Note:** Based on notified FDI

**Source:** Ministry of Trade, Industry and Energy of ROK.

As in China and Japan, non-manufacturing sectors received a larger portion of ROK's FDI inflows than manufacturing sectors. In 2014, non-manufacturing sectors represented 59.4 percent of ROK's total inward FDI, down from 67.9 percent in 2013, while the manufacturing sector received 40.6 percent, up from 32.1 percent in 2013. Among non-manufacturing sectors, business service sector was the largest recipient accounting for 22.0 percent of ROK's total inward FDI in 2014, up from 17.3 percent in 2013, followed by real estate & leasing sector with 14.5 percent in 2014, down from 17.6 percent in 2013. The third was the banking & insurance sector with 9.5 percent in 2014, down from 20.2 percent in 2013. Among manufacturing sectors, chemical material & product sector was the largest reception accounting for 16.9 percent of ROK's total inward FDI in 2014, up from 6.0 percent in 2013.

## II Outward FDIs of CJK

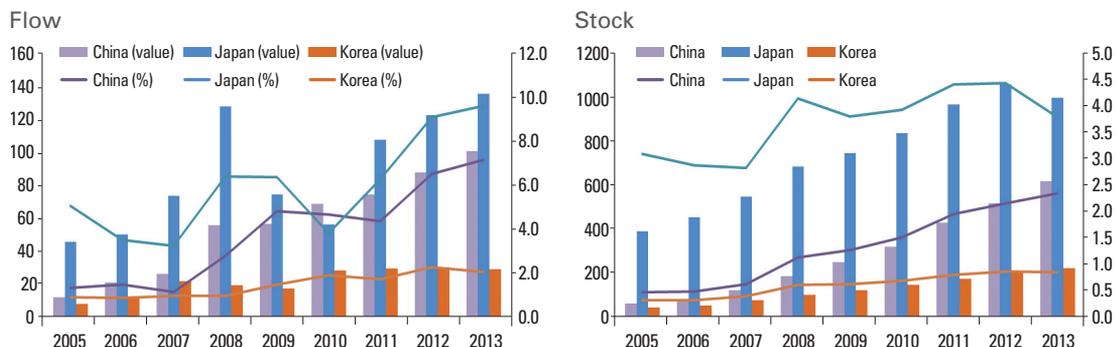
### 1 Trends of outward FDIs of China, Japan and ROK

While China has been the most active country among the three countries in terms of inward FDI, Japan remains the most visible among them in terms of outward FDI. Japan's outward FDI rose from USD 46 billion in 2005 to USD 128 billion in 2008 and diminished in 2009-2010 before increasing to USD 136 billion in 2013, accounting for 9.6 percent of the world's total outward FDI. In terms of stock, Japan's outward FDI amounted to USD 993 billion, accounting for 3.8 percent of the world's total outward FDI in 2013.

China's outward FDI increased rapidly from USD 12 billion in 2005 to USD 101 billion in 2013; and during the same period, the share of China's outward FDI in world's total outward FDI rose from 1.4 percent to 7.2 percent. In terms of stock, China's outward FDI was USD 614 billion in 2013, accounting for 2.3 percent of world's total outward FDI in 2013.

ROK's outward FDI rose from USD 8 billion in 2005 to USD 29 billion in 2013. As for the share of its outward FDIs in the world's total outward FDI, it increased from 0.9 percent to 2.1 percent during the same period. In terms of stock, ROK's outward FDI amounted to USD 219 billion in 2013 accounting for 0.8 percent of world's total outward FDI in 2013.

**Figure III - 2 Trends of outward FDIs of China, Japan and ROK (Unit: USD billion, %)**



Source: UNCTAD Statistics.

## 2 China's outward FDI

Similar to China's inward FDI, Hong Kong was the largest outward FDI destination for China. In 2013, China's outward FDI to Hong Kong represented USD 62.8 billion, accounting for 58.3 percent of China's total outward FDI. Cayman Islands was China's second largest destination, followed by the United States, Australia, Virgin Islands, Singapore, Indonesia, United Kingdom, Luxembourg, and Russia.

Japan and ROK were not major destinations of China's outward FDI. They accounted for only 0.4 percent and 0.2 percent, respectively, of China's total outward FDI in 2013.

**Table III - 7 Major destinations of China's outward FDI flows (Unit: USD million, %)**

Ranking	2012			Ranking	2013		
	Region	Amount	Share		Region	Amount	Share
1	Hong Kong	51,238	58.4	1	Hong Kong	62,824	58.3
2	United States	4,048	4.6	2	Cayman Islands	9,253	8.6
3	Kazakhstan	2,996	3.4	3	United States	3,873	3.6
4	United Kingdom	2,775	3.2	4	Australia	3,458	3.2
5	Virgin Islands	2,239	2.6	5	Virgin Islands	3,222	3.0
6	Australia	2,173	2.5	6	Singapore	2,033	1.9
7	Venezuela	1,542	1.8	7	Indonesia	1,563	1.4
8	Singapore	1,519	1.7	8	United Kingdom	1,420	1.3
9	Indonesia	1,361	1.6	9	Luxembourg	1,275	1.2
10	Luxembourg	1,133	1.3	10	Russia	1,022	0.9
11	ROK	942	1.1	24	Japan	434	0.4
36	Japan	211	0.2	32	ROK	269	0.2

**Note:** Based on utilized FDI

**Source:** CEIC Data.

**Table III - 8 Sectoral structure of China's outward FDI flows (Unit: USD million, %)**

Sector	2012		2013	
	Amount	Share	Amount	Share
Agricultural	1,461	1.7	1,813	1.7
Mining	13,544	15.4	24,808	23.0
Manufacturing	8,667	9.9	7,197	6.7
Non-manufacturing	128,262	73.0	148,051	68.6
Transport, Storage and Postal Service	1,935	3.4	3,307	3.1
Construction	2,988	3.7	4,364	4.0
Wholesale and Retail Trade	137	14.9	14,647	13.6
Banking and Insurance	13,049	11.5	15,105	14.0
Real Estate	10,071	2.3	3,953	3.7
Leasing and Commercial Service	2,018	30.5	27,056	25.1

Note: Based on utilized FDI

Source: CEIC Data.

In 2013, 68.6 percent of China's outward FDI were in non-manufacturing sectors. Among them, leasing and commercial service occupied the largest share, followed by banking and insurance, and wholesale and retail trade. The mining sector accounted for 23.0 percent of China's total FDI, whereas manufacturing sector accounted for 6.7 percent.

### 3 Japan's outward FDI

Similar to Japan's inward FDI, the largest destination of Japan's outward FDI was the United States, accounting for 35.2 percent of its total outward FDI in 2014. The second largest destination was the United Kingdom, representing 6.9 percent, and other major destinations included Singapore, Thailand, Indonesia, Australia, Brazil, and Netherlands. China and ROK represented Japan's fourth and tenth largest destinations, accounting for 5.6 percent and 2.6 percent, respectively, of Japan's total outward FDI in 2014.

**Table III - 9 Major destinations of Japan's outward FDI flows (Unit: USD million, %)**

Ranking	2013			2014		
	Region	Amount	Share	Region	Amount	Share
1	United States	43,703	32.4	United States	42,113	35.2
2	United Kingdom	13,319	9.9	United Kingdom	8,267	6.9
3	Thailand	10,174	7.5	Singapore	7,581	6.3
4	China	9,104	6.7	China	6,742	5.6
5	Netherlands	8,636	6.4	Thailand	5,175	4.3
6	Australia	5,835	4.3	Indonesia	4,406	3.7
7	Brazil	4,037	3.0	Australia	4,169	3.5
8	Indonesia	3,907	2.9	Brazil	3,317	2.8
9	Singapore	3,545	2.6	Netherlands	3,202	2.7
10	ROK	3,296	2.4	ROK	3,152	2.6

**Note:** Based on Balance of Payments, net

**Source:** JETRO, Japanese Trade and Investment Statistics.

**Table III - 10 Sectoral structure of Japan's outward FDI flows (Unit: USD million, %)**

Sector	2013		2014	
	Amount	Share	Amount	Share
<b>Mining</b>	13,089	9.7	6,009	5.3
<b>Manufacturing</b>	42,473	31.5	54,316	47.8
<b>Food</b>	3,528	2.6	18,269	16.1
<b>Chemicals and pharmaceuticals</b>	5,763	4.3	4,279	3.8
<b>Rubber and leather</b>	3,206	2.4	2,410	2.1
<b>Iron, non-ferrous and metals</b>	2,881	2.1	6,289	5.5
<b>General machinery</b>	3,880	2.9	4,379	3.9
<b>Electric machinery</b>	4,622	3.4	3,671	3.2
<b>Transportation equipment</b>	11,697	8.7	8,491	7.5
<b>Non-manufacturing</b>	92,577	68.6	59,380	52.2
<b>Communications</b>	23,416	17.3	7,653	6.7
<b>Wholesale and retail</b>	12,923	9.6	13,901	12.2
<b>Finance and insurance</b>	26,701	19.8	17,352	15.3
<b>Real estate</b>	3,118	2.3	1,498	1.3

**Note:** Based on Balance of Payments, net

**Source:** JETRO, Japanese Trade and Investment Statistics.

As for sectoral distribution, manufacturing sectors and non-manufacturing sectors had similar shares in Japan's outward FDI in 2014. Non-manufacturing sectors accounted for 52.2 percent, among which finance and insurance sector was the largest, representing 15.3 percent, followed by wholesale and retail sector with 12.2 percent. Manufacturing sectors represented 47.8 percent of Japan's total outward FDI, among which the food sector was the largest, accounting for 16.1 percent, followed by the transportation equipment sector with 7.5 percent.

#### 4 ROK's outward FDI

Similar to ROK's inward FDI, the United States was ROK's the largest outward FDI destination representing 26.1 percent of its total outward FDI in 2014. China was the second largest destination, followed by Cayman Islands, Vietnam, Canada, Luxembourg, Mexico, Hong Kong, United Kingdom, and Guernsey. China represented 10.7 percent of ROK's total outward FDI in 2014, down from 13.2 percent in 2013. Japan accounted for only 1.7 percent of ROK's total outward FDI in 2014, down from 2.4 percent in 2013.

**Table III - 11 Major destinations of ROK's outward FDI flows (Unit: USD million, %)**

Ranking	2013			Ranking	2014		
	Region	Amount	Share		Region	Amount	Share
1	United States	5,861	16.5	1	United States	9,124	26.1
2	China	4,700	13.2	2	China	3,755	10.7
3	Cayman Islands	2,898	8.1	3	Cayman Islands	2,832	8.1
4	Netherlands	2,874	8.1	4	Vietnam	2,102	6.0
5	Peru	2,416	6.8	5	Canada	1,519	4.3
6	Australia	1,715	4.8	6	Luxembourg	1,385	4.0
7	Vietnam	1,460	4.1	7	Mexico	1,187	3.4
8	Hong Kong	1,034	2.9	8	Hong Kong	1,083	3.1
9	Jersey	895	2.5	9	United Kingdom	1,020	2.9
10	Canada	882	2.5	10	Guernsey	962	2.7
11	Japan	856	2.4	15	Japan	579	1.7

**Note:** Based on notified outward FDI

**Source:** The Export-Import Bank of Korea.

**Table III - 12 Sectoral structure of ROK's outward FDI flows (Unit: USD million, %)**

Sector	2013		2014	
	Amount	Share	Amount	Share
<b>Agricultural</b>	143	0.4	95	0.3
<b>Mining</b>	7,949	22.4	4,136	11.8
<b>Manufacturing</b>	10,032	28.2	8,578	24.5
<b>Textile</b>	694	2.0	419	1.2
<b>Chemical Material &amp; Product</b>	317	0.9	1,043	3.0
<b>Medical &amp; Pharmaceutical Product</b>	55	0.2	150	0.4
<b>Machinery and Equipment</b>	597	1.7	428	1.2
<b>Electrical Machinery &amp; equipment</b>	4,125	11.6	2,228	6.4
<b>Transport equipment</b>	1,518	4.3	1,459	4.2
<b>Non-manufacturing</b>	17,417	49.0	22,205	63.4
<b>Banking &amp; Insurance</b>	4,068	11.4	6,856	19.6
<b>Real Estate &amp; Leasing</b>	6,855	19.3	7,474	21.3
<b>Wholesale and Retail Trade</b>	2,053	5.8	1,671	4.8
<b>Professional, scientific &amp; technical activities</b>	1,459	4.1	1,587	4.5
<b>Construction</b>	723	2.0	978	2.8

**Note:** Based on notified outward FDI;

**Source:** The Export-Import Bank of Korea.

Non-manufacturing sectors had the largest share in ROK's total outward FDI representing 63.4 percent in 2014. Among them, real estate & leasing and banking & insurance sectors were the largest and the second largest, accounting for 21.3 percent and 19.6 percent, respectively.

Manufacturing sectors represented 24.5 percent of ROK's total outward FDI. Among them, electrical machinery & equipment sector and the transport equipment sector were the major ones, accounting for 6.4 percent and 4.2 percent, respectively. In addition, the mining sector represented 11.8 percent of ROK's total outward FDI in 2014, down from 22.4 percent in 2013.

Financial cooperation is quite different from trade and investment cooperation that developed from bilateral level to regional level cooperation.

In fact, in East Asia, there existed certain international fora where the issues related to financial cooperation were discussed at the regional level in the first half of 1990s. For instance, EMEAP (Executives' Meeting of East Asia Pacific Banks),<sup>2</sup> established in 1991, is a forum of central banks in the East Asia and Pacific region that aims to strengthen cooperation among the 11 members including China, Japan and ROK. In APEC (Asia-Pacific Economic Cooperation), which was launched in 1989, Finance Ministers first met in 1994 in Honolulu, USA; and have met annually since then.<sup>3</sup> However, the first significant regional financial cooperation in East Asia started with the establishment of ASEAN+3 (China, Japan and ROK) framework, which was created in the wake of the Asian financial crisis of 1997-98. Under that framework, the first concrete bilateral financial cooperation was developed between China, Japan and ROK. Among various regional cooperation measures that resulted from the ASEAN+3 framework, by far the most significant was the Chiang Mai Initiative (CMI), introduced in May 2000 to reduce the risk of currency crises. It started as a combination of (i) a network of bilateral swap arrangements (BSAs) among China, Japan and ROK, and between one of these countries and a selected ASEAN member; and (ii) ASEAN Swap Arrangement (ASA). The number of bilateral currency swap arrangements and their amount grew over time and, by April 2009, had reached 16 swap arrangements amounting to USD 90 billion.

Among the three countries, as of April 2009, China-Japan BSA was a local currency swap amounting to USD 3 billion equivalent each from China to Japan and vice versa, while China-ROK BSA was also a local currency swap amounting to USD 4 billion equivalent each from China to ROK and vice versa. And the Japan-ROK BSA included both US dollar swaps (USD 10 billion from Japan to ROK and USD 5 billion from ROK to Japan) and local currency swaps (USD 3 billion equivalent each from Japan to ROK and vice versa). Then, the Yen-Won on BSA was raised from USD 3 billion to USD 20 billion equivalent in December 2008 until end-April 2009, which was later extended to end-October 2009.

Apart from the CMI/CMIM,<sup>4</sup> the bilateral currency swaps among the three countries have continued.

As for the China-ROK currency swap, in October, 2011, the People's Bank of China and the Bank of Korea agreed to enlarge their Won-RMB swap amounting to RMB 360 billion / Won 64 trillion (USD 56 billion), replacing the three-year arrangement signed in April 2009. This new currency swap arrangement was also valid for three years and renewable by the consent of two Central Banks. Accordingly, it was renewed in October 2014 for another three years until October 2017.

With respect to the Japan-ROK currency swap, in October 2011, at the Japan-ROK Summit, the two countries decided to enlarge the size of the currency swap from USD 13 billion to USD 70 billion (USD 30 billion in Won-Yen swap and USD 40 billion in Won-Yen/ USD swap). Thus, ROK can get USD 30 billion equivalent in Yen and USD 40 billion in exchange for USD 70 billion equivalent in Won, and vice versa. The additional currency swap arrangement was valid for one year and it was expired in October 2012. Accordingly, the size of bilateral currency swap was reduced from USD 70 billion to USD 13 billion. Then, it was further downgraded to USD 10 billion in 2013, due to expiration of 3 billion arrangement.

Most recently, in February 2015, Japan and ROK announced that their 14-year-old currency swap arrangement would expire. Officials from the two countries were reported as saying that the decision to end the program was based on financial and economic considerations, rather than political tensions.

---

<sup>2</sup> ADB [online]. (<http://aric.adb.org/initiative/executives-meeting-of-east-asia-pacific-central-banks-initiative>)

<sup>3</sup> Japan and Korea were the founding members and China joined it in 1991 [APEC online]. (<http://www.apec.org/Groups/Other-Groups/Finance-Ministers-Process.aspx>)

<sup>4</sup> To overcome the complex nature of multiplicity of BSAs, the CMI was replaced by CMIM (Multilateralization of the Chiang Mai Initiative) in March 2010, and in May 2012, the CMIM was further modified doubling the size to US\$240 billion (Kawai, 2015).

## Chapter V

## FTA (Dr. LEE Chang Jae)

## I Current status of FTAs of CJK

Although China, Japan and ROK were late in joining in efforts toward economic regionalism, which became a worldwide phenomenon in the 1990s, they have pursued rather active FTA policies since the turn of the century. As a result, three countries have concluded a great number of FTAs and many other FTA negotiations are under way.

Table V - 1 | Current Status of FTAs in China, Japan and ROK (As of September, 2015)

	China	Japan	ROK
<b>Signed and In Effect</b>	ASEAN Asia-Pacific Trade Agreement Chile Costa Rica Hong Kong Iceland Macao New Zealand Pakistan Peru Singapore Switzerland Taiwan Thailand	ASEAN Australia Brunei Chile India Indonesia Malaysia Mexico Peru Philippines Singapore Switzerland Thailand Viet Nam	ASEAN Asia-Pacific Trade Agreement Australia Canada Chile EFTA EU India Peru Singapore Turkey United States
<b>Signed But not yet In Effect</b>	Australia ROK	Mongolia	China Colombia New Zealand Viet Nam
<b>Negotiations launched</b>	GCC CJK FTA Norway RCEP Sri Lanka	Canada CJK FTA Colombia EU GCC ROK RCEP TPP Turkey	Japan CJK FTA GCC Indonesia Mexico RCEP

**Sources:** ADB. Asia Regional Economic Integration Center (<http://aric.adb.org/fta>) ; Ministry of Industry, trade and energy of ROK ([www.fta.go.korea](http://www.fta.go.korea)); Ministry of Foreign Affairs of Japan, Free Trade Agreement and Economic Partnership Agreement; Ministry of Commerce of the People's Republic of China, China FTA Network (<http://fta.mofcom.gov.cn>)

---

Table V-1 shows the list of countries or regions with which China, Japan and ROK, respectively, signed FTAs that are in effect; signed FTAs but are not yet in effect; and FTA negotiations that have been launched, which includes ongoing FTA negotiations as well as those currently not under negotiations.

China concluded FTAs with ASEAN, Chile, Costa Rica, Iceland, New Zealand, Pakistan, Peru, Singapore, Switzerland, and Thailand. China also signed Closer Economic Partnership Arrangements (CEPAs) with Hong Kong and Macao, respectively, and concluded Economic Cooperation Framework Agreement (ECFA) with Taiwan. And China belongs to the Asia-Pacific Trade Agreement. All these FTAs have been in effect. In addition, China concluded FTAs with Australia and ROK, respectively, but these FTAs are not yet in effect. Furthermore, China launched FTA negotiations with the Gulf Cooperation Council (GCC), Norway, Sri Lanka, and Southern African Customs Union, whereas China has also been involved in the CJK FTA and Regional Comprehensive Economic Partnership (RCEP) negotiations.

Japan signed Economic Partnership Agreements (EPAs) with ASEAN, Australia, Brunei, Chile, India, Indonesia, Malaysia, Mexico, Peru, the Philippines, Singapore, Switzerland, Thailand and Viet Nam, which have been in effect. Japan also signed an EPA with Mongolia, but it is not yet in effect. In addition, Japan launched EPA/FTA negotiations with Canada, Columbia, EU, GCC, ROK and Turkey. Japan has also been involved in negotiations for CJK FTA, RCEP and the Trans-Pacific Partnership (TPP).

ROK concluded FTAs with ASEAN, Australia, Canada, Chile, European Free Trade Association (EFTA), EU, India, Peru, Singapore, Turkey and United States, which have been in effect. ROK also belongs to the Asia-Pacific Trade Agreement. Recently, ROK signed FTAs with China, Columbia, New Zealand and Viet Nam, but they are not yet in effect. In addition, ROK launched FTA negotiations with Japan, GCC, Indonesia, and Mexico. Currently, it is also involved in the CJK FTA and RCEP negotiations.

It is worthy of noting that there exist some common FTA partners for the three countries such as ASEAN, Chile, Peru, Singapore and Australia for the signed FTAs and GCC for the FTA negotiations launched. Moreover, the three countries are participating in RCEP negotiations in addition to CJK FTA negotiations. Additionally, as for the bilateral FTAs, the recently-concluded China-ROK FTA deserves special attention, while the prospects for the Japan-ROK FTA negotiations, which started in December 2003 and have been stalled since December 2004, seems still uncertain.

## II CJK FTA

### 1 Brief history of CJK FTA

In November 1999, the leaders of China, Japan and ROK at their first Summit on the sideline of ASEAN+3 Summit Meeting, agreed on joint research to enhance economic cooperation among the three countries. The Development Research Center (DRC) of the State Council of the PRC, the National Institute for Research Advancement (NIRA) of Japan,<sup>5</sup> and the Korea Institute for International Economic Policy (KIEP) began Trilateral Joint Research in November 2000.

During 2003-2009, the joint study was conducted by the three institutes on "Possible Effects of a CJK FTA". In 2009, the Trilateral Joint Research recommended upgrading the joint study on the CJK FTA to the discussions among government officials of the three countries.

---

Based on the recommendation of the Trilateral Joint Research, the leaders of the three countries agreed to launch an Official Tripartite Joint Study for a CJK FTA at the second Trilateral Summit Meeting in Beijing, in October 2009. Accordingly, the first Joint Study Committee for a CJK FTA took place in Seoul in May 2010, and the Joint Study was concluded at the seventh meeting, held in Pyeongchang, ROK in December 2011. The outcome of the Joint Study was reported to the Trade and Economic Ministers Meeting of the three countries and the Fifth Trilateral Summit Meeting in May 2012.

Finally, the Trade Ministers of China, Japan and ROK met in Phnom Penh, on November 20, 2012, and announced the launch of the CJK FTA, following the Joint Declaration among the leaders of the three countries to start the CJK FTA negotiations within the year, at the Fifth Trilateral Summit Meeting in Beijing, in May 2012. Thus, after a decade of preparations for a trilateral FTA among the three countries, the process of forming a CJK FTA entered its final stage.

## 2 Current status of CJK FTA negotiations

Since the first round of CJK FTA negotiations in Seoul on March 26-28, 2013, eight rounds of FTA negotiations have been held by September, 2015.

The second round was held in Shanghai on July 29 - August 2, 2013, while the third round took place in Tokyo on November 26-29, 2013; and the fourth round was held in Seoul on March 4-7, 2014, while the fifth round took place in Beijing on September 1-5, 2014.

Since the six round of negotiations, each round consists of two separate meetings: a Working level (DG/DDG level) meeting followed by Chief Delegate level meeting. As for the sixth round, the working level meeting took place in Tokyo on November 24-28, 2014, while the Chief Delegate level meeting was held in Tokyo on January 16-17, 2015. For the seventh round, the working level meeting took place in Seoul on April 13-17, 2015, while the Chief Delegate level meeting was held in Seoul on May 12-13, 2015. Most recently, for the eight round, the working level meeting took place in Beijing on July 20-24, 2015, while the Chief Delegate level meeting was held in Beijing on September 24-25, 2015.

Various areas including trade in goods, trade in service, investment, competition policies, and intellectual property were discussed so far.

After more than two years since the launch of CJK FTA negotiations, overall, the CJK FTA negotiations so far have not produced the expected results, although some limited progress has been made.

---

<sup>5</sup> Since 2009, the Institute of Developing Economies (IDE-JETRO) has been the representative institution for Japan.

## I Current Status of Energy of CJK

### 1 China (Dr. LI Xiao)

#### 1-1 Huge energy consumption and increasing efficiency

The high speed of economic growth and the accelerated industrialization shows the feature of high energy consumption in Chinese economy. Table VI-1 shows that in 1970, China's primary energy consumption are just 0.202 billion tons of oil equivalent (TOE), only occupied 4.08 percent of world total consumption. As China's GDP grew rapidly, its energy consumption grew accordingly, in 2013, China's primary energy consumption are already 2.852 billion TOE, occupied 22.4 percent of world total consumption. According to the Chinese government's estimation, China's energy consumption growth rate in 2014 will be 2.2 percent.

**Table VI - 1 China's GDP and its energy consumption**

Year	1970	1975	1980	1985	1990	1995
<b>GDP (RMB Billion)</b>	226.1	301.3	455.2	904.0	1,877.4	6,113.0
<b>Energy consumption (billion TOE)</b>	0.202	0.314	0.416	0.530	0.665	0.887
<b>Share of world total (%)</b>	4.08	5.45	6.28	7.40	8.19	10.34
Year	2000	2005	2010	2011	2012	2013
<b>GDP (RMB Billion)</b>	9,977.6	18,589.6	40,890.3	48,412.4	53,412.3	58,801.9
<b>Energy consumption (billion TOE)</b>	0.980	1.601	2.338	2.541	2.735	2.852
<b>Share of world total (%)</b>	10.50	14.95	19.58	20.78	21.92	22.40

**Sources:** China Statistical Yearbook 2014; BP Statistical Review of World Energy 2014.

As table VI-2 shows, from 2000 to 2013, China's primary energy intensity are always higher than 0.2, above the world average level. In 2013, China's primary energy intensity achieved 0.218, which is lower than Russia (0.34), but higher than the world average (0.16) and Asian average (0.167), which is 1.3 times of the US, and 1.9 times of the EU. However, compared with 2000, China's primary energy intensity have reduced by 23.78 percent. In the meantime, China's energy consumption elasticity coefficient<sup>6</sup> also went down, in 2013, this coefficient is 0.48, reduced by 70 percent since 2004 (see figure VI-1). Therefore, it can be told that the efficiency of energy consumption in China is improving, although it's still lower than the world average level.

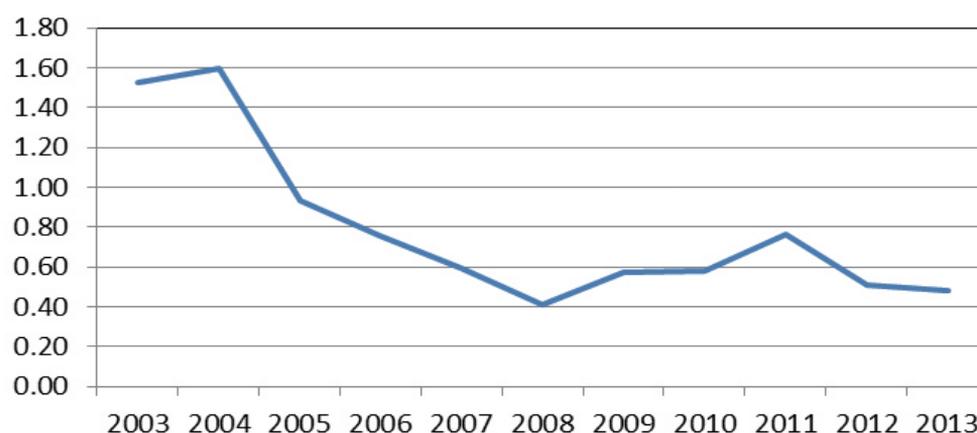
**Table VI - 2 Primary energy intensity in main countries / areas**

(Kilograms of standard oil / USD)

	2000	2005	2010	2011	2012	2013
<b>World</b>	0.19	0.18	0.168	0.164	0.162	0.16
<b>EU</b>	0.141	0.134	0.123	0.117	0.116	0.115
<b>Asia</b>	0.196	0.191	0.175	0.172	0.17	0.167
<b>US</b>	0.196	0.177	0.163	0.158	0.151	0.152
<b>Russia</b>	0.491	0.384	0.348	0.351	0.347	0.34
<b>China</b>	0.286	0.274	0.229	0.228	0.223	0.218

Source: Enerdata database.

**Figure VI - 1 China's energy consumption elasticity coefficient from 2003 to 2013**



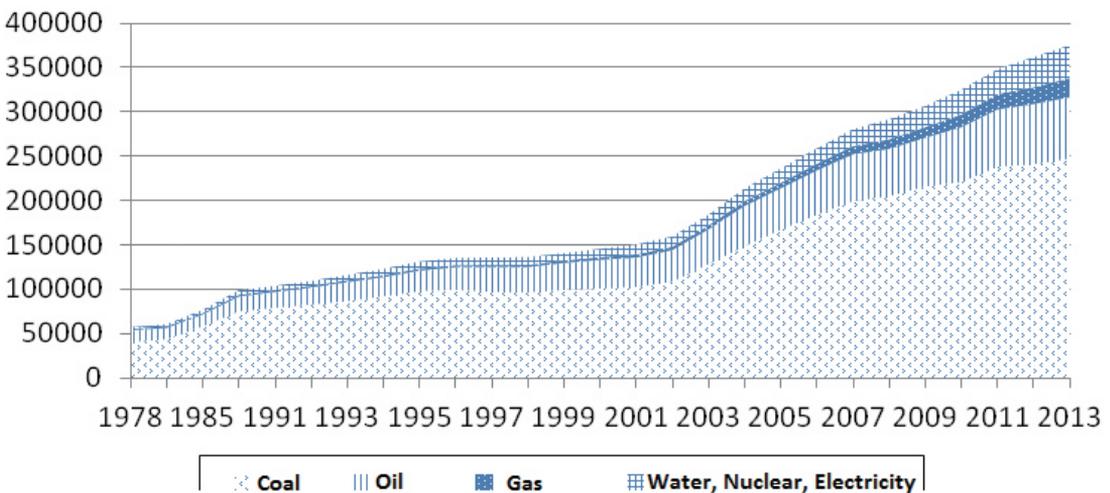
Source: China Statistical Yearbook 2014

<sup>6</sup> Energy consumption elasticity coefficient is the ratio of the growth rate of energy consumption to the GDP growth rate. Higher value of the coefficient reflects a lower efficiency of energy consumption.

## 1-2 The structure of energy consumption became better off

China's energy consumption are mainly coal consumption. In 2013, coal consumption are 2475 million tons, occupying 66 percent of total energy consumption in China. Oil was the second largest source of energy, occupying 18.4 percent of its total energy consumption, and the consumption of clean energy like gas and electricity are less than 16 percent. According to the world energy outlook, the share of coal consumption in China in 2035 will reduce to 51 percent, and the share of gas will be doubled and achieve 12 percent. In mid-2020s, China will surpass Russia to become the second largest gas consumer in the world, after the US. It is also predicted that the share of oil consumption in China will maintain a level at around 18 percent, so China's energy consumption structure will turn to be a cleaner one.

**Figure VI - 2 China's energy consumption structure from 1978 to 2013**  
(tens of thousands tons of standard coal)



Source: China Statistical Yearbook 2014.

As for the sectoral structure of the energy consumption, the industrial sector always accounts for the largest part of the total energy consumption. In 2012, coal consumption of the industrial sector occupied more than 95 percent of the total coal consumption, and its consumption of oil, gas and electricity occupied 66.08 percent, 64.71 percent and 72.81 percent respectively, compared with 2002, the share of oil and gas were reduced. In addition to industrial sector, energy consumption for living is also an important factor, compared with 2002, the share of gas and electricity consumption for living grew to 19.7 percent and 12.5 percent in 2012 respectively. Transportation, storage and postal services sector are also major sectors of consume oil and gas, in 2012 its consumption of oil and gas occupied 22.95 percent and 10.56 percent of total consumption respectively.

**Table VI - 3 Shares of energy consumption of different sectors in China (%)**

	2002				2012			
	coal	oil	gas	electricity	coal	oil	gas	electricity
<b>Agriculture, forestry, animal husbandry, fishery, water conservancy industry</b>	1.18	4.32	0.00	4.75	0.47	1.98	0.04	2.03
<b>Industrial sector</b>	91.42	71.64	77.96	72.21	95.65	66.08	64.71	72.81
<b>Construction</b>	0.39	1.03	0.23	1.01	0.19	1.08	0.09	1.22
<b>Transportation, storage and postal services</b>	0.72	15.83	2.18	2.07	0.16	22.95	10.56	1.84
<b>Wholesale, retail and accommodation, catering industry</b>	0.57	1.37	2.09	3.06	0.60	0.60	2.64	3.40
<b>Other sectors</b>	0.52	5.02	0.00	4.64	0.58	3.87	2.25	6.20
<b>Consumption for living</b>	5.19	0.80	17.53	12.26	2.34	3.43	19.70	12.50

Sources: China Statistical Yearbook 2005; China Statistical Yearbook 2014.

### 1-3 Inadequate energy output and dependency on foreign supplier

In 2013, China's total energy output is 3.4 billion tons of standard coal, lower than its total consumption. Table VI-4 shows the output and consumption of different kinds of energy in 2013 in China, it can be seen that the output and consumption of coal and electricity are similar, but the output of gas occupied only 71.56 percent of its consumption, and the output of oil was less than 50 percent of its consumption. Both oil and gas depend largely on foreign suppliers.

**Table VI - 4 China's energy output and consumption in 2013**

(Unit: billion tons of standard coal)

	coal	oil	gas	electricity
<b>Production</b>	2.57	0.302	0.156	0.371
<b>Consumption</b>	2.475	0.690	0.218	0.368

Source: China Statistical Yearbook 2014.

Currently, China is still in the process of industrialization, its energy consumption will still grow in the future, and the limited domestic energy resources will force China to continuously depend on foreign suppliers. According to the expectation of the 'BP 2035 World Energy Outlook' China's energy output will grow by 47 percent until 2035, and its consumption will grow by 60 percent. The share of China's domestic energy supply will reduce from 85 percent in 2013 to 77 percent in 2035, so China will surpass Europe to be the largest energy importer, its import dependency will grow from 15 percent to 23 percent. In particular, its oil import dependency will grow from 60 percent (6 million barrels/day) in 2013 to 75 percent (13 million barrels/day) in 2035, higher than the highest level of the US in 2005, and its gas import dependency will grow from less than 30 percent (4 billion cubic feet/day) to more than 40 percent (24 billion cubic feet/day).

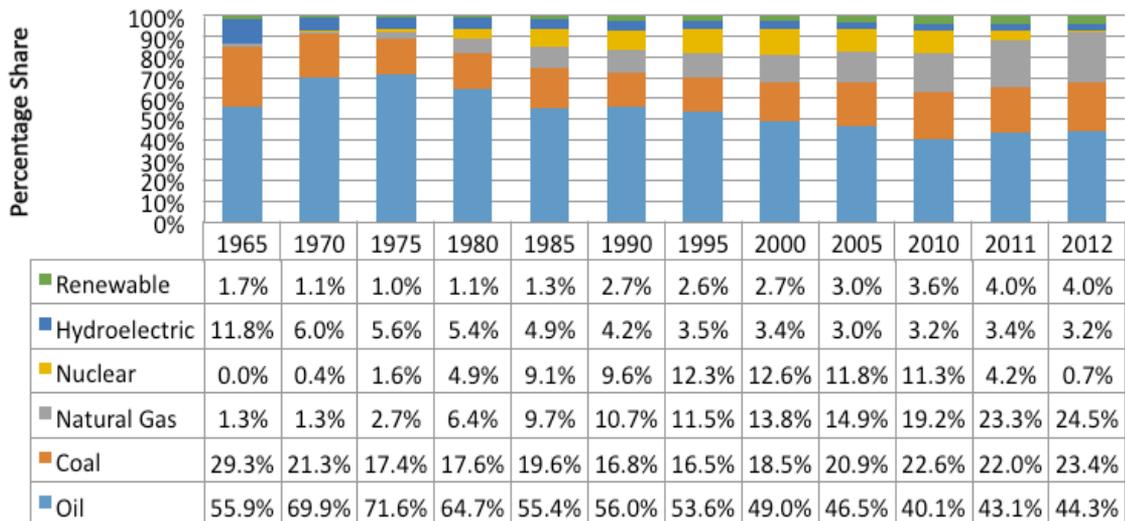
## 2 Japan (Dr. TANAKA Kiyoyasu)

### 2-1 Japan's energy supply and demand

#### 1) Energy supply

To shed light on current energy situations in Japan, we begin to review a supply side of energy. Figure VI-3 presents sources of domestic energy supply between 1965 and 2012. Since the World War II, energy supply has relied primarily on imported oils from Middle East, including Saudi Arabia, Iran, and UAE. The oil dependency as an energy source increased up to 75.5 percent in 1973. As the oil shocks in the 1970s revealed the fragility of the energy supply based mainly on imported oils, the sources of energy supply have been gradually diversified by increasing the use of nuclear power, natural gas, coal, and renewable energy, i.e., solar, wind, biomass, geothermal energy. The dependency of oil energy has decreased up to 40.1 percent in 2010. As a result, the share of coal and natural gas increased up to 22.6 percent and 19.2 percent in 2010, respectively. The share of nuclear power also increased up to 11.3 percent in 2010, but declined sharply up to 0.7 percent in 2012 after the accident of the nuclear power plant in Fukushima in 2011. The suspension of nuclear power plants led to increase the use of fossil fuels for energy supply. Thus, self-sufficiency rate of domestic energy supply declined up to 6.0 percent in 2012.

**Figure VI - 3 Sources of domestic energy supply in Japan**



**Notes:** Renewable energy includes solar, wind, biomass, and geothermal energy.

**Source:** Energy Statistics by the Agency for Natural Resources and Energy, the Ministry of Economy, Trade, and Industry of Japan.

---

## 2) Energy demand

As modern economic activities are supported by the consumption of energy resources, the Japanese economy has increased the demand for energy substantially over time. More specifically, a demand side of energy in Japan can be illustrated by dividing energy consumption into transport, commercial and residential, and industrial sectors. First of all, the transport sector consists of transport modes in passenger services and cargo services, including passenger vehicle, bus, truck, train, ship, and aircraft. Energy consumption in these transport modes increased to a large extent because of an increase in passenger cars and trucks, which consume more energy than other modes such as the bus and railway transport. Secondly, the commercial and residential sector includes energy consumption in home electric appliances, water supply, heating system, lighting equipment, and so on. These home and office facilities increased the energy use substantially for convenience and comfort of the lifestyle. Finally, manufacturing sector accounts for a large share of energy consumption in the industrial sector. In particular, steel, chemical, ceramic-earth, and sand, cement, and paper-pulp production consumes the substantial share of energy consumption in the manufacturing industry. The volume of energy consumption in these industries increased only slightly mainly for an improvement in energy efficiency.

### 2-2 Japan's basic energy policy

Energy is a crucial input of human economic activities, and thus a secure supply of energy is an important policy issue for promoting economic growth. However, there are several fundamental problems in the energy supply in Japan. It is highly dependent on imported fossil fuels such as oil, gas, and coal. Political and economic circumstances in foreign countries have a large influence on the import of energy resources. Nuclear power generation is an alternative approach to secure energy supply and reduce environmental impacts of greenhouse gas emission, but the accident of nuclear power generation plants in Fukushima revealed the large risk of the use of nuclear power. Renewable energy resources such as solar, wind, hydroelectric power are advantageous in safety and environmental aspects, but their utilization is subject to issues such as unstable supply and relatively high cost. Given the tradeoffs among these alternative energy resources, the objective of energy policy in Japan is to secure the energy supply in a safe way, to improve economic efficiency of energy consumption, and to reduce the environmental impacts.

### 2-3 New energy

New energy such as solar, wind, and biomass, and geothermal energy is more environmentally preferable than fossil fuel energy in terms of greenhouse gas emission. These new energy resources can also be produced and procured in the domestic market. Although the new energy accounts for a relatively small share of energy supply in Japan, the Japanese government seeks to increase the use of new energy by providing fiscal incentives for its development and introduction in the market. Nevertheless, the new energy has higher costs than fossil fuels, and is subject to geographical and meteorological conditions. These factors lead to the low utilization of new energy resources in Japan, implying that technological development is required to reduce a barrier to promote utilization. From an institutional perspective, supporting measures are taken under the Special Measures Law on Use of New Energy, which aims to increase new energy in electricity power

---

generation by obligating electric utilities to exploit a certain minimum amount of the electricity generated by new energy resources such as solar, wind, and biomass. In addition, the government started the System of Purchasing Excess Power Generated by Sunlight in November 2009.

## **2-4 Energy conservation**

Energy conservation is an important measure to address problems in energy consumption and supply in Japan. After the oil crises in the 1970s, the energy conservation efforts in private sector contributed to improve energy consumption efficiency substantially. To cope with the problems in energy supply and environmental impacts of greenhouse gas emission, further efforts must be made for energy conservation. To this end, the Japanese government has taken policy measures under the Energy Conservation Law, which require the business enterprises using 1,500kL or more of energy to submit a report on annual energy use. Moreover, the owner of large scale buildings is required to notify energy conservation measures in the case of new construction, renovation, and repair. Additionally, manufacturers are given an incentive to make efforts in energy conservation of their manufactured appliances under the Top Runner System. The objective is to set an energy conservation standard for each type of appliances, including fuel efficiency standard for automobiles and electricity efficiency standard for electric appliances. The most excellent products are designated as the top runner and serve as a standard of energy efficiency for each product, which should promote energy-conserving innovations among manufacturers.

## **3 ROK (Dr. LEE Chang Jae)**

### **3-1 Korean energy market situation**

The average annual growth rate of final energy consumption in ROK from 2000 to 2012 was 2.8 percent. The growth rate in the 1990s was 7.2 percent, but it was slowed significantly after the Asian financial crisis in 1997. The share of energy consumption in the industrial sector has increased steadily, up to 60 percent of total energy consumption.

However, a slightly different energy trend began to appear recently, which shows a very lower growth rate compared to previous two decades. In 2014, the primary energy consumption was estimated at 281.9 million TOE, increasing 0.6 percent compared with 2013 due to the lower industry sector demand from the slow economic recovery and warm weather. If calculating the consumption without the production input amount, the primary energy consumption decreases by 1.9 percent.

In the oil sector, we can see a slight increase of 0.4 percent with the combined effect of more naphtha demand and less fuel consumption. In the coal sector, a modest increase of 2.9 percent was noticed due to the decreases in coal-fired power generation and increasing demand from the steel sector. But, in the natural gas sector, LNG consumption experienced a significant decrease of 9.0 percent due to lower consumption of city gas and power generation. In the electrical power sector, there is a very small increase of 0.6 percent due to the weak economic recovery, warm weather, and higher electricity tariff in 2013. However, the nuclear sector shows a significant increase of 12.7 percent due to the re-start of some existing nuclear power plants. Also the final energy demand only increased by 1.4 percent than 2013, estimated at 213.9 million TOE. The

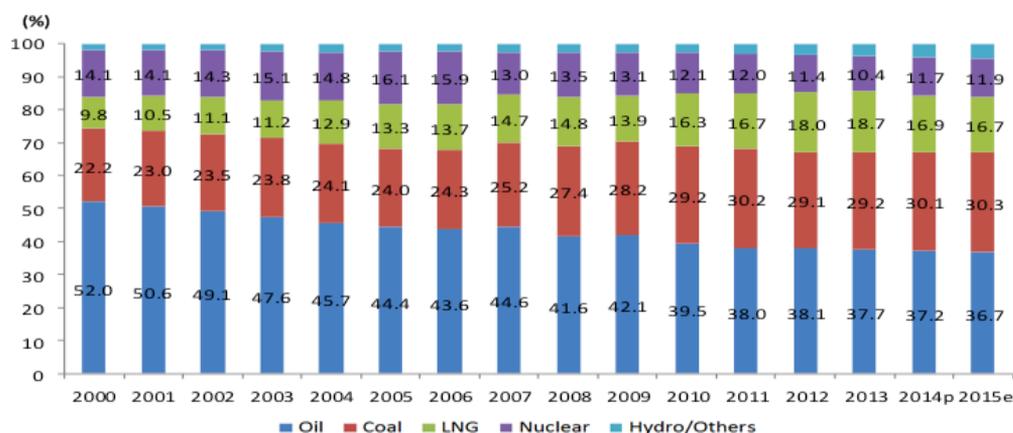
industrial sector showed the sustained growth of 4.3 percent increase from the increased consumption of bituminous coal and naphtha. On the other hand, the consumption in the transportation sector decreased slightly by 0.1 percent. But consumption in the residential-commercial-public sector decreased significantly, by 6.3 percent, due to the warm weather.

In 2015, the figure for primary energy consumption is predicted to reach 291.7 million TOE, an increase of 3.5 percent mainly due to the return to average temperature, the base effect of transportation oil and city gas demand, and increased coal demand for power generation. If realized, this growth rate will imply that the energy consumption seems to be back to the previous trend.

While energy intensity index will remain nearly the same, per capita energy consumption will be increased. In the oil sector, transportation demand increase due to low oil price will drive up the oil demand by 2.1 percent, even though it would only represent a temporary increase. As for other sectors, there will be various reasons for demand increases such as more demand for coal-fired power generation, return to average temperature in the natural gas sector, restart of nuclear power plants in nuclear sector, etc.

Also, final energy consumption is expected to reach 220.3 million TOE in 2015, an increase of 3.0 percent compared with 2014. Increased demand from transportation and residential sectors are the main reasons for the increased final consumption numbers.

**Figure VI - 4 ROK energy mix trend: 2000-2015**



Source: KEEI, Korea Energy Outlook, Spring / 2015.

In 2015 the lower demand increase in the industrial sector can be contrasted with greater increases in demand from transportation and residential/commercial/public sectors. In power sector, gas-fired power generation will be reduced for giving way to more nuclear power plants restarts and baseload power generation. Even though oil consumption is expected to increase, the share of oil will be lowered due to higher demand for bituminous coal for power generation.

In the overall mix in primary energy consumption, the share of oil and gas will be lower, while nuclear and coal share will become higher. In 2015, share of energy consumption in each sector will be expected as follows: oil 36.7 percent, coal 30.3 percent, LNG 16.7 percent, nuclear 11.9 percent, hydro and others 4.4 percent.

---

## 3-2 Korean energy policy: the Second Energy Master Plan

There are three main drawbacks in the First Energy Master Plan, initiated in 2008. First, there was inefficient resource distribution in the national economy. A low-price policy motivated by social and economic concerns has reinforced energy overconsumption patterns and accelerated the trend toward excessive use of certain type of energy such as electricity.

Second, the First Plan was centered on supply and quantitative growth. Until recently, instead of aggressive measures to curb demand, more focus has been to a large-scale, centralized supply infrastructure to meet growing demand. Excessive focus on operation efficiency during the rapid expansion of nuclear industry also had unintended consequences. The goal of achieving rapid nuclear self-sufficiency resulted in lower transparency and too little attention to investment for safety and regulation systems.

Third, the First Plan did not have a concrete road map but had too many result-oriented policy goals. New power plant construction was kept at a minimum for fears of criticism on over-investment leading to excessive power generation capacity. Too ambitious overseas resource development resulted in increased debt without sufficiently improving development capability. In addition, as current deployment rate of renewable energy is at a paltry 2.75 percent, a reconsideration of the deployment target and the detailed policy measure to achieve 11 percent deployment target is necessary.

To overcome those drawbacks, the Second Energy Master Plan released in 2013 has established six basic directions. First, ROK needs a transition to energy policies focusing on demand management, with a target of 13 percent reduction in energy demand and 15 percent reduction in electricity demand by 2035. To achieve this target, the government of ROK needs to first adjust energy tax rates to reduce the imbalance between electricity consumption and other energy consumption. Furthermore, it will revise the rate system to reflect the environment and social costs, simplifying rate structure for each use, and expand the 'opt-in' rate system. Since ROK possesses significant advantages in ICT-based demand management, ROK will deploy more smart grids and energy demand systems, invigorating the demand management market.

Second, ROK will build more comprehensive distributed power generation system to enhance the public acceptance for power generation and transmission systems. It will construct power plants in areas with sufficient transmission capacity to minimize construction demand for ultra-high voltage transmission lines. According to the Plan, ROK can supply more than 15 percent of its power from distributed sources, such as integrated energy systems, renewable energy, and in-house generators by 2035 (current contribution rate is 5 percent). Also the government of ROK will develop the integrated plans for generation and transmission, raise public acceptance through a review of ultra-high-voltage transmission lines and establish an independent body to manage and supervise the power grid.

Third, ROK will enhance sustainability in the energy sector through environmental protection, improved safety, and technology development. To strengthen response to climate change, ROK will apply more advanced Greenhouse Gas (GHG) reduction technology like Carbon Capture and Storage (CCS) to thermal power plants. Also, overall improvement in nuclear sector will be facilitated by enhancing safety and innovation in the nuclear industry. ROK will prioritize the operation safety of nuclear power plants by expanding investment, improving management of aged plants, and engaging in planned and preventive inspections. As for promoting innovation, there will be a consolidation of operational systems by introducing observation, monitoring, openness, and competition into the

---

value chain of the nuclear industry.

Fourth, ROK will strengthen energy security capacity to extricate itself from energy isolation. To build capacity for overseas resource development, the government of ROK will induce public enterprises toward high-risk areas and long-term investment, while making private enterprises focus on high market-potential areas. For enhancing domestic energy production, ROK has made efforts to increase renewable energy deployment, to approximately 11 percent of primary energy by 2035. The extension of policy measures like Renewable Portfolio Standard (RPS) in the electrical power sector to the heating and transportation sectors, and the implementation of private-sector driven deployment systems such as the rental business and benefit-sharing programs are the main examples.

Fifth, the government of ROK intends to establish a stable supply system for each energy resource. In the petroleum sector, more efforts needs to be made to promote diversification of sources of oil imports and establishment of a Northeast Asia oil hub. In the natural gas sector, ROK will respond aggressively to the global market changes such as increased supply of shale gas and expand the supply infrastructure for domestic stockpiling. In the power sector, these efforts would involve the construction of power plants in a timely manner and the building a system to stabilize the balance of supply and demand.

Sixth, the government of ROK will shape energy policy to reflect public opinion and become more active in improving energy welfare and cooperation with local government. Through improvement of transparency in policymaking process such as transmission network, spent fuel management and nuclear energy, it will respond proactively to energy-related conflicts. By introducing new energy voucher systems, the government of ROK will subsidize the energy spending of low-income families. Also, efforts will be strengthened to eradicate welfare blank spots and raise energy efficiency for vulnerable segments of society. The strengthening of the relationship between central and local governments, and expansion of local government participation will be another policy direction for the harmonization of central energy master plan and regional energy plans.

## **II Future Possible Cooperation of Energy among CJK**

### **Suggestions**

#### **1 Dr. LI Xiao**

China, Japan and ROK are the highly-interrelated major economies with high growth speed in Northeast Asia, all of the three countries have huge energy demand. Because of the lack of domestic supply, they all depend largely on the foreign energy supply, inadequate energy supply will restraint the future development of the three economies. Utilizing new energy resources and the improvement and innovation on the energy saving and emission reduction technology will be the inevitable choice for the three economies to overcome the energy problem and to assure the national energy security. The seasonal and diversified character of the new energy resources will cause a higher cost for their exploitation. Because China, Japan and ROK are geographically and economically very close, it's necessary for them to promote cooperation on the exploitation of new energy resources and the development of the energy saving and emission reduction technology, and to build up a cooperative mechanism to this end.

---

Currently the energy cooperation in Northeast Asia is mainly promoted by academic and business circles, but lack the governmental coordination mechanism. The governments of the three countries could build up a unified multilateral institution for energy cooperation in East Asia, to standardize cooperation system and improve cooperation efficiency. On the one hand, it's necessary to build up a "China-Japan-ROK energy community" to provide a unified energy (e.g. oil) reserve and emergency reaction mechanism, and to provide tax and tariff preference of intra-regional transportation of oil and gas. On the other hand, it's necessary to establish a China-Japan-ROK joint bank and a joint fund, to promote exploitation and utilization of new energy resources and innovation of the energy saving and emission reduction technology.

At the business level, the three countries have laid a solid foundation for furthering energy cooperation in the future. Currently, Japan and ROK have already made some achievements on innovation and implementation of the energy saving and emission reduction technology, and have technological advantages compared with China. China has the large market for the new energy, Japan and ROK could invest their advanced energy saving and emission reduction technology into China, and get more business opportunities from cooperation with China, and achieve a "win-win" result. In the future, enterprises in the three countries can promote the multilateral cooperation on the energy exploitation and utilization based on the market demands.

## **2 Dr. TANAKA Kiyoyasu**

### **2-1 Common interests in energy**

Energy issues are not limited to the policy scope of each country, but extended to international cooperation across countries because energy production involves global supply chains and energy consumption produces global impacts. China, Japan, and ROK share common interests in energy issues, and there is a large room for cooperation among the three countries. In particular, these countries share an interest in the secure supply of energy resource for economic activity and the reduction of environmental impacts. Given the available technology and resources of energy, these challenging tasks cannot easily be addressed individually by each country, but need to be tackled together by the three countries. Therefore, Japan can contribute to the following areas for trilateral energy cooperation.

### **2-2 Cooperation in energy conservation**

First of all, efficient utilization of energy resources is an effective measure to tackle with energy issues. In this respect, Japan has the advanced technology to utilize energy resources most efficiently and thus to reduce negative environmental impacts. As these technologies help to reduce the intensity of energy resources used in economic activity, carbon emission intensity from fuel combustion is the lowest in Japan around the globe. These technologies on energy in Japan can be exploited to improve energy conservation in other countries, where the available technology for energy production is less efficient. For instance, a large amount of coal is used to produce electricity in China, but the current production technology is less

---

efficient and environmentally preferable. The Japanese technology of electricity power generation based on coal can contribute to improve energy efficiency and to reduce air pollution from burning coal.

Secondly, energy conservation can also be achieved by promoting environment-friendly electric appliances and equipment. These products use less amount of energy input to achieve the desired effects. For instance, air-conditioner inverter helps to maximize the effects of heating and cooling in response to the temperature, thereby increasing energy efficiency. To assess such a performance with an objective criterion, a set of common standards and regulations among the three countries is needed and essential. Otherwise, a comparison of better products is difficult for consumers who tend to lack sufficient knowledge and information in the product performance. In order to promote the purchase and use of environment-friendly products by consumers through market competition, the governments of the three countries should make efforts to establish common standards and regulations for product-performance assessment.

## **2-3 Nuclear power**

Despite a growing concern over the potential risk and economic cost of nuclear power generation, Asian countries have increased the nuclear power generation recently to meet a growing demand of energy consumption for economic growth. After the Fukushima accident of nuclear power generation occurred in 2011, Japan has faced a challenge to recover from the disastrous aftermath and to restore the trust over nuclear power in the general public. In this process, technological innovations have been made to tackle with the nuclear debris for the closure of nuclear power plants. On the other hand, China and ROK also face similar challenges in exploiting nuclear power generation. In terms of greenhouse gas emission and stable energy supply, nuclear power is an important source of energy supply and the three countries depend on the nuclear power to a varying degree. Therefore, there is a large room for Japan to share lessons from the Fukushima disaster with these countries for improving the safety of nuclear power generation.

## **2-4 Common standards for new technology in wind power generation**

Further utilization of renewable energy is a key to cope with global warming issues, but there remain various technical issues to exploit renewable energy. In particular, there is a large potential to exploit offshore wind power in Japan, and there is ongoing technological development in the floating type of offshore wind power. Its technological development takes into account meteorological characteristics in Northeast Asia such as typhoon. However, the current international standard for wind power generation is based on the operational experiences mainly in the U.S. and Europe, which are not necessarily consistent with the geographical and meteorological characteristics in Northeast Asian countries. Thus, there is a room for China, Japan and ROK to cooperate in establishing the international standard for new technology in wind power generation such as offshore wind power plant.

---

## **3 Dr. LEE Chang Jae**

### **3-1 Collective action against unstable demand-supply in the natural gas market**

Since China, Japan and ROK are big importers of LNG, there is potential for unstable supply-demand conditions due to discrepancies in adjustments of seasonal differences in each country. There also exist multiple risk factors that might trigger problems in the supply side, originating in exporting countries or transportation. Yet, as the three countries are close to each other and have different demand patterns and import sources, there are also significant opportunities for stabilizing demand-supply in the market and responding to emergencies. For example, after accident in Fukushima, ROK provided Japan with effective swap cooperation. Even though the cooperation with China has been rare, a similar cooperation mechanism with China can also be established. LNG cargo swap deals or co-lending/co-use of storage tanks can be cited as examples of such expanded cooperation. Between ROK and Japan, there were 109 swap cases for gas cargo to encounter seasonal effect and economic cycle during 2001~2011.

### **3-2 Unconventional gas exploration and production (E&P)**

Since China, Japan and ROK are new entities in developing projects of unconventional gas, the interests of each country can easily be reconciled. This will make for a more comfortable environment for the three countries to work together because each country has an incentive to upgrade its own know-how through the complementary experience gained from exchange with leading countries in unconventional gas E&P. Against this backdrop, if the three countries share information and knowledge, they will amass even more in terms of updated technology and solve many technical issues.

For resolving water shortage issue in particular, the development of cooperation regarding unconventional gas among the three countries can greatly be boosted for seeking reliable alternatives for the issue. Besides, more joint research and information sharing among the three countries will also expedite development of many core technologies for efficient E&P. When all the cooperative activities advance smoothly, with those core technologies the three countries can work together in shale gas development projects inside China.

### **3-3 Enhancing safety in nuclear power plant**

Since accident in Fukushima, the three countries have become fully aware of the grave impact of nuclear accidents and have some consensus on having an effective cooperation framework. Each country's post-Fukushima energy policy has fully reflected the public anxiety on nuclear safety. The foremost priority in the area is technological cooperation for safety standard adjustments in nuclear power generation. The three countries should have thorough understanding of their safety standards and operational problems for nuclear power plants, and share the relevant information.

To prevent recurrence of another massive nuclear accident, information sharing among the three countries is of utmost importance. Intergovernmental communication channels for nuclear-related emergencies also need to be established. To address the needs mentioned above, a launch of a "China-Japan-Korea Nuclear Safety Management Commission" (tentatively named) will be helpful. This commission can serve as a medium

for sharing information at the governmental level in normal times. There has been Top Regulators Meeting (TRM) on Nuclear Safety organized by three countries. However, since the Commission can deal with more comprehensive Nuclear Power Plant issues through the information sharing such as operation records as well as safety ones, we need to establish the Commission.

When nuclear emergencies occur, however, the commission can provide emergency guidelines for the situation based on integrated information that it collected and managed. Since a nuclear accident in any one of the three countries can influence the energy sectors in all of the three countries, each country will need the comprehensive, integrated information which can be provided by the Commission.

In reality, since even simple information sharing about the nuclear power plant operation tends to be classified in each country for the sake of national security, obstacles regarding information sharing might make it difficult to implement. Yet, cooperation through the Commission is still the best solution because only official governmental action can be acceptable to each stakeholder when it comes to nuclear power.

### **3-4 Improvements in energy efficiency and conservation**

Even in political difficulties between China and Japan, both countries have worked together on many joint programs in energy efficiency improvement and energy conservation. Since ROK has promoted its own energy efficiency program very intensively, it has not been eager in joint energy efficiency cooperation activities with China and Japan.

However, to promote more aggressively energy efficiency program, ROK must more actively participate in the following three programs among China-Japan cooperation activities; establishment of appropriate energy price structure, enhancement of the efficiency for home appliances, and improvement of fuel efficiency for vehicles. After joining in the cooperation programs, further cooperation in these three areas will be possible through mutual benchmarking. As for establishing an appropriate energy price structure, major price determinants that are considered most relevant in each country should be identified based on each country's economic situation. For enhancing home appliance efficiency, China and Japan have adopted Energy Efficiency Labeling schemes. Since ROK and Japan have already introduced the scheme to their home appliance industry, China can benefit from the two countries' experiences and know-how. In terms of institutional aspects of fuel efficiency, the incentive programs in Japan for high efficiency vehicles can be utilized in ROK and China.

### **3-5 Interconnection of power in Northeast Asia region: focusing asian super-grid project**

Building a super grid in Northeast Asia is an urgent need for the three countries for different reasons; China wants to develop a reliable supply system for its rapidly growing manufacturing and service sectors; Japan desperately needs to reduce the share of nuclear power generation in the energy mix; and ROK needs a super grid in order to prepare for more stable demand-supply condition in the electricity market.

Currently, the power interconnection plan in which all the three countries get transmissions from Russia and Mongolia has been suggested separately. The Asian Super Grid can be completed through the interconnection between two suppliers and three recipients. Russia has suggested the expanding of the existing transmission lines among the countries in Northeast Asia should be the first step.

---

The second step, according to Russia, is to form a Northeast Asia power market through creating institutional foundations based on consensus among countries in the region. Basic ideas behind both suggestions are that Russia should be at the center of the super grid as a source of energy, and power lines among China, Japan and ROK be built to receive transmissions from Russia.

Another option is the power interconnection between Mongolia and the three countries. Since Gobi desert has a big potential for wind and solar energy, the establishment of a huge scale of the wind farm and solar power plant in Gobi desert enables Mongolia to be a big and effective exporter of electricity to the three countries. This Super-Grid project also requires a large-scale construction and expansion of transmission lines, which necessitates establishment of a relevant institutional framework in both Mongolia and three countries.

## Chapter VII

# Policy Recommendation for Trilateral Cooperation

## 1 China (Dr. LI Xiao)

Currently, there are three key characteristics of Asian economic development. Firstly, the economic recovery in US has a weakened role in Asia's economic growth, compared with in the 1990s. The reason is that the driving force of American and Asian economic growth are different now. The US economy has the advanced development of economic financialization, while the Asian economy still depends on the traditional industries. Thus the US's QE is mainly through financial markets, for example, by futures, national debts and securities, and got relatively significant effects, while QE in Asian countries has mainly focused on promoting export through currency depreciation. According to these situations, the US's impact on China, Japan and ROK's export is declining, therefore, the economic connections within the three countries are also decreasing. Secondly, the global economic development emerges regional characteristics sensibly. Compared with other regions, the three countries are facing with more and more common issues, such as the growth slowdown, currency depreciation trend and etc., although the internal economic situations and measures adopted in the three countries are different. Thirdly, the institutionalization of economic cooperation in Asia still remains at the stage of "dealing with crisis", and arrangements like CMI are not yet to be utilized well. However, the more important thing is that the nature, process and scale of the global financial crisis started from 2008 is quite different from the Asian financial crisis in 1997, the current measures and ways to deal with the global financial crisis are focusing on the monetary policy, and the targets of monetary policy are changed from previous contra-cyclical policy for growth stimulation. This change caused the super QE and substantially currency depreciation in the developing countries, especially in the emerging economies.

Under these circumstances, the most important future direction of cooperation among the three countries is to establish CJK FTA. As these three countries are faced with many common problems, the possibility of making some common policies is increasing. CJK FTA can learn from the process of China-ROK FTA, which begins from the easier fields, for example, put the agricultural sector aside first. At the same time, the three countries can strengthen the cooperation in service and financial sectors, in order to enhance the connections among the three countries.

---

Furthermore, it is necessary to change the targets of the CMIM. Because the further development of monetary and financial cooperation is not very realistic under the current CMIM, the relevant authorities cannot make any committed arrangements. Therefore, we should expand the functions of current arrangements from dealing with balance of payments crises to preventing potential negative effects of the super QE, which is the potential systemic crises caused by dramatic currency depreciation. Currently, in the whole Asia, the Southeast Asia region seems to be vulnerable to financial crisis. There, it's noteworthy for China, Japan and ROK to think about how to provide cooperation benefits to Southeast Asia. Based on the whole Asian experience and situation, the multilateral institutional arrangements, such as CMIM, would be most appropriate, and the key method is to expand the reserve pool under CMIM from USD 120 billion to USD 240 billion and increase the IMF de-linked portion from 20 to 30 percent.

On the other hand, it is also very important to expand the infrastructure to assure the potential of sustainable growth in the regions like Southeast Asia, South Asia and Central Asia; and to strengthen AMRO's function, in order to reinforce the regional macroeconomic surveillance mechanism under the present slow economic development in Asia.

## 2 Japan (Dr. TANAKA Kiyoyasu)

### 2-1 CJK FTA for global value chains

From a global perspective, the three countries' economies have played a central role in driving a global value chain of manufacturing and deepening international division of labor across borders in the 21st century. Economic globalization in the early stages contributed to increase international trade within and across industries between countries for a reduction in transportation costs and trade barriers. The current economic globalization has further driven a breakdown of production processes into various stages in value chains, and advances in information and communication technology helped to locate each production stages separately across borders. Recent decades have seen the rapid growth of such global value chains across and beyond the three countries' economies.

New development in global value chains requires a new way of thinking about international commerce. In the old stage of economic globalization, countries have focused on tariff negotiations with the intention to promote export of domestic industries and discourage import of foreign industries. However, such a bilateral negotiation on international commerce is not likely to produce the simple effects on international trade and investment between countries under negotiation, because production chains driven by multinational firms are spread across multiple countries and established across regions for global operation. Consequently, policy consideration for international commerce is growingly related to not only traditional tariff measures, but other topics such as services, investment, dispute settlement, intellectual property, state-owned enterprises, and government procurement.

Because the high-level liberalization of FTA at the wide regional level is required for current economic globalization. The three countries should make a progress in the current negotiation of CJK FTA and also play a leading role in the ongoing negotiations to build wide regional FTAs such as TPP and RCEP. The three countries should strengthen a cooperative relationship and contribute to the institutional building in international commerce for common economic interests.

---

## **2-2 Promoting face-to-face communication**

Building deeper trust and improving mutual understanding among the three countries is fundamental to strengthening trilateral cooperation in a wide range of topics, and face-to-face communication is the most effective means to improve the understanding and trust among the people of the three countries. In the case of foreign direct investment, for example, a corporate manager needs to process complex information in investment decision abroad including contract negotiation, building trust and partnership, and marketing surveys for a firm-specific investment project. Business travel and in-person meetings of corporate managers to the local market are critical to acquire and process complex information abroad, implying that business travel is an important input in making FDI decision. Despite the fact that recent advances in information and communications technology help to acquire codified and explicit information on foreign markets, face-to-face communication remains a crucial solution to reduce information costs in complex FDI decision for corporate managers.

Face-to-face communication should be promoted through various channels across the three countries. While business and tourist travels are not necessarily motivated for strengthening diplomatic and political partnership, the visit to foreign countries should help to improve mutual understanding among different nationalities. The three countries should consider further policy measures to promote the exchange of people across countries. For instance, visa exemption programs will be an effective policy measure to promote foreign tourists whereas air-services liberalization such as open skies agreement should promote airline competition and thus reduce flight costs for foreign tourists. Moreover, the three countries should make more efforts to promote face-to-face communication among government officials and politicians. Frequent meetings of government officials should be continued even in a politically difficult period to ensure the trust and mutual understanding among the three countries through face-to-face communication.

## **3 ROK (Dr. LEE Chang Jae) Time for the CJK FTA**

### **3-1 The three countries should revitalize their trade by increasing the intra-regional trade among them.**

In terms of trade in goods, China, Japan and ROK are major countries. In 2014, China was the largest trading country in the world, while Japan and ROK ranked fourth and eighth, respectively. However, all three countries have been facing serious difficulties in trade. Japan has experienced unusual reductions both in its exports and imports, and some trade shrinkages were likewise recorded by ROK; China's exports and imports have markedly slowed since 2012. Moreover, the situation worsened, for the most part, in 2015. The three countries should reverse the trends by increasing the intra-regional trade among them through the CJK FTA.

---

### **3-2 The three countries should not adopt protectionist measures but further liberalize trade by accelerating the CJK FTA negotiations.**

Usually, when faced with economic slowdown or declining exports, countries have a tendency to adopt protectionist measures, which could aggravate the situation further and provoke others to do the same. Therefore, China, Japan and ROK should not succumb to protectionist temptations. On the contrary, they should liberalize their economies further by accelerating the ongoing CJK FTA negotiations. It seems that trade in goods negotiations could not be advanced because each country paid too much attention to its own sensitive sectors, while not showing enough interest in liberalizing their own less competitive sectors.

### **3-3 In order to raise competitiveness of service sectors in all three countries, they should utilize the CJK FTA.**

In addition, given that all three countries lag behind in many service sectors, it is necessary to raise competitiveness of their service sectors. Understandably, being strong manufacturing powers, they are most concerned with manufacturing sectors, and even during FTA negotiations, they tended to focus on trade in goods than services. However, in order to make their service sectors more competitive, they should utilize the CJK FTA, and for liberalizing services, they should adopt the negative list approach in their service negotiations.

### **3-4 To deepen economic integration among the three countries, they should promote intra-regional FDI flows, for which the CJK FTA could prove useful.**

The fact that the share of the three countries in the world's total FDI is much lower than that of trade means that their economies are not very open. Additionally, the fact that the level of intra-regional FDI flows among the three countries is significantly lower than that of trade indicates that their economic integration is not deep. It is time for the three countries to enhance both inward and outward FDIs, and to promote intra-regional FDI flows, in particular. The CJK FTA could be used for the latter purpose.

### **3-5 By strengthening financial cooperation among the three countries, they could serve to strengthen bilateral economic and political relations.**

Usually, bilateral currency swaps are most needed and useful during economic crises. However, they could also facilitate other forms of economic ties or complement political relations

### **3-6 In order to provide leadership and momentum to the CJK FTA, the Trilateral Summit should take place soon.**

Considering the negative effects from deteriorating political relations among the three countries on their economies and on the CJK FTA negotiations, in particular, it is most important to resume Trilateral Summit soon. This should expedite the CJK FTA negotiations, and open a new era of cooperation for the three countries.

# References

- Agency for Natural Resources and Energy, Ministry of Economy, Trade, and Industry of Japan. "Energy in Japan 2010." ([http://www.enecho.meti.go.jp/category/others/tyousakouhou/kyouiku/panhu/pdf/en\\_energy2010.pdf](http://www.enecho.meti.go.jp/category/others/tyousakouhou/kyouiku/panhu/pdf/en_energy2010.pdf)).
- Asian Development Bank (ADB) [online]. (<http://aric.adb.org/initiative/executives-meeting-of-east-asia-pacific-central-banks-initiative>).
- ADB. Asia Regional Economic Integration Center [online]. (<http://aric.adb.org/fta>).
- APEC (Asia Pacific Economic Cooperation) [online]. (<http://www.apec.org/Groups/Other-Groups/Finance-Ministers-Process.aspx>).
- Bank of Korea. Economic Statistics System [online]. (<http://ecos.bok.or.kr/>).
- Cabinet Office of Japan. "Economic and Financial Policies under Prime Minister Abe (in Japanese)" [online]. (<http://www5.cao.go.jp/keizai1/abenomics/abenomics.html>).
- CEIC [online]. (<http://www.ceicdata.com/>).
- Export-Import Bank of Korea [online]. (<http://keri.koreaexim.go.kr/>).
- Hamanaka, Shintaro. "Is Trade in Asia Really Integrating?" ADB Working Paper Series on Regional Economic Integration. Asian Development Bank. 2012.
- Han, Intaek. "Currency swaps move South Korea closer to China, away from Japan," EAST ASIA FORUM, 18 July 2013.
- IMF. Direction of Trade Statistics. 2015.
- IMF. World Economic Outlook Database [online]. (<http://www.imf.org/external/ns/cs.aspx?id=28>).
- Japan External Trade Organization (JETRO). Japanese Trade and Investment Statistics [online]. (<http://www.jetro.go.jp/en/reports/statistics.html>).
- Kang, J.Y. and J.J. Park. "China's 12th 5-Year Plan Evaluation and 13th 5-Year Plan Perspectives," World Energy Market Insight (KEEI). March 2015.
- Kawai, Masahiro. From the Chiang Mai Initiative to a Asian Monetary Fund, ADBI Working Paper Series No.527. May 2015.
- Korea Energy Economics Institute (KEEI). Korea Energy Demand Outlook. Spring 2015.
- KEEI. Korea Energy Review Monthly.
- Korea Development Institute. KDI Economic Outlook 2015 (in Korean). December 2014.
- Korea Development Institute. KDI Economic Outlook 2015 (in Korean). May 2015.
- Korea International Trade Association. K-Stat [online]. (<http://stat.kita.net/stat/kts/ktsMain.screen>).
- Lee, Chang Jae et al. Trilateral Economic Cooperation: Proposal for Enhancing Economic Cooperation Dialogue Channels among China, Japan, and Korea, 2012. Korea Institute for International Economic Policy (in Korean).
- Ministry of Commerce of China. China FTA Network [online]. (<http://fta.mofcom.gov.cn>).
- Ministry of Economy, Trade and Industry of Japan. The 4th Strategic Energy Plan of Japan. April 2014.
- Ministry of Foreign Affairs of Japan. Free Trade Agreement and Economic Partnership Agreement [online]. (<http://www.mofa.go.jp/policy/economy/fta/index.html>).
- Ministry of Land, Infrastructure, Transport and Tourism of Japan. "The Promotion and Utilization of A Floating Wind Turbine (in Japanese)." (<http://www.mlit.go.jp/maritime/safetyenv/yojyofuryoku/fukyusokushin.html>).
- Ministry of Strategy and Finance of ROK. Korea's Economic Outlook 2015 (in Korean). December 2014.
- Ministry of Trade, Industry and Energy of ROK [online]. ([www.fta.go.korea](http://www.fta.go.korea)).
- Ministry of Trade, Industry and Energy of ROK [online]. (<http://motie.go.kr/motie/py/sa/investstatse/investstats.jsp>).
- Ministry of Trade, Industry & Energy of ROK. Korea Energy Master Plan: Outlook and Policies to 2035. January 2014.
- OECD. OECD Economic Surveys Korea 2014. 2014.
- OECD. Economic Outlook, Analysis and Forecasts [online]. (<http://www.oecd.org/eco/outlook/>).
- Pak, Yongduk and Hyun-Jae Doh. Energy Cooperation Opportunities and Prospects among Korea, China, Japan, 2012 (in Korean).
- UN Comtrade Database [online]. (<http://comtrade.un.org/>).
- UN Service trade [online]. (<http://unstats.un.org/unsd/servicetrade/>).
- UNCTAD Statistics [online]. (<http://unctadstat.unctad.org/wds/ReportFolders/reportFolders.aspx>).
- The Wall Street Journal. February 16, 2015.
- WTO. International Trade Statistics Database [online]. (<http://stat.wto.org/StatisticalProgram/WSDBStatProgramHome.aspx?Language=E>).
- WTO. Statistics Database [online]. (<http://stat.wto.org/Home/WSDBHome.aspx?Language=E>).
- The Weekly Economist. Forecasting the Japanese Economy in 2015, Mainichi Shimbun Publishing (in Japanese). December 23, 2014.
- Japan Electrical Manufacturers' Association. "Wind Power System (in Japanese)." (<http://www.jema-net.or.jp/Japanese/res/wind/kikaku.html>).

---

## **LEE CHANG JAE**

Dr. LEE Chang Jae is currently a distinguished research fellow at the Korea Institute for International Economic Policy (KIEP). He served as vice president, director of the Center for International Development Cooperation, and senior fellow at KIEP. He graduated from the University of Paris I (PANTHEON-SORBONNE) and completed his Ph.D. in economics at the University of Paris I.



## **TANAKA KIYOYASU**

Dr. TANAKA Kiyoyasu is currently a research fellow at the Institute of Developing Economies, Japan External Trade Organization (IDE-JETRO). He graduated from the Chuo University and completed his Ph.D. in economics at the University of Hawaii at Honolulu, USA, in 2008. His main research fields are International Economics, Applied Econometrics, and Development Economics.



## **LI XIAO**

Dr. LI Xiao is currently the vice dean of the School of Economics, Jilin University and a member of Network for East Asian Think-Tanks. He graduated from the Jilin University and completed his Ph.D. in World Economy at the Jilin University in 1995. His main research fields are World Economy, World Development, East Asian Economy, East Asian Economic Cooperation, and International Monetary System.



The Trilateral Cooperation Secretariat (TCS) is an intergovernmental organization established with a vision to contribute to peace, stability and prosperity of the East Asian Region. Upon the agreement signed and ratified by the three governments of the Republic of Korea, Japan and China, the TCS was inaugurated in Seoul, September 2011.

The TCS's primary mandate is to support the trilateral consultative mechanisms including providing reference to the mechanisms. We also aim to become the hub of the trilateral cooperation by organizing multiple projects and events. Additionally, we conduct researches, explore new initiatives and promote public understanding of the trilateral cooperation.

<b>Published in</b>	October 2015
<b>Published by</b>	YANG Houlan, Secretary-General, Trilateral Cooperation Secretariat (TCS)
<b>Edited by</b>	QIU Lin, Economic Affairs Officer, TCS
<b>Supervised by</b>	LEE Jong-heon, Deputy Secretary-General, TCS UMEZAWA Akima, Deputy Secretary-General, TCS AKITA Yuko, Director of Economic Affairs, TCS
<b>Address</b>	S-Tower 20th FL, 82 Saemunan-ro, Jong-gu, Seoul, Korea 110-700
<b>Phone</b>	+82-2-733-4700
<b>Fax</b>	+82-2-733-2525
<b>Website</b>	<a href="http://www.tcs-asia.org">www.tcs-asia.org</a>
<b>Email</b>	<a href="mailto:tcs@tcs-asia.org">tcs@tcs-asia.org</a>
<b>Book design</b>	Bmcni Design Company

The booklet will be available at the TCS website.  
For further inquiry, please contact the Department of Economic Affairs of the TCS.

**Copyright © 2015 by Trilateral Cooperation Secretariat. All rights reserved.**



Trilateral  
Cooperation  
Secretariat