2013 Trilateral Economic Report

Trilateral Cooperation Secretariat

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Introduction

This annual report illustrates the recent development of the economies of China, Japan and the Republic of Korea (ROK). The contents consist of two parts. The first part covers the reviews and analyses on the economic perspectives of the three countries and their economic relations. The second part includes a case study on the regional production networks and electronic sector is adopted for the study. Reflecting the objective as an annual report, the most recent economic development is the major issue of interest.

The analysis in the report endeavors to identify any recent structural changes, particularly after the Global Financial Crisis in 2008. The Crisis brought a serious negative shock to the economies of China, Japan and ROK. The Crisis may possibly have affected the traditional structure of regional macroeconomic relations, intra-trade and investment, financial transactions, and movement of people.

The case study in the second part adopts a mixed approach for the analysis which consists of (i) detailed study on the trade statistics in electric machinery and the items selected, (ii) survey on the news, letters and other journalism; and (iii) interviews to the individual enterprises. The major objectives of the case study include the introduction of the overview of the enterprises internationally operating in the region, and to review the recent development of the production network.

PART I: Economic Perspective of China, Japan and ROK and Their Economic Relations

Chapter 1. Macroeconomic Performance

(1) Macroeconomic Perspectives of China, Japan and ROK

World Economic Environment after Global Financial Crisis

The world economy as a whole achieved stable economic growth, around 5 percent in mid-2000s. While annual average of the real GDP growth rate in advanced economies was around 3 percent, the emerging and developing economies recorded a growth of nearly 8 percent (<Table 1-1>). The appreciation of real and financial assets in the United States (US) strongly stimulated the consumption. Macroeconomic monetary policy in the US worked as a long-term supporter for the asset boom. The trend reverted in 2008. With response to a sudden bankruptcy of financial institutions, the following deleveraging in financial sector seriously affected the consumer and producer confidence in the US. The depreciation in real and financial assets in the US propagated throughout the world, including the Euro area and Japan, bringing about the Global Financial Crisis.

The shrinkage of confidence resulted in the sharp decline in consumption and investment. Moreover, the decline in income led to the reduction in imports. This means the worldwide recession. The governments in the world adopted massive scales of monetary and fiscal policy measures to stabilize the economy. The extreme ease by the monetary policy prevented the crowding-out effect from the expansionary fiscal measures, and interest rates fell down in 2009, and maintained at very low level thereafter.

The deep global recession after the crisis ended in 2010. The world economy was pulled up by the strong performance of Asian economies, notably that of China, and achieved modest recovery elsewhere. The macroeconomic measures, in particular monetary policy, supported the recovery. However, the growth in the world gradually subdued after 2010. For the world economic growth in 2013, concerns exist on the

weaker domestic demand in some emerging economies including China, and a recession in Euro area.

<Table 1-1> Economic Environment in the World

(%)

	2007	2008	2009	2010	2011	2012
Output Growth						
World	5.2	3.0	-0.7	5.1	3.9	3.1
United States	2.1	0.4	-3.5	3.0	1.8	2.2
Euro area	2.7	0.7	-4.3	1.8	1.5	-0.6
Emerging economies	8.3	6.0	2.8	7.3	6.2	4.9
Developing Asia	10.6	7.6	7.2	9.5	7.8	6.5
Consumer Prices						
Advanced economies	2.2	3.4	0.1	1.6	2.7	2.0
Emerging economies	6.4	9.3	5.2	6.1	7.1	6.1
Interest Rates						
US$ deposit	5.3	3.0	1.1	0.5	0.5	0.7
Japanese yen deposit	0.9	1.0	0.7	0.4	0.3	0.3

(Source) IMF, "World Economic Outlook" various issues.

Recovery of CJK after Global Financial Crisis

As in other regions of the world, the economies of China, Japan and ROK suffered from the Global Financial Crisis in 2008 through the sharp decline in the asset prices on the financial side, and reduction of exports on the real side. Japan also suffered from the appreciation of Japanese yen to a greater extent, while the exchange rate of Chinese yuan was relatively stable, and that of Korean won depreciated. As the first impact of the shock, through the financial route, the asset prices in the region suddenly and sharply fell in fall of 2008[1]. Consumption and investment in CJK suffered from the real asset effects. The exchange rate of Japanese yen appreciated from 109 yen/$US in August, 2008 to 91 yen/$US in December, 2008. Exports consequentially decreased. The real export of Japan was most seriously affected which contributed to the most serious recession in Japan among the three countries.

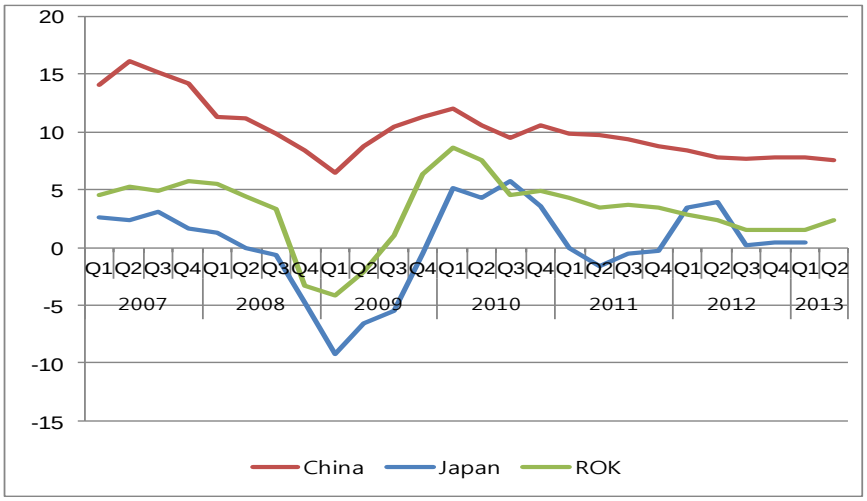
The authorities of CJK actively undertook expansionary fiscal measures and sizable monetary ease. Reflecting to such measures, their economies had steadily

[1] The indices of Shanghai Stock Exchange, Nikkei and KOSPI declined by 34 percent, 34 percent and 30 percent, respectively, from the end of July 31 to the end of December, in 2008.

recovered since early 2009. The annual average growth rates of real GDP in CJK in 2010 recorded 10.3 percent, 4.7 percent and 6.3 percent, respectively. The rapid and stable growth of China, led by the huge public infrastructure investment, brought about spill-over of macroeconomic demand to Japan and ROK through the recovery of their exports. The strong connection in trade, especially established by production network, contributed to the recovery of the economies in the region.

The short-term path of macroeconomic recovery in CJK started to diverge in 2011 (<Figure 1-1>). The earthquake and tsunami disaster in the northern part of Japan in March 2011 seriously hit the macroeconomic foundation of Japan. The economic growth of Japan sharply declined. The year-over-year growth rate of real GDP in Japan recorded negative figures in all the quarters throughout the year 2011. The Japanese government took expansionary fiscal policy, in particular expenditure on the public works in the damaged regions as well as the policy package to stimulate consumption. On the other hand, China and ROK steadily followed a path of recovery in 2011, while the growth rates of their economies declined gradually, due to the normalization of the expansionary macroeconomic measures which aimed to mitigate the overheats of the economies.

<Figure 1-1> Growth of Real GDP of China, Japan and ROK (year-over-year, percent)



(Source) IMF, “International Financial Statistics”, National Statistics.

Slowdown of the economic growth in 2012

In 2012, the slowdown of the economic growth in China and ROK became clearer. The apparent factor was the external demand. The macroeconomic growth of the industrialized economies became slower. The growth of the US economy became sluggish. The European Union (EU) economy, facing financial and fiscal problems of member economies, recorded negative growth. The slowdown adversely affected the growth of exports of CJK to the world. Appreciated exchange rates also gave negative pressure on the exports of ROK. The real GDP growth rates of China and ROK in 2012 were 7.8 percent and 2.0 percent, showing decline by nearly one and half percentage, compared to the figures in 2011. The normalization of the expansionary macroeconomic measures in China and ROK since 2011 also contributed to the slowdown in 2012.

Japan followed a different path. In contrast to China and ROK, Japanese economy started its recovery from the earthquake and tsunami disasters, registering a positive growth rate in 2012, around 2.0 percent. But, this growth mainly reflected the public expenditure, particularly on the public works for the disaster rehabilitation. The external demand contributed negatively. Appreciated foreign exchange rate of yen also dragged the recovery.

Continued Slowdown in the Growth of CJK in Early 2013 but Showing Signs of Starting Recovery

For CJK, the trend of slowdown in GDP growth continued in the first and second quarters of 2013. The real GDP growth in the second quarter of 2013 showed further deceleration in China, 7.5 percent, compared to 7.8 percent in the first quarter. However, the ROK recorded a better-than-expected growth of real GDP growth, 2.3 percent in the second quarter, in comparison of 1.5 percent in the first quarter. The authorities of the three countries expressed their will to support the proper growth of their economies. Japan recorded an annual growth of 2.6 percent in the second quarter, in comparison with the first quarter. The growth reflected the recovery of consumption, due to the improvement of consumers' confidence, and the expanded public expenditure. The new cabinet, taking over the administration in December 2012, launched a new package

of economic measures, called “Abenomics.” Its first component is to introduce a bold monetary quantitative ease and inflation targeting policies. The administration appointed the new governor of the central bank, who was committed to pursuing the inflation target of 2 percent. More details on Abenomics will follow, later in this chapter.

The business cycle of CJK appears to stand at a crossroad. The latter part of this chapter examines the trend and recent macroeconomic perspectives and economic outlook of each country, discussing further details of the macroeconomic development. The chapter also introduces the recommended measures to sustain economic growth including the suggestions of the International Organizations.

Recent Macroeconomic Perspectives and Outlook in China: To Sustain Stable Growth

China has continued to be the engine of growth in the region and the world after the Global Financial Crisis in 2008. The real growth rate of China remained above 9 percent from 2008 to 2011 (<Table 1-2>). Active investment more than compensated the decline in external demand in 2009. The net exports in real terms rebounded in 2010. Investment, especially those on infrastructure, kept high growth in 2010. In 2011, facing the rise in inflation rates, the authorities of China took some corrective measures to calm down the over-heats of the economy, especially in the sectors of real estate and public infrastructure investment. Both monetary and fiscal policies returned to rather normalized position. In 2011, the fiscal balance recovered, and the growth of monetary aggregates slowed down. As described above, the growth of the industrialized economies in the world was weakened in 2011 and 2012, which contributed to the decline in net exports of China. The year-over-year growth rates of China gradually slowed down until mid-2012. However, the inflation, a major concern from the over-heats of the economy, successfully fell to around 2 to 3 percent.

<Table 1-2> Macroeconomic Indicators: China

	2008	2009	2010	2011	2012	2013p	2014p
Real, %Change							
Real GDP	9.6	9.2	10.3	9.4	7.8	7.8	7.7
Consumption	8.4	9.2	9.0	10.5	8.2		
Investment	10.6	18.9	11.8	9.6	8.3		
Exports	8.5	-10.2	27.6	8.1	5.1		
Imports	4.0	4.5	20.6	8.8	6.3		
Contribution to changes in real GDP (%)							
Consumption	4.2	4.6	4.5	5.2	4.1		
Investment	4.5	8.1	5.5	4.5	3.9		
Net Exports	0.9	-3.5	0.3	-0.3	-0.2		
Other indicators (%)							
CPI Inflation	5.9	-0.7	3.3	5.4	2.7		
Fiscal Balance (% of GDP)	0.9	-1.1	-0.7	0.1	-0.4		
Policy Interest Rate	2.79	2.79	3.25	3.25	3.25		
M2 Growth	17.8	27.6	19.7	17.3	14.4		
Exchange rate (yuan/$US)	6.95	6.83	6.77	6.46	6.31		

(Source) OECD "OECD Economic Surveys CHINA" (2013) March 2013.
IMF "International Financial Statistics". "Economic Outlook Update" for outlook.
(Note) 1. Consumption and investment include both public and private.
2. Real components are estimated by deflating nominal figures by price indices.
From the calculation of OECD.
3. Net exports are calculated as the residuals of real GDP growth minus domestic demands growth.

The macroeconomic growth of China appeared to have regained momentum since mid-2012. Facing the slowdown in growth in 2012, the authorities again reversed the stance of macroeconomic policy to the positive side. Monetary ease was implemented by the cut in the policy interest rates in July 2012. The government increased the investment in infrastructure. The most recent outlooks by the international organizations on the real growth of China in 2013 (2014) are 7.8 (7.7) percent by IMF in July 2013 and 8.5 (8.9) percent by OECD in March 2013.

The newer and updated outlook of IMF estimates lower economic growth in the near future. This reflects the emerging factors of the downside risks of the growth of China, partly those related to the structural issues. First, the prospects of monetary policy normalization in the US and potential capital reversal may bring about an adverse effect to the growth of China. The international capital inflows to China, fueled by the extreme monetary ease in the US, contributed to financing the investment in China. Some may have taken the shape of direct investment, promoting the expansion of production capacity of the industries in China. However, other portions of the capital inflows indirectly financed the construction of rather unproductive real estates with speculation. Capital reversal may cause sharp drops in the real estate prices.

Second, closely related to the first risk, the prolonged period of rapid credit growth may result in increasing the financial stability risks. In particular, local governments had expended on the massive public infrastructure since the Global Financial Crisis in 2008[2], and much of the expenditure was financed on the off-budget base. The debt has accumulated to a huge level. Adding to this, "shadow banks" lending has emerged as a concern to destabilize the financial system. G8 Financial Deputy meeting pointed out the importance to disclose more information about the situation.

In spite of the downside risks, the Chinese authorities were committed to maintaining the economic growth. At the same time, the Chinese Premier Li Keqiang showed his position: no large-scale stimulus package, deleveraging and structural reform[3]. According to a newsletter, his policy was "exactly what China needs to put its economy on a sustainable path, which we estimate around 6 percent to 8 percent annual growth for the next 10 years". The policy placed an emphasis on the longer-term economic reform, even at the risk of temporary hard landing. Premier Li argued that "China had little scope for stimulus or government-directed investment," mostly because Beijing's post-crisis stimulus was discredited for being too big and causing subsequent inflation. Some economists expressed a concern on the possible short-run recession. However, others argued for the policy, stating that this policy will produce "short-term pain leading to long-term gain".

In overall, massive fiscal expansion should be carefully avoided in China, as Premier Li stated. This position also works to prevent the aggravation of the debt issue of the local governments. To stimulate the economy, the monetary policy will take some burden. The accommodative position of the monetary policy, however, should be accompanied by the careful monitoring of inflation. Moreover, due to the international economic situation, China will face a tradeoff between monetary ease and containment of

[2] According to OECD (2013), most of the infrastructure projects in the stimulus package have been undertaken by companies owned by local government and financed by borrowing by these companies. Off-budget borrowing of this sort jumped to 10% of GDP in 2009-10, pushing up total local authority debt to 26% of GDP. This debt has been financed mainly through commercial banks, but also by the China Development Bank.

[3] Economist on July1, 2013. This is quoted by an article of China.org.cn., "Likonomics in the foreign press".

capital outflow. As the recent IMF Economic Outlook suggested, macro-prudence and structural reforms can help to make this tradeoff less stark.

Ongoing Macroeconomic Measures of "Abenomics" in Japan

The Global Financial Crisis in 2008 and the Great East Japan Earthquake and tsunami disaster in 2011 led to two serious recessions (<Table 1-3>). The Japanese government undertook massive fiscal stimulus packages and monetary ease, which turned out to be effective. However, the level of real GDP in the first quarter of 2013, by the latest published figure, did not recover to that in early 2008, prior to the recessions. Accordingly, a key macroeconomic task of Japan is to achieve full recovery and growth. Another urgent macroeconomic issue to address is the huge fiscal debt, accumulated by the expansion of expenditure and reduced tax revenue due to the recession. The government budget recorded huge deficit during the two recessions. The economic growth provides the indispensable foundation to achieve the fiscal sustainability.

<Table 1-3> Macroeconomic Indicators: Japan

	2008	2009	2010	2011	2012	2013p	2014p
Real, %Change							
Real GDP	-1.0	-5.5	4.7	-0.6	1.9	1.6	1.4
Private Consumption	-0.9	-0.7	2.8	0.4	2.3	1.2	1.2
Government Consumption	-0.1	2.3	1.9	1.4	2.4	1.1	-0.4
Gross Fixed Capital Formation	-4.1	-10.6	-0.2	1.1	4.4	3.2	0.4
Exports	1.4	-24.2	24.4	-0.4	-0.1	-0.3	8.5
Imports	0.3	-15.7	11.1	5.9	5.4	0.3	4.1
Contribution to changes in real GDP							
Domestic Expenditure	-1.2	-4.0	3.0	0.3	2.8	1.7	0.8
Net Exports	0.2	-1.5	1.7	-0.9	-0.9	-0.1	0.6
Other Indicators (%)							
CPI Inflation	1.4	-1.4	-0.7	-0.3	0.0	-0.1	1.8
Unemployment	4.0	5.1	5.1	4.6	4.3	4.2	4.1
Fiscal Balance (% of GDP)	-4.1	-10.4	-9.3	-9.9	-10.2	-9.8	-7.0
Policy Interest Rate	0.5	0.3	0.3	0.3	0.3	0.3	
M2 Growth	2.1	2.7	2.8	2.7	2.5	3.5	
Exchange Rate (yen/US$)	103.4	93.6	87.8	79.8	79.8	96.2	

(Source) IMF-IFS. Bank of Japan. Cabinet Office of Japan. IMF, "World Economic Outlook" for outlook.

The policy package of "Abenomics" as a so-called three arrows strategy, consists of three components. First is aggressive monetary policy to end deflation, second, flexible fiscal policy, and third, the growth strategy that promotes investment. On the

monetary policy, the government and the central bank, Bank of Japan (BOJ), issued a joint statement[4]. In the statement, the BOJ for the first time clearly committed to set the price stability target of 2 percent in terms of the year-on-year rate of change in the consumer price index and stated that it would aim to achieve this target at the earliest time possible. Furthermore, the Monetary Policy Meeting of the BOJ on April 4, 2013 decided to introduce "Quantitative and Qualitative Monetary Easing", which will double the monetary base in two years. The policy was immediately implemented, and the monetary base expanded by 36 percent in June 2013 on the basis of the same month of the previous year.

The deflationary expectations of the markets in Japan sustained for nearly 20 years. The change in the monetary policy regime, reflecting the expansion of monetary base, appears to work to reduce the deflationary expectations. Most notably, financial markets reacted first. The stock prices were inflated by more than 80 percent from October 2012 to July 2013. In tandem, the exchange rate of Japanese yen depreciated from 80 to 100 yen per dollar in the same period. The stock price boom may bring about the real asset effect to stimulate consumption and investment. Overall improvement of business sentiment may lead to expansion of investment, resulting in more employment and rise in real wage. However, the price inflation has not been materialized clearly. The latest figure of consumer price index for all items in June 2013 recorded inflation of 0.2 percent, compared to the same month in the previous year, after 0.0 percent in May. This arguably demonstrates the progress of the reflationary policy. However, the index of "all items excluding food and energy" which is supposed to be a core index, recorded a decline of 0.2 percent. Moreover, the depreciation of yen directly brought about the rise in energy import prices. The effect of the reflationary policy has not been clearly materialized.

With relation to the first arrow, a concern has emerged in the second arrow of flexible fiscal policy. The expectation of the BOJ's massive purchase of government bonds and expansion of fiscal expenditure once caused small run-up in long-term interest rates in June 2013. Suspicion about the fiscal sustainability may result in instability in the public bond markets. The long-term interest rates may rise, not fall, if taking the risk

[4] http://www5.cao.go.jp/keizai1/2013/20130614_2013_basicpolicies_e.pdf.

premium into the account. As international organizations invariably recommend, fiscal consolidation will be a key to sustain the long-term growth of Japanese economy. In addition, the full implementation of the third arrow, the growth strategy will be a key to supporting growth and mitigating the negative pressure from the fiscal consolidation.

Economic Outlook Update of IMF in July 2013 forecast the real GDP growth rates of Japan, 1.6 percent in 2013 and 1.4 percent in 2014. The decline in the growth in 2014 reflects the weaker global environment. The rather optimistic outlook of 2013 reflects the effects of recent accommodative policies on confidence and private demand. Other uncertainties include timely increasing debt ceiling of the US and continued actions to mitigate and reverse financial fragmentation in euro area. However, the most significant risk to Japan will be the implementation of Abenomics, especially the third arrow, and fiscal consolidation.

To Achieve Sustained Growth in ROK

The recovery of ROK from the Global Financial Crisis was rapid, starting from the latter half of 2009, and the ROK economy achieved stable growth thereafter. Accommodative fiscal policies, including the cut in the rates of corporate and personal income tax, supported the private demands, while the position of the government budget turned to deficit. Depreciation of Korean won also offset the decline in external demand. The government of ROK reversed the fiscal policy in the latter half of 2010 to tighten the expenditure, and set a target to restore the budget balance in 2013. The sluggish world economy reduced the growth of ROK in late 2011, but the strong performance of the Chinese economy partly offset the reduction in the external demand.

<Table 1-4> Macroeconomic Economic Indicators: ROK

	2008	2009	2010	2011	2012	2013p	2014p
Real, %Change							
Real GDP	2.3	0.3	6.3	3.6	2.0	2.6	4.0
Private Consumption	1.3	0.0	4.4	2.4	1.7	1.5	2.7
Government Consumption	4.3	5.6	2.9	2.1	3.9	2.9	2.6
Gross Fixed Capital Formation	-1.9	-1.0	5.8	-1.1	-1.7	2.0	6.0
Exports	6.6	-1.2	14.7	9.1	4.2	5.6	8.1
Imports	4.4	-8.0	17.3	6.1	2.5	4.5	7.7
Contribution to changes in real GDP							
Domestic Expendirue	1.3	-3.4	6.9	1.8	1.0	1.8	3.5
Net Exports	1.0	3.7	-0.6	1.8	1.0	0.8	0.5
Percent							
CPI Inflation	4.7	2.8	2.9	4.0	2.2	2.2	2.2
Unemployment	3.2	3.6	3.7	3.4	3.2	3.3	3.2
Fiscal Balance (% of GDP)	-1.5	-4.1	-1.1	-2.0	-1.0	0.0	
Policy Interest Rate	1.75	1.25	1.25	1.5	1.25	1.25	
M2 Growth	12.0	9.9	6.0	5.5	4.8	4.9	
Exchange Rate (won/US$)	1102	1277	1156	1108	1126	1112	

(Source) IMF-IFS, Bank of Korea, OECD "Economic Survey. KOREA".

In overall, ROK maintained the budget balance and accumulated debt at a healthy level. According to the OECD Survey published in April 2012, the government budget is projected to be balanced in 2013, as targeted by the government. Net government debt will be about 40 percent of GDP[5].

The central bank, the Bank of Korea (BOK), undertook monetary ease after the Crisis until 2010. The BOK set an inflation target, consumer price being 3 percent plus/minus 1 percentage. Reacting to the inflation rate exceeding the target rate in the latter half of 2010, ROK gradually started to tighten monetary policy. The BOK raised the discount rate to 1.5 percent in April 2011. However, facing the calm down of inflation and slowdown of the economic growth, the BOK cut the discount rate to 1.25 percent in October 2012.

The GDP growth rates of ROK gradually slowed down in 2012 and early 2013. This reflects unexpectedly large deterioration in the external demand, both of industrialized economies and China. Depreciation of yen is believed to have contributed to the deterioration. Consumption and investment remain sluggish. The government of

[5] The outlook of fiscal position turned out to be too optimistic, because the real GDP growth rate in 2012 was only 2.0 percent, lower than OECD's projection, 3.5 percent. However, the regained momentum of ROK economy in 2013 and thereafter is still the baseline scenario in the outlooks of major international organizations, published in 2013.

ROK recognized the need to strengthen counter-cyclical fiscal policies. According to IMF World Economic Outlook published in April 2013, the ROK will maintain a strong momentum of growth, 2.8 percent in 2013 and 3.9 percent in 2014. OECD Economic Outlook 93 published in May 2013, projected almost the same figures. However, in April 2013, the ROK government revised the economic outlook of the real GDP growth in 2013, from 3.0 percent downward to 2.6 percent[6]. Based on this pessimistic outlook, the government proposed a supplementary budget, with increase in expenditure by 2 percent.

For ROK, external risks to the growth will be common with China and Japan. Slowdown in the growth of industrialized economies, as well as China, may bring about significant damage to the economy of ROK whose reliance on exports is high. On basis of the relatively sound fiscal position[7], careful fiscal expansion is reasonable. In the longer run, structural reform measures to improve the productivity and competitiveness of the economy will be a key to sustaining the growth.

(2) Macroeconomic Interdependence of China, Japan and ROK: Recent Perspectives

Trade and investment have intensified economic ties among CJK. The outcome is stronger macroeconomic interdependence in the region. With the larger proportion of outputs being traded between CJK, their business cycles tend to influence the countries through real exports and imports. Traditionally, major trade pattern between CJK was such that Japan and ROK produce parts and equipment, then they export intermediate goods and capital goods to China. China in turn assembles and finishes the production, exporting the final goods to the US, Europe and Japan. In the Global Financial Crisis in 2008, the consumption and imports of the US and EU sharply declined, and the exports from CJK to these economies also declined. The reduction of the exports of final goods, especially those from China, imposed the reduction of the production of final goods, and therefore led to the reduction of imports of parts and equipments from Japan and ROK. In short, the recession in the US and Europe spread throughout CJK and the negative macroeconomic effect was magnified by the established production network between CJK.

[6] The Park Geun-hye Administration's Economic Policy Directions for 2013, published April 2013.

[7] National liabilities after the supplementary budget will be 39 percent.

If the bilateral trade simply reflects the comparative advantage and only trade final goods, the recession of one country would simply result in reduction of its imports from their trade partners. However, the production network was established among CJK, and the negative real shock transmitted and widespread through the supply chains in the region. Because of this mechanism, the negative real shock, originated from the US and Europe, was magnified on the gross output base. In other word, the business cycle correlations among CJK tend to increase if the production network is dominant. On the other hand, if the intra-industry trade of final goods prevails among CJK, the magnifying effect would be smaller. As such, the trade patterns reflect the transmission of real shocks and the resulting macroeconomic synchronization[8].

With this viewpoint, to measure the degree of macroeconomic synchronization, or business cycle correlation, this study calculates simple correlations between the real GDP growth rates of CJK, and the US in addition (<Table 1-5>).

<Table 1-5> Correlation of Real GDP Growth Rate

From	To	China-Japan	Japan-ROK	China-ROK
2004 Q1	2008 Q4	0.49	0.86	0.51
2009 Q1	2013 Q1	0.36	0.79	0.80
		China-USA	Japan-USA	ROK-USA
2004 Q1	2008 Q4	0.18	0.80	0.74
2009 Q1	2013 Q1	0.16	0.88	0.68

(Source) Calculation of research team, using IMF "International Financial Statistics".

Among CJK, China, with lower coefficients of correlation, was rather isolated in terms of the macroeconomic synchronization. The correlation is low between China and US. However, the correlation between China and ROK after the Global Financial Crisis significantly increased. This reinforces the observation that the production networks between China and ROK got strengthened after the Crisis (see Chapter 2 and Part II). It is also notable that the correlation of China invariably declined after the Crisis, with the exception of China – ROK combination. It is not yet clear, but a new trend may have emerged for China to increase horizontal types of trade.

[8] Here, the macroeconomic synchronization means the correlation of the changes in output or GDP between countries. The transmission of real shocks plays a key role on the correlations.

The correlation of Japan tended to decline with China and ROK. This may reflect the fact that the effect of the earthquake and tsunami disaster was limited to domestic supply side of the economy, i.e. production and output of Japan. The shock was not very propagative. Only the correlation between Japan and US increased to a higher level. This reflected that Japan was more seriously hit by the Global Financial Crisis, compared to China and ROK. ROK maintained higher correlation with Japan and US, as they are major importers.

In overall, the coefficients of correlation reflect the proportion of bilateral exports and imports, because the real shocks transmit through trade. A key factor is the trade structure, notably both the degree of intra-industry trade and supply chains, among three countries. It is observed that the degree of correlations declined in many combinations. However, the macroeconomic synchronization was still maintained among CJK. Indeed, China-ROK synchronization strongly increased. The following chapter, examining trade, will further discuss the matter.

This chapter focuses on the macroeconomic synchronization, or correlation of business cycles. This is basically characteristics of real market, like integration of trade and investment. Chapter 4 covers the integration of financial markets. Monetary and financial aspects of the integration are analyzed in the separate chapter.

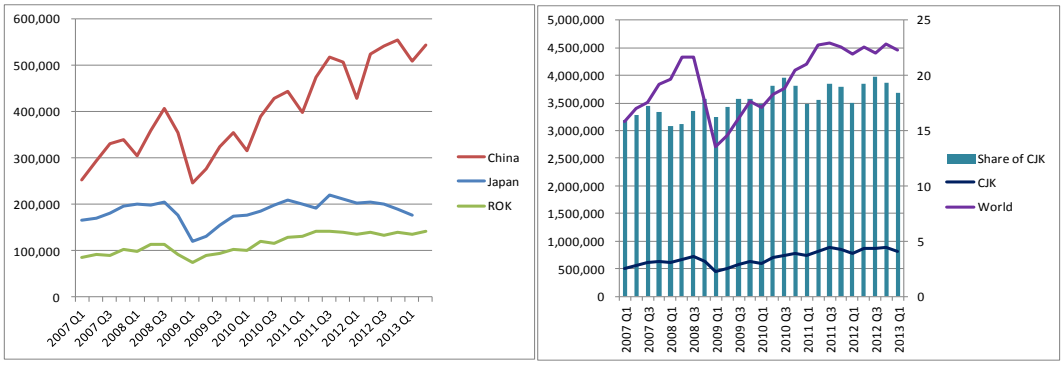
Chapter 2. Trade in Goods and Services

(1) Recent Development of Trade in Goods of China, Japan and ROK

Trade in Goods of China, Japan and ROK in the world

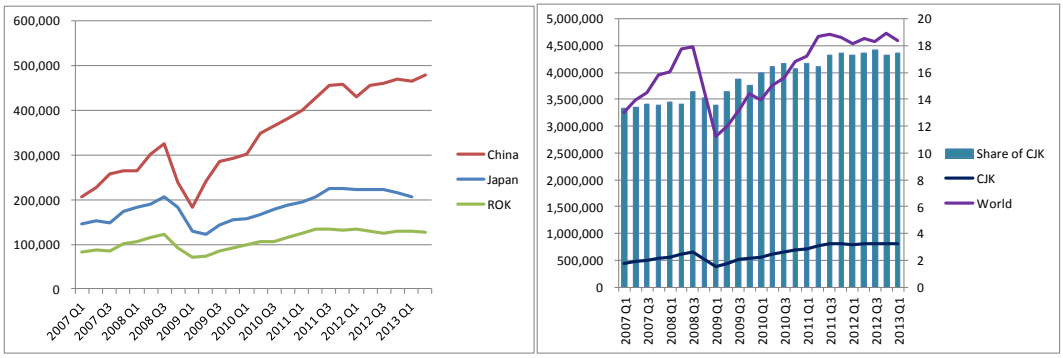
Trade of China, Japan and ROK has an upward trend in the medium- and long-terms and is characterized by the rapid increase in the exports of manufacturing goods. In the shorter-terms, the trade value once declined sharply due to the Global Financial Crisis in early 2009 (<Figure 2-1> and <Figure 2-2>). The trade of three countries recovered quickly afterwards until 2011. However, only export of China continued to grow thereafter. The import of China slowed down. Trade of Japan and ROK stagnated and even showed a declining trend.

<Figure 2-1> Export of China, Japan and ROK



(Source) IMF, Direction of Trade. IFS.

<Figure 2-2> Import of China, Japan and ROK



(Source) IMF, Direction of Trade. IFS.

The slump of trade after the recovery, particularly that of Japan and ROK, reflected slowdown of the world trade. In addition, the appreciation of exchange rate of yen hit the export of Japan. The combined share of CJK export in the world recovered after the crisis, reached about 20 percent, but declined since late 2012 to 18.5 percent in the first quarter of 2013. That of CJK import, on the other hand, generally maintained the level after the recovery.

After-crisis Development of Trade of China, Japan and ROK

After the fast recovery in 2009, trade of China continued to grow. However, the growth rate of trade value substantially decreased since 2010. In 2012, growth rate of China's exports was 7.9 percent, compared to 31 percent in 2010 and 20 percent in 2011. Imports of China grew only 4.4 percent in 2012, although its growth rates in 2010 and 2011 were comparatively high: 39 percent and 25 percent, respectively. China's trade surplus recorded 235 billion US dollars in 2012 after having reached its peak of 297 billion US dollars in 2008.

After the recovery phase in early 2011, both export and import of Japan stagnated. However, Japan maintained a high level of imports in 2012, mainly because of urgent needs for energy resources for power generation after the earthquake of March 11, 2011. Japan's exports, on the other hand, declined, basically due to the strong exchange rate of the yen, as well as the stagnated world economic growth. In 2011 and 2012, Japanese trade balance, which had long been usually surplus, became deficit. Trade deficit in 2011 reached 30 billion US dollars, and it elevated up to 85 billion US dollars in 2012. Current depreciation of the yen under Abenomics may improve Japan's trade balance, depending upon how much it contributes to facilitating Japan's export volume and curtaining import volume until J-curve appeared to continue recently.

Due to the crisis, both export and import of ROK declined until the first quarter of 2009. The recovery of export continued to mid-2010, and that of import, to mid-2011. The trade value of ROK stagnated, thereafter. On annual average, the value of exports of ROK decreased by 1.9 percent in 2012, and its imports decreased by 0.9 percent. The decline in export appeared to stop in early 2013. The year-on-year growth rate of export

was improved: 0.4 percent in the first quarter of 2013, and 0.8 percent in the second quarter. However, the government of ROK is not optimistic in the 2013 outlook. According to the government, it will be difficult to expect a rapid pick-up in exports due to the weak yen and the poor recovery in global demand, as uncertainties surrounding the global economy persist. ROK constantly keeps trade surplus except the year of 2008 but there is a concern that the amount of surplus has been decreasing since 2009 from 50 billion US dollars to 32 billion US dollars in 2012.

(2) Structures of Trade in Goods of China, Japan and ROK

Trade Partners and Traded Items of CJK

Because of the trade costs from distance between the exporters and importers, trades in goods tend to be larger between the economies with geographical proximity and shorter distance. In addition, an economy of larger scale tends to trade more. These factors naturally fit in for the major trade partners of China, Japan and ROK. In the imports of China, Japan and ROK are the first and the second largest partner. However, in the export of mainland China, the United States is the biggest partner and Hong Kong, China as the second[9]. Japan and ROK come to the third and fourth partners for China. The large share of the US in China's exports reflects the trade structure of China: to export final goods to large consumption markets, like the US and Europe. For Japan and ROK, China is the most important trade partner, both for imports and exports. In particular, ROK's exports to China and Japan's imports from China are relatively large. More than a quarter of ROK's exports go to and one-fifth of Japan's imports come from China. This reflects the shorter distance between them, and that China imports parts, components and equipment from Japan and ROK. The structure of trade integration among CJK is analyzed later in this chapter. Japan and ROK are also important trading partners to each other. For Japan, ROK comes as the third for exports, and the sixth for imports. For ROK, Japan comes as the third for exports, and the second for imports.

As for the other major trade partners of CJK, a tendency is found that Japan exports more to advanced countries like Germany and Australia, and relatively less to

[9] Most of the exports to Hong Kong, China may have been re-exported to the other trade partners.

developing countries of ASEAN including Thailand and Malaysia. In contrast, ROK exports more to newly developing countries such as Vietnam, India, Brazil, and Russia. China features a mixture of Japan and ROK, exporting to both advanced and newly developing countries. All of CJK import natural resources and energy from Australia and Middle-East countries, which recorded higher shares in their imports.

<Table 2-1> summarizes the three countries' top 10 exporting and importing products based on 4-digit heading of Harmonized System 2007. China's major exporting products are electronic parts and machineries (computers, communication equipment, ICs, and LCD). Japan's major exporting products are transportation equipment and machineries. Notably, ROK exports oil products most, though it also has competitiveness on transportation and electronic products. Except for these, the major exporting products of Japan and ROK are very similar.

<Table 2-1 (A)> Top 10 Products in Export of China, Japan and ROK

	HS code	Exports	Value (US$)	Share (%)
		China in 2011		
1	8471	Automatic data processing machines and Units thereof	152,028,994,829	8.0
2	8517	Electrical apparatus for line telephony or line telegraphy	133,413,856,420	7.0
3	8901	Cruise ships, excursion boats, ferry-boats, cargo ships, barges	37,099,687,465	2.0
4	8541	Diodes, transistors and similar semiconductor devices	35,428,282,661	1.9
5	8542	Electronic integrated circuits	32,900,291,554	1.7
6	9013	Liquid crystal devices	31,682,134,997	1.7
7	8473	Parts and accessories for use with machines of heading 84.69 to 84.72	30,641,971,212	1.6
8	8528	Reception apparatus for television	30,291,414,877	1.6
9	8443	Printing machinery used for printing by means of the printing type, blocks	25,123,799,327	1.3
10	4202	Trunks, suit-cases, vanity-cases, executive-cases, brief-cases, school satchels, spectacle cases, binocular cases, camera cases, musical instrument cases, gun cases, holsters and similar containers; travelling-bags, insulated food or beverages bags, toile	23,940,993,907	1.3
		Total	1,898,388,434,783	
		Japan in 2011		
1	8703	Motor cars and other motor vehicles principally designed for the transport	87,337,874,458	10.6
2	9999	Commodities not specified according to kind	39,383,471,895	4.8
3	8708	Parts and accessories of the motor vehicles of headings 87.01 to 87.05	37,489,204,169	4.6
4	8542	Electronic integrated circuits	32,013,157,668	3.9
5	8901	Cruise ships, excursion boats, ferry-boats, cargo ships, barges	25,682,553,968	3.1
6	8486	Machines and apparatus used for the manufacture of semiconductor devices	20,960,402,616	2.5
7	8443	Printing machinery used for printing by means of the printing type, blocks	15,136,129,867	1.8
8	2710	Petroleum oils, other than crude	14,583,768,488	1.8
9	8541	Diodes, transistors and similar semiconductor devices	12,257,231,925	1.5
10	8429	Self-propelled bulldozers, angledozers, graders, levellers, scrapers, mechanical shovels, excavators, shovel loaders, tamping machines and road rollers.	11,643,165,604	1.4
		Total	823,183,758,647	
		ROK in 2011		
1	2710	Petroleum oils, other than crude	50,371,143,249	9.1
2	8703	Motor cars and other motor vehicles principally designed for the transport	40,909,861,221	7.4
3	8542	Electronic integrated circuits	39,664,759,274	7.1
4	8901	Cruise ships, excursion boats, ferry-boats, cargo ships, barges	37,969,842,445	6.8
5	9013	Liquid crystal devices	27,656,217,630	5.0
6	8517	Electrical apparatus for line telephony or line telegraphy	25,802,381,834	4.6
7	8708	Parts and accessories of the motor vehicles of headings 87.01 to 87.05	21,583,360,379	3.9
8	8905	Light-vessels, fire-floats, dredgers, floating cranes and other vessels	16,043,653,755	2.9
9	8529	Parts suitable for use with the apparatus of headings 85.25 to 85.28	8,444,335,332	1.5
10	2902	Cyclic hydrocarbons.	7,987,258,084	1.4
		Total	555,208,897,965	

(Source) UN-COMTRADE.

Major products that China, Japan, and ROK import are natural resources. Crude oils and petroleum products are the most important imported products for all the three countries. In particular, crude oils consist of one-fifth of ROK's import as they are used not only for its own consumption but also as primary materials of oil products which are mainly exported overseas. China imports many of electronic parts and components, as well as final goods including cars and computers in addition to raw materials. Japan and ROK import final goods, including communication machinery and computers.

<Table 2-1 (B)> Top 10 Products in Import of China, Japan and ROK

	HS code	Imports	Value (US$)	Share (%)
China in 2011				
1	2709	Petroleum oils and oils obtained from bituminous minerals, crude	196,770,604,891	11.3
2	8542	Electronic integrated circuits	171,142,150,713	9.8
3	2601	Iron ores and concentrates, including roasted iron pyrites	112,408,907,821	6.4
4	9013	Liquid crystal devices	53,140,435,374	3.0
5	9999	Commodities not specified acording to kind	49,498,448,835	2.8
6	8703	Motor cars and other motor vehicles principally designed for the transport	40,965,092,910	2.3
7	2710	Petroleum oils, other than crude	32,776,173,316	1.9
8	8517	Electrical apparatus for line telephony or line telegraphy	30,862,148,755	1.8
9	1201	Soya beans, whether or not broken	29,726,066,495	1.7
10	8471	Automatic data processing machines and Units thereof	29,350,999,478	1.7
		Total	1,743,394,866,363	
Japan in 2011				
1	2709	Petroleum oils and oils obtained from bituminous minerals, crude	142,101,309,768	16.6
2	2711	Petroleum gases and other gaseous hydrocarbons	71,316,618,399	8.3
3	2701	Coal; briquettes, ovoids and similar solid fuels manufactured from coal	30,907,825,462	3.6
4	2710	Petroleum oils, other than crude	27,879,742,272	3.3
5	2601	Iron ores and concentrates, including roasted iron pyrites	21,449,265,408	2.5
6	8517	Electrical apparatus for line telephony or line telegraphy	18,753,968,979	2.2
7	8542	Electronic integrated circuits	17,966,813,675	2.1
8	8471	Automatic data processing machines and Units thereof	17,039,686,744	2.0
9	3004	Medicaments (excluding goods of heading 30.02, 30.05 or 30.06)	13,903,126,221	1.6
10	9999	Commodities not specified according to kind	12,320,946,150	1.4
		Total	855,380,474,182	
ROK in 2011				
1	2709	Petroleum oils and oils obtained from bituminous minerals, crude	100,805,574,134	19.2
2	2711	Petroleum gases and other gaseous hydrocarbons	30,182,721,960	5.8
3	8542	Electronic integrated circuits	25,369,844,489	4.8
4	2710	Petroleum oils, other than crude.	22,029,886,610	4.2
5	2701	Coal; briquettes, ovoids and similar solid fuels manufactured from coal	18,283,655,370	3.5
6	2601	Iron ores and concentrates, including roasted iron pyrites	11,380,768,446	2.2
7	8486	Machines and apparatus used for the manufacture of semiconductor devices	10,336,196,319	2.0
8	8517	Electrical apparatus for line telephony or line telegraphy	8,492,541,943	1.6
9	7208	Flat-rolled products of iron or non-alloy steel	7,775,172,818	1.5
10	2603	Copper ores and concentrates	5,634,034,192	1.1
		Total	524,405,223,775	

(Source) UN-COMTRADE.

Intra-industry Trade of China, Japan and ROK

One may find in <Table 2-1> that the major exporting and importing products of CJK somewhat overlap with each other. Such products include: ICs (HS8542) for all the three countries, Petroleum (HS2710) for Japan ROK, and LCD (HS9013) for China. The overlap evidences the existence of intra-industry trade. The intra-industry trade means a two-way trade of the product in the same classification. Recent research distinguishes two types of intra-industry trade: vertical one and horizontal one. In the former type, the exported products and imported products are differentiated by quality[10]. In the latter type, they are differentiated by attributes, or varieties of brand names. The former mainly occurs in the trade between the technologically advanced countries and developing countries. The latter does so in the trade between the advanced countries. Existing researches concluded that the vertical intra-industry trade significantly increased, also among the US, Canada and Mexico after the NAFTA, while their horizontal intra-industry trade barely increased. The same conclusion of vertical intra-industry trade may probably apply to the cases of ICs and LCD in CJK, implying that the intra-industry trade in such machinery contributed to the development and industrialization of China.[11]

The increase in the intra-industry trade has an important implication on the trade of China, Japan and ROK. Existing research works identified that growing level of intra-industry trade played a positive role to promote industrialization. Intra-industry trade allows a country to take advantage of access to larger counterpart markets in the world, and the country can specialize in the industry with greater prospects. The most widely used measure of intra-industry trade is the Grubel-Lloyd index[12]. The values of the index of China, Japan and ROK for 2007 and 2012 are around 0.31 and 0.33, 0.33 and 0.35, and 0.37 and 0.40, respectively. The index in China remains to be lower than those of Japan and ROK, meaning the still lower level of intra-industry trade.

[10] The quality means higher level of technology, higher efficiency of the goods, and more classy goods compared to other commodities.

[11] Existing research papers suggest that the intra-industry trade enabled the industries of the developing economies to access to the worldwide markets and to enjoy the merits of scale and scope. The larger scale of Chinese manufacturing industries implies the merits.

[12] The definition of the index is $\frac{((X_i+M_i)-|X_i-M_i|)}{(X_i+M_i)}$, where X denotes export, M denotes import, and i denotes product. The country's index is measured by the trade-weighted average of each index. HS 2digits data from UN COMTRADE are used for the calculation.

Similar Export Structure in China, Japan and ROK

As their major trading products demonstrate, all the three countries are very active in trading manufacturing products such as electronic, transportation, and machineries and equipment. In particular, the major products in Japan and ROK appear quite similar. Against this backdrop, a distinct difference is ROK's higher imports share of iron and steel and higher exports share of oil products, clothes, and ships than Japan. In contrast, Japan's exports share of machinery and imports share of apparel goods are much higher than those of ROK. Indeed, the similar export structure has made their competition in the other countries more serious.

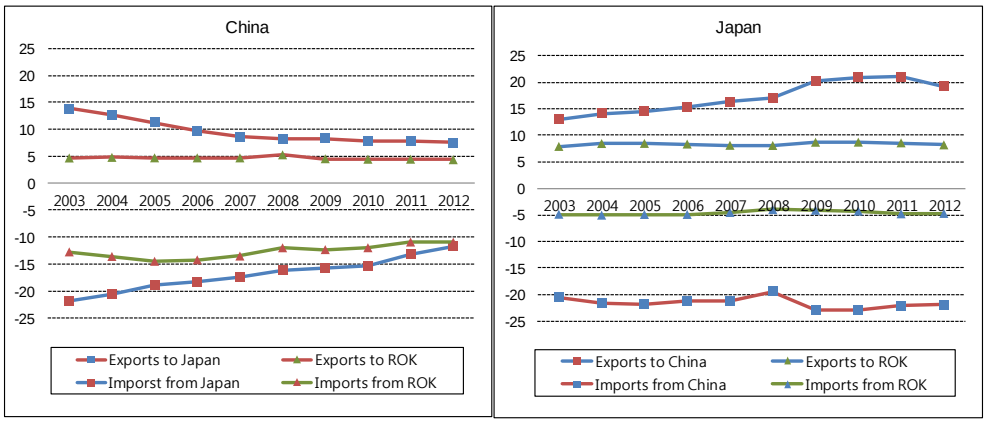
The correlations between the exports products of the three countries are calculated here to measure the general similarity of the export structure. The coefficient of correlation is 0.76 to 0.80 for China-Japan, 0.81 for China-ROK, and 0.85 to 0.90 for Japan-ROK, demonstrating the high level of similarity of export products, especially those of Japan and ROK.

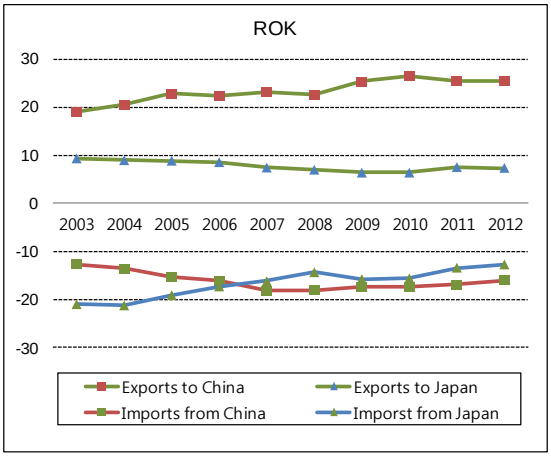
(3) Intra-Regional Trade among China, Japan, and ROK: Trend and Recent Changes

Declining Intra-Regional Trade Shares

The closer ties in bilateral trade among CJK are seen in the greater shares in the bilateral trade among them (see <Figure 2-3> for the levels of the share).

<Figure 2-3> Share of Intra-Regional Trade among China, Japan, and ROK





(Source) IMF-DOT.
(Note) Imports figures are recorded as negative.

However, a medium-term trend of decline is observed in the shares of: (i) China's exports to Japan; (ii) China's imports from Japan and ROK; and (iii) ROK's imports from Japan. On the contrary, the shares of Japan's and ROK's exports to and imports from China have been generally growing (<Figure 2-3>). This implies that destination of China's exports and imports are becoming more diversified, and the trade of Japan and ROK are becoming more dependent on China. The change appears more clearly especially after the Global Financial Crisis[13]. Taking the three countries as a region, intra-regional trade share for the exports has been getting smaller little by little from 26 percent in 2004 to 22 percent in 2012 while its share for the imports has been stable.

Declining Trade Intensity Index in the Region

A bilateral export/import intensity index is a standard indicator to measure the degree of bilateral trade relations[14]. The standard value of this index is one, meaning the trade relation is as intense as the average of other countries.

[13] This partly explains the increase in macroeconomic synchronization between China and ROK after the Crisis.

[14] The definition of export intensity index is: $\frac{X_{ij}/X_i}{M_j/(M_W-M_i)}$ where (X_{ij}/X_i) represents the share of country j in the total export of country i and $M_j/(M_W - M_i)$ means the share of country j in the total world imports except for country i's imports. Import intensity index IIM is obtained from $IIM_{ij} = \frac{M_{ij}/M_i}{X_j/(X_W-X_i)}$.

<Table 2-2> Export Intensity Index in CJK Region

Exporter	China		Japan		ROK		Intra-region
Importer	Japan	ROK	China	ROK	China	Japan	CJK
2003	2.59	1.87	2.17	3.03	3.30	3.75	1.60
2004	2.42	1.86	2.10	3.13	3.22	3.51	1.61
2005	2.17	1.79	2.09	3.08	3.46	3.39	1.57
2006	1.90	1.72	2.14	2.97	3.25	3.18	1.52
2007	1.80	1.72	2.19	2.91	3.20	2.76	1.43
2008	1.64	1.83	2.22	2.75	3.05	2.45	1.38
2009	1.73	1.62	2.29	3.06	2.87	2.24	1.33
2010	1.53	1.43	2.04	2.78	2.66	2.10	1.31
2011	1.51	1.38	1.98	2.68	2.45	2.40	1.18
2012	1.39	1.37	1.75	2.60	2.41	2.43	1.13

(Source) Calculated based on IMF-DOT.

Although the index is possibly biased upwards due to various factors such as the regional network of vertical production as well as geographical proximity, the export intensity index of CJK recorded above one. This means that the three countries have been good customers to each other. However, the index for almost all of the combination shows a trend to decline since 2003 (<Table 2-2>). The declining trend appears to continue after the Global Financial Crisis in 2008/2009[15]. Japan's and ROK's export share to China increased even after the period, but China's import share in the world rose more. This is due to China's diversification of import partners. The structure of production networks dominant in the region has been gradually changing. China may have increased the imports of intermediate and final goods from the countries outside the region, more rapidly than among CJK. Taking the three countries as a region, intra-regional trade intensity index for the exports was 1.13 in 2012, having declined from 1.60 in 2003.[16]

The import intensity index with the value greater than one means the country is a good customer to its counterpart exporter. Similar tendency applies both to the import intensity index and to export intensity index (<Table 2-3>). Indexes followed a declining trend, with some temporary increase in the crisis period.

[15] One may observe temporary increase in some index in the crisis period, but the declining trend restarted and continued thereafter.

[16] The intra-regional export intensity index for exports is defined as follows: $\left[\frac{X_{cj}+X_{ck}+X_{jc}+X_{jk}+X_{kc}+X_{kj}}{X_c+X_j+X_k}\right] \Big/ \left[\frac{(M_c+M_j+M_k)}{M_W}\right]$, where X_{cj} denotes export from China to Japan, etc., and X_c denotes export of China, M_c denote import of China, and M_W is world import.

<Table 2-3> Import Intensity Index in CJK Region

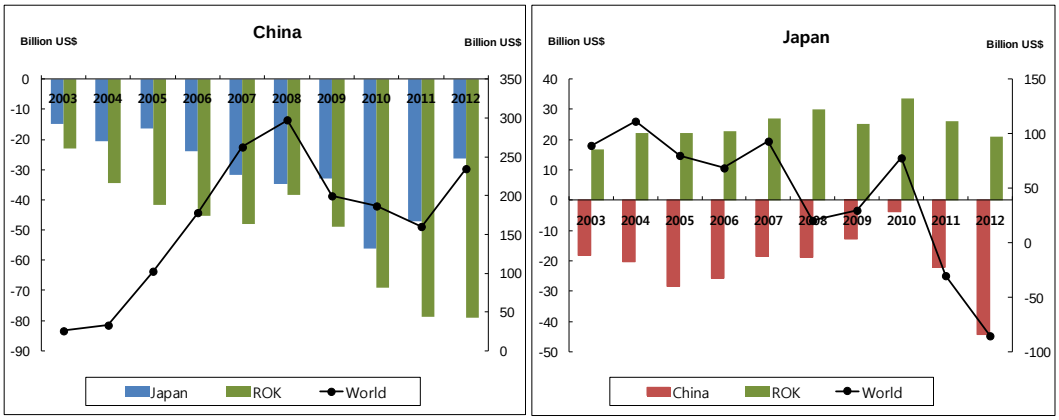
Importer	China		Japan		ROK		Intra-region
Exporter	Japan	ROK	China	ROK	China	Japan	CJK
2003	2.69	3.80	3.17	1.69	2.05	3.15	1.88
2004	2.53	3.72	2.99	1.63	1.97	3.22	1.81
2005	2.47	3.93	2.71	1.63	1.96	3.15	1.75
2006	2.50	3.84	2.40	1.65	1.89	3.03	1.67
2007	2.48	3.69	2.22	1.55	1.96	2.98	1.59
2008	2.49	3.40	2.01	1.38	1.93	2.80	1.50
2009	2.50	3.06	2.17	1.26	1.67	3.16	1.47
2010	2.19	2.81	1.98	1.24	1.54	2.83	1.33
2011	2.16	2.63	1.93	1.41	1.50	2.73	1.28
2012	1.93	2.63	1.77	1.42	1.31	2.68	1.17

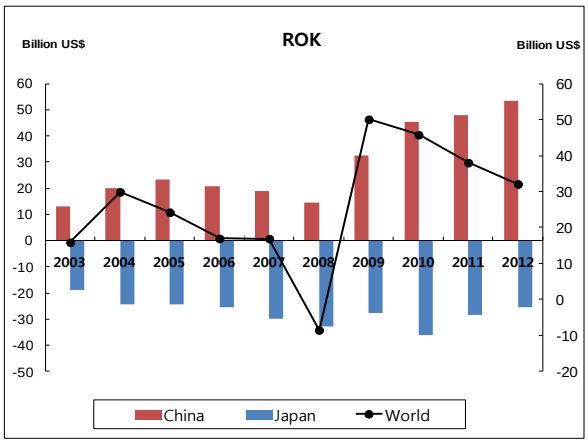
(Source) Calculated based on IMF-DOT.

Bilateral Trade Balance

<Figure 2-4> illustrates trade balance among China, Japan, and ROK from 2003 to 2012. China's trade balance with Japan and ROK was negative and the amount of deficits with ROK has becoming larger while that with Japan has been smaller since 2010. Japan recorded positive trade balance with ROK but negative balance with China. In 2012, Japan's trade deficit vis-à-vis China was the largest in recent years at 44 billion US dollars. ROK gained a large trade surplus of about 54 billion US dollars from China in 2012, while it always recorded negative trade balance with Japan.

<Figure 2-4> Bilateral Trade Balance among China, Japan and ROK





(Source) IMF-DOT.

Major Trading Products among CJK

While a new trend may have emerged, one may still observe the traditional trade pattern of processed trade and regional production networks. China's major exporting products to Japan are electronic machineries and equipment related with computer, printers, and telephones. Clothing, insulated wire and cable, air conditioning machines, and parts and accessories of motor vehicles are the other important exporting goods of China to Japan. Final goods dominate the export from China. Japan, on the other hand, exports electronic integrated circuits the most to China. Manufacturing products such as electronic and transportation machines and equipment are the other main exporting goods of Japan to China.

China mainly exports electronic machines and equipment to ROK. In addition, manufacturing and building materials including steel and copper are China's other major exporting goods to ROK. More than a quarter of China's imports from ROK are occupied by two kinds of products: electronic integrated circuits and liquid crystal devices. Petroleum and chemical products as well as electronic and motor vehicle devices are also significant importing goods from ROK. The typical trade pattern of the production network appears here.

Japan's top three exporting products to ROK are (1) machines and apparatus used for the manufacture of semiconductor devices, (2) other plates, sheets, film, foil and strip, of plastics, non-cellular and not reinforced, laminated, supported or similarly

combined with other materials, and (3) flat-rolled products of iron or non-alloy steel. These are high-technology machineries and plastic, iron, and steel materials. Electronic manufacturing industry in ROK appears to depend on Japanese precision machines and materials. Approximately a quarter of Japan's imports from ROK are oil products, indicating that Japan depends very much on petroleum oils refined in ROK. Electrical apparatus for line telephony or line telegraphy, electronic integrated circuits, and silver are Japan's second, third, and fourth largest importing products from ROK. It describes that Japan imports medium class technology-intensive products from ROK. This demonstrates the case of vertical intra-industry trade.

In general, the most notable characteristics of intra-regional trade among China, Japan, and ROK lies in the increase in two-way vertical intra-industry trade of intermediate goods on electronic and transportation equipment. The recent tendency appears to become stronger. However, trade of supply chains with one-way trade also exists in that Japan exports high-tech machines and materials to ROK, ROK produces electronic parts using Japanese high-tech machines and materials and exports them to China, and China builds upon electronic and digital final products using ROK's parts and then exports them to Japan and other partners.

(4) Service Trade of China, Japan and ROK

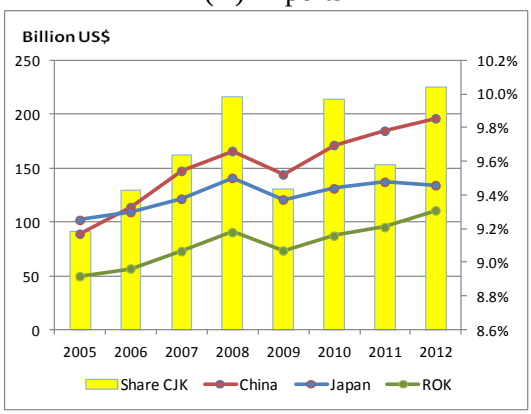
Service Trade in CJK

Reflecting the expansion in the demand for services, service trade in the world had been increasing steadily in 2000s. Service trade has got increasingly important, as more value added from services is incorporated into the value of goods. As the service economy disseminates, the amount of service trade will become comparable to those of manufacturing goods within 10 years. CJK have taken important shares in the service trade in the world (<Figure 2-5>). The service exports of CJK increased to 2.2 times, 1.3 times, and 2.2 times from 2005 to 2012, respectively. The service imports of CJK increased, more remarkably in the case of China, to 3.4 times, 1.3 times and 1.8 times. Their shares in the world reached 10.0 percent for exports, and 13.7 percent for import. According to the World Development Indicators of the World Bank in 2011, China was

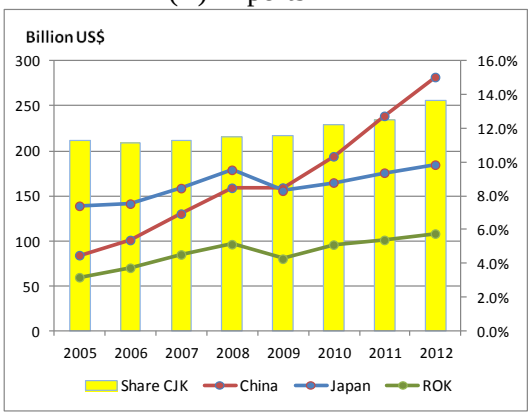
ranked 5th and 3rd in service export and import in the world, respectively. Japan was 7th and 6th. ROK's was ranked 14th and 15th. However, the balance of service trade has been deficit for CJK.

<Figure 2-5> Service exports and imports of China, Japan and ROK

(A) Exports



(B) Imports



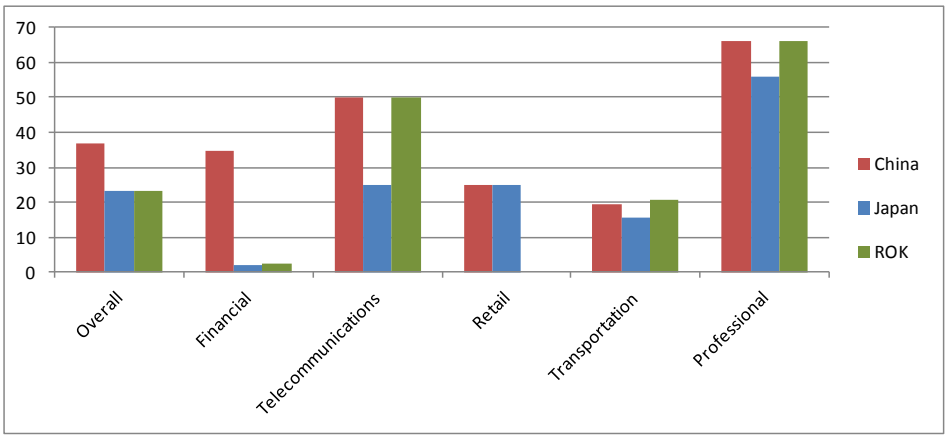
(Source) IMF-BOP, World Bank, WDI.

Impediment to Service Trade in China, Japan and ROK

The cross-border impediments to service trade are high throughout the world. This reflects higher trade costs for service trade. The impediments basically come from domestic regulations. The restrictions on service trades are generally high in CJK, too. The issue becomes more complicated because the level of protection and restriction on service trade is not visible, unlike tariff rates for the case of trade in goods.

The Service Trade Restriction Index (STRI) of the World Bank shows that the overall restriction levels to service trade. Those of CJK are 37, 23 and 23, respectively (<Figure 2-6>): higher than those in US and New Zealand, 18 and 11. The index of financial sector is high in China, while those in Japan and ROK are very low. Japan's index is slightly lower in telecommunication, transportation and professional services than those of China and ROK. However, their levels of restriction in these sectors are generally high. The restriction index of ROK retail service is zero, meaning that this sector is completely free to service imports in ROK.

<Figure 2-6> STRI Index of China, Japan and ROK



(Source) World Bank.

Significance of Service Trade Liberalization

The service trade liberalization will be one of the key challenges in the CJK FTA negotiations. The impediments to the service trade are not constituted by the tariffs, and therefore the liberalization is not about the reduction of tariff revenue. The static efficiency gains tend to be larger, compared to the trade liberalization in goods, because trade diversion effects will not take place. Moreover, perhaps more importantly, the liberalization will enhance the production of overall sectors in the economies in the dynamic terms.

(5) FTAs in China, Japan, and ROK

FTA Initiatives of CJK

<Table 2-4> lists FTA initiatives of China, Japan, and ROK at present. The most recent spectacular progress is the launch of CJK FTA negotiations among China, Japan, and ROK. The first negotiation for China-Japan-ROK FTA (CJK FTA) was held in Seoul on 26th-28th March 2013. Heads of delegations from three countries met and discussed the fields, mechanism, and approach of the subsequent FTA negotiations. The second round negotiation was held in July 2013 in Shanghai and the third round will take place in Japan within this year.

<Table 2-4> FTA Initiatives of China, Japan and ROK

	Negotiation Concluded					
	China		**Japan**		**ROK**	
	Partner	Implemented	Partner	Implemented	Partner	Implemented
1	ASEAN	Jul. 2005	Singapore	Nov. 2002	Chile	Apr. 2004
2	Chile	Oct. 2006	Mexico	Apr. 2005	Singapore	Mar. 2006
3	Pakistan	Jul. 2007	Malaysia	Jul. 2006	EFTA	Sep. 2006
4	New Zealand	Oct. 2008	Chile	Sep. 2007	ASEAN	Jun. 2007
5	Singapore	Jan. 2009	Thailand	Nov. 2007	India	Jan. 2010
6	Peru	Mar. 2010	Brunei	Jul. 2008	EU	Jul. 2011
7	Costa Rica	Aug. 2011	Indonesia	Jul. 2008	Peru	Aug. 2011
8	Iceland	Signed in Apr. 2013	ASEAN	Dec. 2008	USA	Mar. 2012
9	Switzerland	Signed in Jul. 2013	Philippines	Dec. 2008	Turkey	May. 2013
10			Switzerland	Sep. 2009	Columbia	Signed in Feb. 2013
11			Viet Nam	Oct. 2009		
12			India	Aug. 2011		
13			Peru	Mar. 2012		
	Under Negotiation					
	China		**Japan**		**ROK**	
	Partner	Negotiation launched	Partner	Negotiation launched	Partner	Negotiation launched
1	SACU	Jun. 2004	ROK	Dec. 2003	Japan	Dec. 2003
2	GCC	Apr. 2005	GCC	Sep. 2006	Canada	Jul. 2005
3	Australia	May-05	Australia	Apr. 2007	Mexico	Dec. 2007
4	Norway	Sep. 2008	Mongolia	Jun. 2012	GCC	Jul. 2008
5	ROK	May-12	Canada	Nov. 2012	Australia	May. 2009
6	CJK	Mar. 2013	Columbia	Dec. 2012	New Zealand	Jun. 2009
7	RCEP	May-13	CJK	Mar. 2013	China	May. 2012
8			EU	Apr. 2013	Indonesia	Jul. 2012
9			RCEP	May-13	Vietnam	Sep. 2012
10			TPP	Jul. 2013	CJK	Mar. 2013
11					RCEP	May. 2013
	Under Discussion					
	China		**Japan**		**ROK**	
1	India		Turkey		MERCOSUR	
2	Columbia				Israel	
3					Mongolia	
4					Central America	
5					Malaysia	

(Source) Ministry of Commerce of China, Ministry of Foreign Affairs of Japan, Ministry of Foreign Affairs of ROK.

Launching of negotiations for Regional Comprehensive Economic Partnership (RCEP) is another important event for the three countries, all of where are members of this ASEAN plus six regional free trade framework in Asia. The first round negotiation was held in Brunei on 9th to 13th May 2013 and the second round is planned to be conducted in Australia from 24th to 27th of September 2013. Senior officials representing 16 countries participated in the meetings and discussed the scope and method of the negotiations, hoping to conclude this trade agreement by 2015.

The recent progress of China's FTA initiatives is a Free Trade Agreement between China and Iceland which was signed in Beijing on April 15th 2013. It is the first FTA with one of European countries for China and covers a wide range of fields, not only trade in goods but also service trade, investment, trade facilitation, competition policy, and intellectual property rights. China-Switzerland FTA was officially signed on July 6th 2013 and it is the first FTA between China and a country in the continental Europe.

July 23rd 2103 was Japan's first time opportunity to join the TPP negotiations. Japan experienced a very hard time to decide its participation in the TPP negotiations due to fragile domestic political conditions which lasted for about six years until Mr. Abe formed a new government at the end of 2012. To Japan, TPP is therefore a very important framework that cannot stumble and has to reach successful conclusion. Japan had the first round of FTA talks with EU in Brussels between 15th and 19th of April 2013 and completed the second in Tokyo on July 3rd 2013. Major important issues including trade in goods and services, investment, intellectual property rights, non-tariff barriers, and government procurement were discussed at these meetings. The participation of Japan to TPP may have applied a possible pressure to China and ROK to expedite the negotiation process of CJK FTA.

ROK-Turkey FTA came into effect on May 1st 013, by which ROK can increase its exports to Turkey after tariffs are reduced under the agreement. ROK signed a bilateral FTA with Columbia on February 21st, 2013 under which both parties will abolish more than 96 percent of tariffs within ten years after its implementation. While Columbia hopes to export more agricultural goods of coffee and banana as well as natural resources including crude oil, ROK is expecting to increase its exports of transportation and electronic machines and equipments.

The Effects of CJK FTA: Simulation Updates

The trilateral academic joint research teams undertook simulation in studies in 2006 – 2009 to assess the economic effect of CJK FTA. The simulations used a multi-sector, multi-region, international general equilibrium model, called the Global Trade Analysis Project (GTAP). According to the consensus results, the welfare gains, in

terms of percentage of GDP, will be about 0.3 – 0.5 percent for China and Japan, and 2 – 3 percent for ROK. These figures assume the magnitude of economies in the base year of 2007. Taking account of the economic growth thereafter, the figures now should be larger.

The gain comes from the efficiency improvement only, and does not reflect so-called dynamic gains, such as the productivity improvement from the higher degree of competition, promotion of direct investment, technological exchanges, more movement of people, and so on. Experience of other FTAs suggests that the dynamic gains amount to three times or more of the static gains. This underscores the significance of CJK FTA.

In addition, positive synergy effects will take place between CJK FTA and other region-wide FTAs, including Trans Pacific Partnership (TPP) and Regional Comprehensive Economic Partnership (RCEP). At this moment, only Japan has access to the negotiation of the TPP process. However, there is possibility that China and ROK gain the access.

(5) Policy Implications and Recommendations for Promoting Trade Relations among China, Japan, and ROK

The major findings in this chapter include:

- Steady recovery in intra-regional trade among CJK;
- Emerging diversification of China's imports and exports after the Global Financial Crisis;
- Increase in vertical intra-industry pattern of trade between China, Japan and ROK, but still important position of the integration of supply-chain type production networks;
- Progress in FTA initiatives; and
- Significant and increased benefits from CJK FTA.

The trend implies that the trade relations between China, Japan and ROK are gradually matured, approaching the situation of European Union. Even if the figures of trade intensity index may decline, this does not simply mean the weaker trade integration.

In spite of having a stronger tendency of vertical intra-industry trade, two-way trade in the region will provide the economies with more variety of products, bringing about the improved welfare.

The policy recommendations here include: to expedite the negotiations of CJK FTA and other region-wide FTAs. The negotiation should achieve wider range of liberalization in service trade and other domestic deregulations. Trade facilitations should be also listed as the important issues.

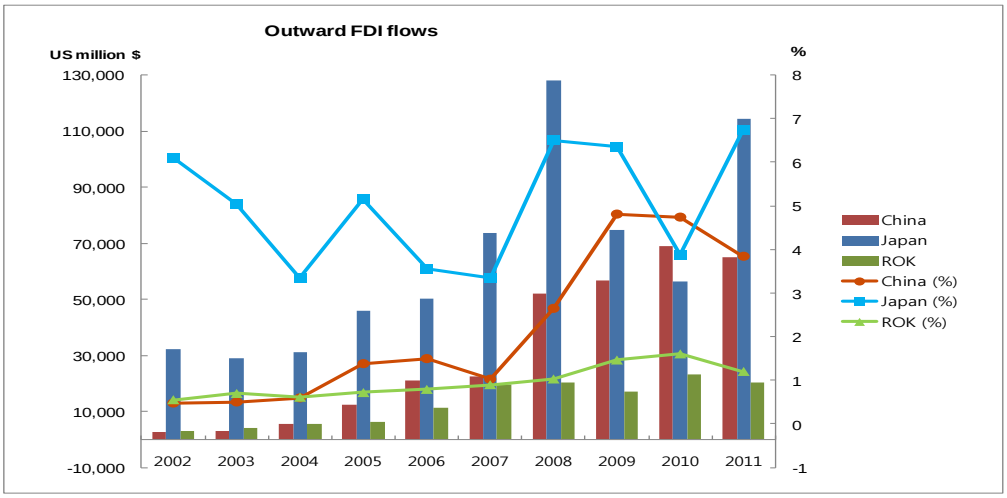
Chapter 3. Foreign Direct Investment

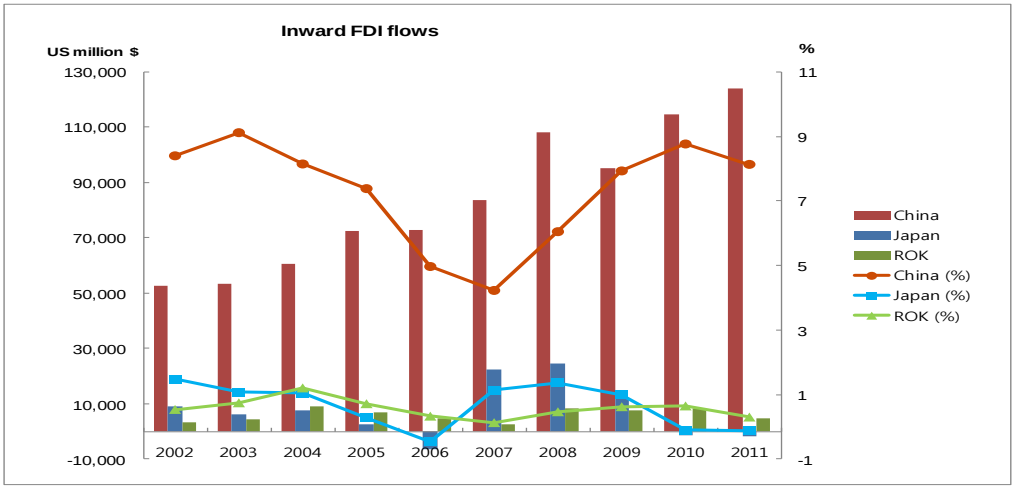
(1) FDI Trend and Structure in China, Japan, and ROK

Trend of Outward and Inward Direct Investment of CJK: Flow and Stock

While the net position of direct investment has remained surplus, China saw increase in both inward and outward foreign direct investment (FDI) (<Figures 3-1>). China receives a huge amount of FDI in the gross terms. More than 8 percent of the total outward FDI of the world went into China in 2011. The outward FDI from China was about 4 percent of the total outward FDI of the world. Japan's outward foreign direct investment was the largest among the three in 2011 and its share of FDI volumes in the world reached a little less than 7 percent. Japan poorly performed in attracting FDI. Recent inward FDI flows turned out to be negative, meaning net withdrawal. This has attracted attention of the policy makers of Japan, and new measures will be introduced to promote the inward direct investment to stimulate the industrial productivity in Japan. ROK's outward FDI has been stable at around US$20 billion since 2007 and FDI inflows to ROK have been stable but small, around $US 4 - 6 billion.

<Figure 3-1> Outward and Inward Flow FDI of China, Japan and ROK

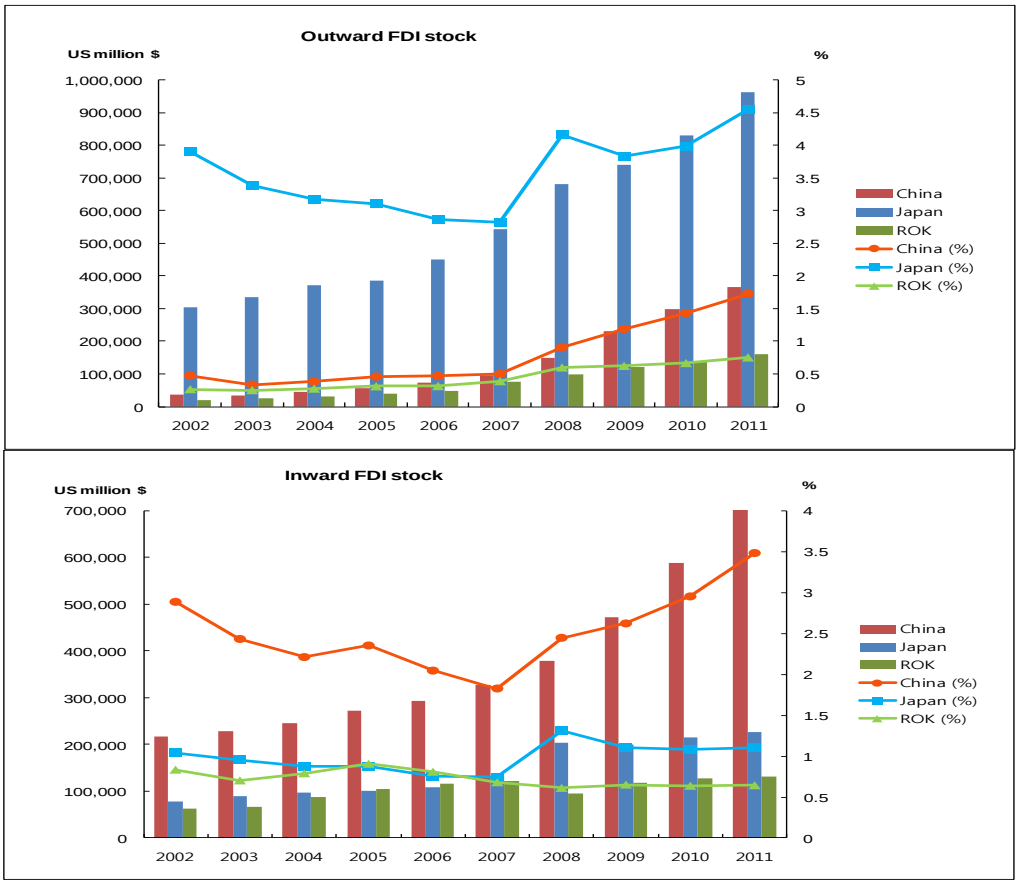




(Source) United Nations Conference on Trade and Development (UNCTAD), UNCTADstat.
(Note) Percentage in the right-hand scale denotes the world share.

In terms of the stock base figures, the shares of outward FDI stock increased in all of the three countries from 2007 to 2011 (<Figure 3-2>). The Global Financial Crisis triggered the reversal of the portfolio and direct investments from China and ROK by the financial institutions of the United States and Europe. However, China and ROK received weaker damage, especially in their financial sectors, in spite of lower growth. They could maintain or even increase the FDI outflows. In particular, the firms of ROK strategically continued to undertake the FDI to China in the period. Japan, while received the most serious damage from the Crisis among the three countries, accumulated the stock of outward FDI to almost US$1 trillion in 2011. This partly reflected the Merge and Acquisition (M&A) type FDI, by making use of the appreciation of yen. As for the stocks of inflow FDI, China became one of the most attractive FDI markets in the world after 2007 when the United States and European Union started to struggle with their economic management. China's inward FDI stock in 2011 surpassed US$700 million and her share in the world recorded 3.5 percent in 2011.

<Figure 3-2> Outward/Inward FDI Stock of China, Japan and ROK



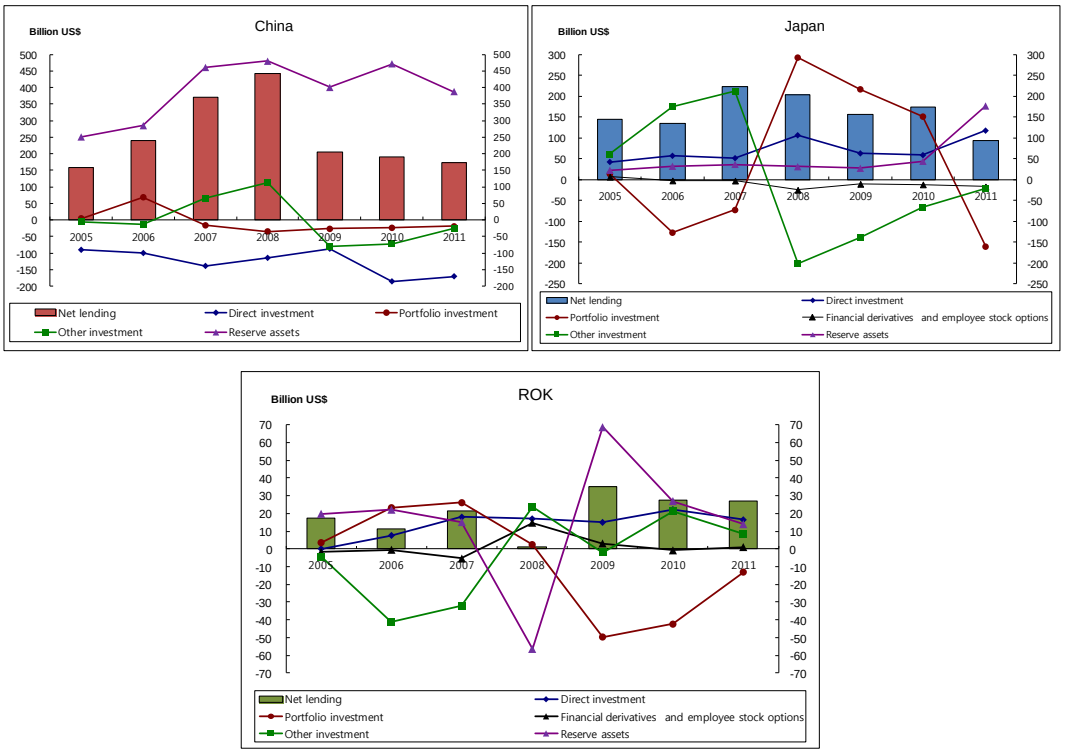
(Source) United Nations Conference on Trade and Development (UNCTAD), UNCTADstat.
(Note) Percentage in the right-hand scale denotes the world share.

Composition of Financial Account of CJK and Their Direct Investment

<Figure 3-3> illustrates balance and composition of financial accounts in China, Japan, and ROK. China is principally net recipient of FDI. As a whole, China recorded a huge surplus in current account, about 3 percent of GDP in 2011, and a moderate surplus in capital account, too. This means rapid accumulation of foreign reserves, which exceeds US$3 trillion in 2011. The structure of the balance of payments of ROK looks similar to China. ROK recorded big surplus in current account, about 2 to 4 percent of GDP. Capital account virtually balanced. Net lending, accordingly, recorded large surplus, and the foreign reserves of ROK amounted to more than US$300 billion in 2011 and thereafter. After a long period of current account surplus, about 3 to 5 percent of GDP, the current account of Japan rapidly deteriorated since 2011, recorded only US$60 billion surplus or

1.2 percent of GDP in 2012. Capital account of Japan recorded deficit since 2005, reflecting the large surplus of current account, except for 2011 when earthquake and tsunami hit the country. This means that Japan continued to see net capital outflow for the period, but the capital outflow, including FDI, will be shrinking, if the decline of current account surplus continues.

<Figure 3-3> Balance and Composition of Financial Accounts



(Source) IMF-IFS, BOP.

About the structure of financial investment, China continued to be net recipient of direct investment, and net lender of portfolio investment. The capital outflow by portfolio investment contributed to sustaining the current account surplus together with direct investment inflows. Both Japan and ROK were active direct investors. As for portfolio investment while both economies recorded net outflow in 2011, the net position of Japan deteriorated and that of ROK improved.

Partners of FDI of China, Japan and ROK

<Table 3-1> lists the top ten FDI partners for China, Japan, and ROK in terms of the amounts. For China (mainland), Hong Kong, China is the most important region for FDI, as 60 percent of China's FDI inflow comes from and about half of China's FDI outflow goes to it[17]. For Japan, France and the UK are the two major foreign direct investors. Japan makes the most direct investment outflow in the US, followed by the UK, Denmark, and China. ROK receives the most FDI from Japan. The US, Germany, the Netherlands, the UK are the next important overseas partners who invest into ROK. ROK invests into the US, as the first, and China, as the second. These two countries absorbed more than 40 percent of ROK's FDI outflow. The objectives of ROK's direct investment to China and the US may differ from each other. The direct investment to China aims to establish a production base in China. In contrast, the direct investment to the US may be an M&A of the existing firms, pursing a profit from the continued operations in the US.

<Table 3-1> FDI Flows by Region in 2011 (amounts: US$ million, shares: percent)

China							
Ranking	Country (Region)	FDI Inflow	Share	Ranking	Country (Region)	FDI Outflow	Share
1	Hong Kong, China	70,500	60.8	1	Hong Kong, China	35,655	47.8
2	Virgin Islands	9,725	8.4	2	Virgin Islands	6,208	8.3
3	Japan	6,330	5.5	3	Cayman Islands	4,936	6.6
4	Singapore	6,097	5.3	4	France	3,482	4.7
5	ROK	2,551	2.2	5	Singapore	3,269	4.4
6	United States	2,369	2	6	Australia	3,165	4.2
7	Cayman Islands	2,242	1.9	7	United States	1,811	2.4
8	Taiwan	2,183	1.9	8	United Kingdom	1,420	1.9
9	Samoan	2,076	1.8	9	Sudan	912	1.2
10	Mauritius	1,139	1	10	Russia	716	1
	Total	116,010			Total	74,654	
				14	ROK	342	0.5
				19	Japan	149	0.2
Japan							
Ranking	Country (Region)	FDI Inflow	Share	Ranking	Country (Region)	FDI Outflow	Share
1	France	3,518	-200.2	1	United States	14,441	12.6
2	United Kingdom	1,829	-104.1	2	United Kingdom	14,049	12.3
3	Singapore	782	-44.5	3	Denmark	12,932	11.3
4	Ireland	503	-28.7	4	China	12,582	11
5	ROK	198	-11.3	5	Brazil	8,186	7.2
6	Hong Kong, China	134	-7.6	6	Australia	8,132	7.1
7	Bermuda	118	-6.7	7	Thailand	6,984	6.1
8	China	111	-6.3	8	Netherlands	5,330	4.7
9	Taiwan	109	-6.2	9	Singapore	4,405	3.9
10	Israel	105	-6	10	Indonesia	3,602	3.2
	Total	-1,757			Total	114,302	
				11	ROK	2,435	2.1
ROK							
Ranking	Country (Region)	FDI Inflow	Share	Ranking	Country (Region)	FDI Outflow	Share
1	Japan	2,213	21.6	1	United States	6,213	23
2	United States	1,559	15.2	2	China	4,977	18.4
3	Germany	991	9.7	3	United Kingdom	1,384	5.1
4	Netherlands	872	8.5	4	Australia	1,251	4.6
5	United Kingdom	645	6.3	5	Hong Kong, China	1,244	4.6
6	Singapore	482	4.7	6	Indonesia	1,226	4.5
7	India	410	4	7	Canada	1,214	4.5
8	Canada	398	3.9	8	Singapore	980	3.6
9	France	337	3.3	9	Viet Nam	912	3.4
10	Hong Kong, China	292	2.9	10	Netherlands	884	3.3
	Total	10,247			Total	26,989	
14	China	158	1.5	27	Japan	130	0.5

(Source) China Statistical Yearbook 2012 and OECD.Stat Extracts <http://stats.oecd.org/>.

[17] It should be noted, however, that some part of the financial investment from mainland China may be returned and reinvested to the mainland, or invested to Taiwan.

<Table 3-2> shows the originating economy's ranking and shares in terms of the number of companies operating in China, Japan, and ROK. The ranking of registered foreign companies in mainland China is: Hong Kong, China, Taiwan, Japan, the US, and ROK. The ranking of foreign firms who operate in Japan (and whose capital is more than one-third) is: the US, Germany, France, Netherlands, the UK, and Switzerland. The ROK is number seven, following the six industrialized countries, then Taiwan, mainland China and Hong Kong, China. The ranking of foreign firms that operate in ROK is: Japanese, the US and China. More than a half of oversea firms in ROK come from the US and Japan.

<Table 3-2> Foreign Companies in China, Japan, and ROK

China in 2011

Number of registered enterprises with foreign capital

Ranking	Country (Region)	Number	Share (%)
1	Hong Kong, China	122,317	42.3
2	Taiwan	25,470	8.8
3	Japan	22,790	7.9
4	United States	20,855	7.2
5	ROK	18,082	6.3
6	Virgin Islands	13,840	4.8
7	Singapore	8,729	3
8	Macao, China	4,466	1.5
9	Canada	4,387	1.5
10	Germany	4,271	1.5
	Total	288,856	

Japan in 2010

Number of foreign affiliated companies, more than one-third of whose capitals are owned by foreigners

Ranking	Country (Region)	Number	Share (%)
1	United States	924	29.4
2	Germany	315	10
3	France	199	6.3
4	Netherlands	187	6
5	United Kingdom	170	5.4
6	Switzerland	159	5.1
7	ROK	146	4.6
8	Taiwan	129	4.1
9	China	125	4
10	Hong Kong, China	108	3.4
	Total	3,142	

Korea in 2008

Number of foreign firms with at least 10 percent of their assets financed by foreigners, excluding foreign liaison offices

Ranking	Country (Region)	Number	Share (%)
1	Japan	2,373	29.1
2	United States	1,854	22.7
3	China	445	5.5
4	Germany	412	5
5	Singapore	334	4.1
6	Hong Kong, China	320	3.9
7	United Kingdom	265	3.2
8	France	218	2.7
	Total	8,162	

(Source) China Trade and External Economic Statistical Yearbook 2012.
25th Survey of Trends in Business Activities of Foreign Affiliates, Ministry of Economy, Trade, and Industry of Japan, 2011.
2009 Statistical Yearbook of National Tax, National Tax Service, ROK.

FDI by Sector in China, Japan and ROK

<Table 3-3> indicates the three countries' FDI inflows and outflows by sectors in 2011. As for inflow, approximately a half of FDI coming into China goes to the service sector, and 45 percent of it, to the manufacturing sector. As for Japan, a net FDI of US2.5 billion flew into the manufacturing sector in 2011. But, in overall, foreign investors withdrew a large amount of direct investment from the Japanese service sector, more than offsetting the inflow to the manufacturing sector. ROK attracts 62 percent of FDI inflow into service sector, and 38 percent into the manufacturing sector.

<Table 3-3> FDI by Sector / Industry in 2011 (US$ million, percent)

FDI Inflow	China		Japan		ROK	
Sector	Value	Share	Value	Share	Value	Share
Agriculture, Forestry, Animal Husbandry and Fishery	2,009	1.70%	-6	0.40%	4	0.00%
Mining	613	0.50%	1	-0.10%	4	0.00%
Manufacturing	52,101	44.90%	2,481	-141.20%	3,910	38.20%
Production and Supply of Electricity, Gas and Water	2,118	1.80%	0	0.00%	30	0.30%
Construction	917	0.80%	-66	3.80%	-26	-0.30%
Service and others	58,253	50.20%	-4,167	237.10%	6,325	61.70%
Total	116,011	100.00%	-1,757	100.00%	10,247	100.00%
FDI Outflow	China		Japan		ROK	
Sector	Value	Share	Value	Share	Value	Share
Agriculture, Forestry, Animal Husbandry and Fishery	798	1.10%	234	0.20%	106	0.40%
Mining	14,446	19.40%	16,293	14.30%	6,652	24.60%
Manufacturing	7,041	9.40%	57,111	50.00%	10,286	38.10%
Production and Supply of Electricity, Gas and Water	1,875	2.50%	0	0.00%	513	1.90%
Construction	1,648	2.20%	435	0.40%	304	1.10%
Service and others	48,846	65.40%	40,229	35.20%	9,129	33.80%
Total	74,654	100.00%	114,302	100.00%	26,989	100.00%

(Source) China Statistical Yearbook 2012 and OECD. Stat Extracts <http://stats.oecd.org/>.

As for outflow of FDI, more the 60 percent of China's outward FDI flew into service sectors, and 20 percent of it into mining sector. Japan and ROK, on the other hand, invest the most into the overseas' manufacturing sector and, as the second, into the service sector. The amount of Japan's FDI outflow to the manufacturing sector is spectacular among the three countries. All of the three countries conduct a large amount of FDI in mining sector from 15 to 25 percent share in its total FDI outflow.

(2) Intra-regional Foreign Direct Investment among China, Japan, and ROK

Bilateral FDI Relations among CJK

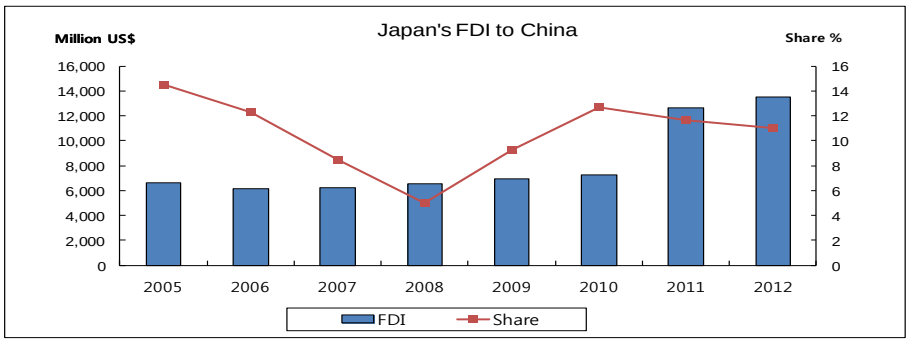
Among the three economies, Japan and ROK are the important direct investors for China as their rankings are the third and the fifth respectively in terms of both the value of FDI inflow into China and the number of registered foreign firms in China in 2011 (<Figure 3-1> and <Figure 3-2>). For Japan, China is one of the four largest FDI destinations in 2011. Japan's direct investment to China recorded about US$12.6 billion and the share in Japan's total outward FDI reached 11 percent. For ROK, Japan is the largest and dominant direct investor into ROK as the share of Japan in the total value of FDI inflow into ROK surpassed one-fifth in 2011. China is the second most attractive foreign country, next to the US, for ROK's outward direct investment.

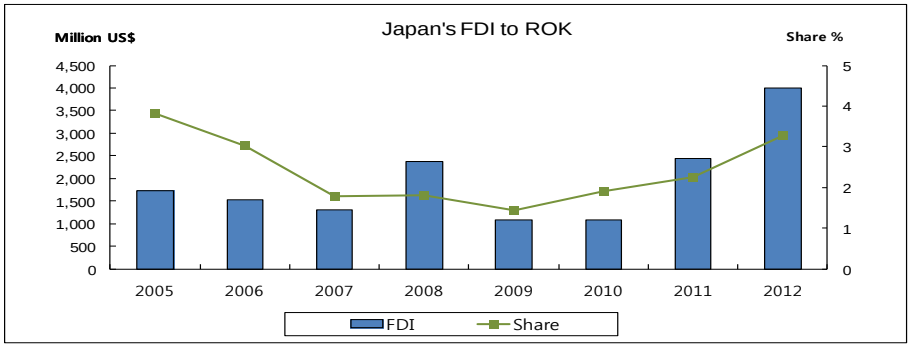
The capital flows in the form of direct investment set the foundation for establishing the vertical trade integrations and formation of the production networks. A large amount of FDI flows into China from Japan and ROK. FDI is used to set up affiliates of Japan and ROK in China. They produce manufacturing goods in China, much of them being final goods. These goods are exported to the world including Japan and ROK. At the same time, Japan and ROK receive income arising from direct investments.

Recent Development in FDI in China, Japan and ROK

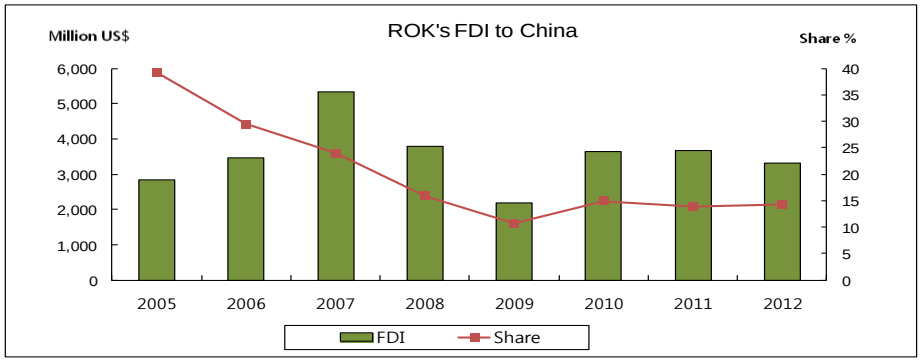
<Figure 3-4> illustrates Japan's recent outward FDI flows to China and ROK as well as ROK's outward FDI flows to China. Japan's FDI to China which had been stable up to 2010 increased sharply in 2011. In 2012, Japan conducted 13.5 billion US dollars of direct investment in China, recording the highest number to date. However, its share in total has been slightly decreasing since 2010. About 40 percent of ROK's outward FDI was into China in 2005 but that share continued to decline until 2009 and has kept around 15 percent in the last three years. It is notable that both the value and share of Japan's outward FDI flow to ROK has been on a upward trend since 2009. In 2012, Japan invested approximately 4 billion US dollars in ROK, which was the largest figure in the past few years.

<Figure 3-4> Outward FDI Flows from Japan and ROK





(Source) JETRO, <http://www.jetro.go.jp/world/japan/stats/fdi/>.



(Source) Korea Eximbank, <http://www.koreaexim.go.kr/en/fdi/invest_01.jsp>.

Bilateral FDI Flows of China, Japan and ROK by Sector

Sector-based analysis provides a good observation on the motivation and strategies of FDI investors between CJK. The most of Japan's and ROK's FDI to China flows into manufacturing sector (<Table 3-4> and <Table 3-5>). The concentration on manufacture is more prominent for the ROK investors (70 percent) than Japanese

investors (51 percent). Transportation equipment, electric machinery, and general machinery are the three major manufacturing sectors that Japan invests in China. Possibly, the tendency is shared by the FDI investors from ROK, although the breakdown of the data is not available.

As for the FDI to the non-manufacturing sector in China, wholesale and retail is a popular area for Japan's direct investors. Many of them are manufacture-related commerce, while recent extension of prominent retail business including the "convenient stores" is notable. Those of ROK, on the other hand, invests more on real estate and rental industry than wholesale and retail industry in the non-manufacturing sector. Financial services, which are supposed to have greatest potential in the Chinese market, take a reasonable share for Japanese investors (8 percent on the stock base), but that is low for those from ROK (1 percent).

Japan's FDI behaviors towards ROK are different from those towards China. First, Japan's FDI to ROK goes almost equally to both manufacturing and service sectors. Second, for the Japanese companies, chemicals and pharmaceuticals is the most invested industry in the manufacturing sectors. Third, wholesale and retail is not the most attractive industry for Japan's direct investors among the non-manufacturing sectors, but finance and insurance as well as services are rather the main industries that receive direct investments from Japan.

<Table 3-4> Japan's Outward FDI Flow and Stock to China and ROK by Industry in 2012

	China				ROK			
	Flow		Stock		Flow		Stock	
Industry	100 million Yen	Share %	100 million Yen	Share %	100 million Yen	Share %	100 million Yen	Share %
Manufacturing (total)	7,334	68.17	58,986	73.31	1,870	58.49	11,293	51.12
Food	211	1.96	2,875	3.57	19	0.59	107	0.48
Textile	186	1.73	1,209	1.5	3	0.09	-	-
Lumber and pulp	339	3.15	1,976	2.46	5	0.16	20	0.09
Chemicals and pharmaceuticals	690	6.41	5,812	7.22	985	30.81	3,957	17.91
Petroleum	4	0.04	55	0.07	108	3.38	533	2.41
Rubber and leather	219	2.04	1,825	2.27	9	0.28	-	-
Glass and ceramics	108	1	1,581	1.97	148	4.63	1,661	7.52
Iron, non-ferrous, and metals	729	6.78	5,086	6.32	46	1.44	1,514	6.85
General machinery	1,375	12.78	8,817	10.96	125	3.91	829	3.75
Electric machinery	1,035	9.62	11,882	14.77	382	11.95	1,763	7.98
Transportation equipment	2,257	20.98	14,667	18.23	84	2.63	443	2
Precision machinery	1	0.01	968	1.2	-	-	-	-
Non-manufacturing (total)	3,425	31.83	21,477	26.69	1,327	41.51	10,800	48.88
Farming and forestry	-	-	20	0.03	-	-	-	-
Fishery and marine products	-	-	-	-	-	-	-	-
Mining	-	-	-	-	-	-	-	-
Construction	10	0.09	112	0.14	77	2.41	1,661	7.52
Transportation	124	1.15	612	0.76	15	0.47	121	0.55
Communications	112	1.04	314	0.39	388	12.14	710	3.21
Wholesale and retail	1,572	14.61	8,635	10.73	195	6.1	1,310	5.93
Finance and insurance	494	4.59	6,575	8.17	251	7.85	3,024	13.69
Real estate	803	7.46	3,294	4.09	6	0.19	90	0.41
Services	303	2.82	1,256	1.56	232	7.26	3,519	15.93
Total	10,759	100	80,463	100	3,197	100	22,093	100

(Source) Bank of Japan, <https://www.boj.or.jp/statistics/br/bop/index.htm/>.

<Table 3-5> ROK's Outward FDI flow to China by Industry in 2012

Industry	Thousand US$	Share %
Agriculture, forestry and fishing	1,893	0.06
Mining and quarrying	9,538	0.29
Manufacturing	2,303,978	69.62
Electricity, gas, steam and water supply	-	-
Sewerage, waste management, materials recovery and remediation activity	2,458	0.07
Construction	6,217	0.19
Whole sale and retail trade	162,738	4.92
Transportation	39,365	1.19
Accommodation and food service activities	21,148	0.64
Information and communications	36,693	1.11
Financial and insurance activities	42,682	1.29
Real estate activities and renting and leasing	613,987	18.55
Professional, scientific and technical activities	49,297	1.49
Business facilities management and business support services	12,007	0.36
Public administration and defense; compulsory social security	-	-
Education	2,304	0.07
Human health and social work activities	-	-
Arts, sports and recreation related services	2,123	0.06
Membership organizations, repair and other personal services	2,329	0.07
Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use	-	-
Activities of extraterritorial organizations and bodies	-	-
N/A	407	0.01
Total	3,309,164	100

(Source) Korea Eximbank, <http://www.koreaexim.go.kr/en/fdi/invest_01.jsp>.

(3) Policy Implications and Recommendations for Promoting Foreign Direct Investment among China, Japan, and ROK

There were three bilateral investment agreements which came into force in 1989 between China and Japan, in 2003 between Japan and ROK, and in 2007 between China and ROK. On May 13th, 2012, the Trilateral Investment Agreement among China, Japan, and ROK was signed in Beijing. The Trilateral Investment Agreement has not been reached as high-standard as Japan-ROK bilateral investment agreement in terms of liberalization. But it will give foreign investors more protections and more equal status in comparison with domestic investors than the present bilateral agreements between China and Japan, and China and ROK. This will definitely improve Japan's and ROK's investment environments in China and help their business to become more active.

While the conclusion of the Trilateral Investment Agreement is a significant first step to liberalize and facilitate direct investment among the three countries, there remain several critical issues. There are suggestions for further liberalization of investment by stipulating national treatment (NT) at the pre-establishment stage of investments and by adopting a negative list method to make specific commitments in each area of investments. More protection could be offered to foreign investors by prohibiting performance requirements in wider areas including domestic sales, local employment, nationality of executive officers, and establishment of operational headquarters. It is also advisable that more strict rules on intellectual property right are set out among the three countries. These are the issues that can be improved and covered in the trilateral FTA among China, Japan, and ROK under negotiations.

According to 'Doing Business 2013' by the World Bank, ROK is the 8th most ideal country among 185 countries for enterprises to do business. Japan ranks 24th and China is 91st. ROK's business environments are pretty good compared to Japan and China but it has a room for improvement on the fields of investors' protection and property registration. Japan on the other hand needs to relax the restrictions on business commencement, construction permits, and property registration and lower taxes. In China, public institutions function well comparatively in the case of commercial dispute, but other business environments are not as good as ROK's and Japan's. In particular, China

and Japan can make a lot more efforts to increase their ranking of ‘Doing Business’ by conducting structural reforms in order to give foreign companies more accessible business environments.

Recent growth rate of Japan’s FDI outflows to China is getting slow, and ROK’s outward FDI to China is declining in the past few years. Wage increases and additional social security cost as well as economic slowdown in China are major reasons behind these sluggish trends of FDI toward China. China may be facing an industrial transition period at which service sectors are going to play a greater role in its economy and therefore liberalization of service sectors is becoming much more important measures to attract more direct investment from overseas. Further liberalization and protection of services among the three countries should also be committed under the currently negotiating trilateral FTA.

Chapter 4. Financial Development

(1) Development of Financial Markets and Institutions in China, Japan and ROK

Recent Development of the Financial Environment of China, Japan and ROK

After the Global Financial Crisis, the macroeconomic environment in China, Japan and ROK was generally favorable to the financial institutions and markets. <Table 4-1> summarizes the major economic and financial indicators, drawing on from <Table 1-2>, <Table 1-3> and <Table 1-4>, used for the macroeconomic assessment in Chapter 1.

<Table 4-1> Macroeconomic Environment to Financial Sector in China, Japan and ROK

	2008	2009	2010	2011	2012
China					
CPI Inflation	5.9	-0.7	3.3	5.4	2.7
Fiscal Balance (% of GDP)	0.9	-1.1	-0.7	0.1	-0.4
Policy Interest Rate	2.79	2.79	3.25	3.25	3.25
M2 Growth	17.8	27.6	19.7	17.3	14.4
Exchange rate (yuan/$US)	6.95	6.83	6.77	6.46	6.31
Japan					
CPI Inflation	1.4	-1.4	-0.7	-0.3	0.0
Fiscal Balance (% of GDP)	-4.1	-10.4	-9.3	-9.9	-10.2
Policy Interest Rate	0.5	0.3	0.3	0.3	0.3
M2 Growth	2.1	2.7	2.8	2.7	2.5
Exchange Rate (yen/US$)	103.4	93.6	87.8	79.8	79.8
ROK					
CPI Inflation	4.7	2.8	2.9	4.0	2.2
Unemployment	3.2	3.6	3.7	3.4	3.2
Fiscal Balance (% of GDP)	-1.5	-4.1	-1.1	-2.0	-1.0
Policy Interest Rate	1.75	1.25	1.25	1.5	1.25
M2 Growth	12.0	9.9	6.0	5.5	4.8
Exchange Rate (won/US$)	1102	1277	1156	1108	1126

(Sources) IMF-IFS, Central Banks of CJK.

Facing the recent slowdown in the advanced economies in early 2013, all the three countries have resorted to monetary ease. Policy interest rates continued to be at very low levels. On the other hand, money supply has been under control, and inflation is contained. The risks to the financial sector in China, Japan and ROK will be the expected reversal of capital to the United States, owing to the tapering of quantitative ease in the future. Another risk will be the possibility of recession and macroeconomic management in China and ROK. Consolidation of fiscal balance in Japan will also constitute a risk.

Development of financial sectors in CJK: At a glance

The World Bank has compiled the Global Financial Development Database that includes four sets of indicators: (i) a size of financial institutions and markets, namely "financial depth"; (ii) degree to which individuals can and do use financial services, namely "financial access", (iii) efficiency of financial intermediaries and markets in intermediating resources and facilitating financial transactions, namely financial efficiency; and (iv) stability of financial institutions and markets, namely "financial stability". In the framework of the database, a country has altogether eight entries of indicators.

Empirical literature has shown a link between financial depth (i.e. size) and long term economic growth. For the period from 2008 to 2012, the financial institutions and financial markets in CJK have sufficient depth, well above the world average (<Table 4-2>). The selected indicators here are private sector credit to GDP, and stock and bond market capitalization to GDP. Among CJK, Japan leads, ROK follows, and China comes last. However, the indicators of the United States recorded higher than those of Japan, implying that there are rooms for further development for CJK.

<Table 4-2> Financial Development Indicators in China, Japan and ROK

Financial Insitutions						Financial Markets					
	China	Japan	ROK	USA	World		China	Japan	ROK	USA	World
Depth											
Private sector credit to GDP	114	175	101	197	58	Stock and private bond market capitalization to GDP	196	317	243.7	350	89
Access											
adults with account at a formal financial institutions to total adults	64	96	93	88	64	market capitalization outside of top 10 largest companies	72	63	67	72	46
Efficiency											
Net interest margin	2.66	1.09	2.85	3.47	4.05	Turnover ratio in stock market	169	119	200.1	278.8	23
Bank overhead cost to total asset	1.20	0.83	1.53	2.79							
Stability											
Bank Z-score	20	11	7	24	13	Volatility of stock price index	41	29	42	29	33

(Source) World Bank, "Global Financial Development Database". IMF.
(Note) Figures are simple average of annual data for the period 2008 – 2011.

On the effective provision of financial services, the selected indicators here are the percentage of adults with accounts at a formal financial institution to total adults, and the percentage of market capitalization outside of top ten largest companies. The former indicator as a proxy of access to financial institutions, shows that Japan and ROK

outperforms even the US, while China lags behind. For the latter, as a proxy of access to financial markets, China outperforms Japan and ROK, performing as well as the US. However, the implication should be drawn cautiously. In China, the degree of concentration is comparatively low with greater access to finance for newer or smaller issuers. The value of indicator tends to show upward bias because there are more than ten large state-owned enterprises.

The efficiency category represents the costs of intermediating credit and productivity of the financial institutions and markets. The selected indicators are: net interest margin and bank overhead cost to total asset, for efficiency of institutions; and stock-market turnover ratio for the efficiency of financial market. While the US generally outperforms CJK for both indicators, Japan's performance is poor. Low profitability has been chronic weak point for the financial system, banks in particular, in Japan. Stock market is less active. This implies the need for further reforms in the financial sector in Japan to improve efficiency. The banks in China are profitable, but their overhead costs are not low. This is due to the rapid economic growth and high demand for fresh finance. However, the "shadow banking" issue emerged as a major concern. The financial system appears to be very profitable, owing to high rates of interest. With response to the decision in G20, the Chinese authorities will disclose more information on this issue. The ROK does perform well in terms of efficiency and this probably reflects the reforms undertaken after the Asian Economic Crisis.

On the stability, the selected indicators are: z-score for stability of institutions, and volatility of stock market for the market stability. The former reflects the relative safety, comparing financial buffers to the potential of risks. A higher z-score implies a lower probability of insolvency. In spite of the experience of a crisis in banking sector in late 1990s, the indicators of the banks show lower figures in Japan and ROK. This implies necessity of further reforms. China performed well in terms of z-scores. However, due to the shadow banking, the z-score only reflects an accounting data of the registered banks. Overall, financial sector in CJK has a room for further improvement, especially in comparison with the US.

(2) Financial Integration of China, Japan and ROK

Measuring Financial Integration: Two Approaches

To measure the degree of financial integration, it would be ideal to use data of bilateral capital flows between the countries. However, constraints of data availability[18] force the researchers to use indirect measures for the financial integration in most cases. The existing literature that directly examines the data of financial market relied on two different approaches to measure international financial integration: (i) the volume-based approach and (ii) asset price-based approach.

Volume-Based Approach (CJK Financial Integration into the World)

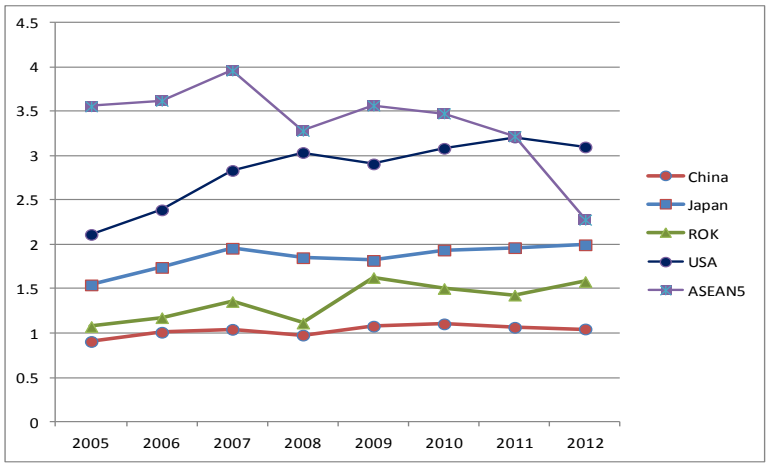
The volume-based approach[19] measures the degree of financial integration by using data on a country's portfolios of external assets and liabilities. One of the recommended measures with this approach is the level of international asset cross-holdings.

The indicator shows gradual increase in financial integration of CJK into the international market since 2005, except for the crisis period (<Figure 4-1>). The level of the indicator of the US is much higher than CJK. Rather surprisingly, the indicator of ASEAN5 was even higher. Lane et.al (2003) reported that the average figure of 14 advanced countries in 2001 was around 2.2. Compared to the level, the financial integration in CJK has been still low, and has a room for further improvement.

[18] Only the Treasury International Capital System (TIC) of the US provides bilateral capital flows data between the US and counterparts.

[19] Lane, P. Milesi-Ferretti, M. "International Financial Integration," (2003). *IMF Staff Papers*, Vol. 50. Special issue.

<Figure 4-1> Volume based measure of Financial Market Integration[20]



(Source) Calculation of the research team, based on: IMF Balance of Payment Statistics.

Examining details of assets and liabilities provides more information on the trend of financial integration in CJK (<Table 4-2>). The assets of both direct investment and portfolio investment of China are small. Major part of China's assets is reserves, amounting to above 0.4 of GDP. In contrast to assets, China has accumulated huge liabilities of direct investment. In terms of financial stability, it is often argued that withdrawal of FDI investment takes costs, thus the dominance of FDI reduces the financial volatility.

<Table 4-2> Volume-based Financial Integration Measure:
Cross-border Assets and Liabilities to nominal GDP

	2005	2006	2007	2008	2009	2010	2011	2012
Assets								
Direct Investment Assets								
China	0.03	0.03	0.03	0.04	0.05	0.05	0.06	0.06
Japan	0.09	0.10	0.13	0.14	0.15	0.15	0.16	0.18
ROK	0.05	0.05	0.07	0.11	0.14	0.14	0.15	0.17
Portfolio Investment Assets								
China	0.05	0.10	0.08	0.06	0.05	0.04	0.03	0.03
Japan	0.46	0.54	0.58	0.49	0.57	0.60	0.57	0.59
ROK	0.06	0.10	0.15	0.08	0.12	0.11	0.09	0.12
Liabilities								
Direct Investment Liabilities								
China	0.21	0.23	0.20	0.20	0.26	0.26	0.26	0.26
Japan	0.02	0.03	0.03	0.04	0.04	0.04	0.04	0.04
ROK	0.12	0.12	0.12	0.10	0.15	0.13	0.12	0.13
Portfolio Investment Liabilities								
China	0.03	0.04	0.04	0.04	0.04	0.04	0.03	0.04
Japan	0.34	0.40	0.45	0.32	0.31	0.34	0.34	0.35
ROK	0.37	0.37	0.44	0.27	0.47	0.48	0.43	0.52

(Source) IMF

[20] (cross-border assets + cross-border liabilities) / GDP (percent).

Portfolio investment takes a major share in assets of Japan, while direct investment is also an important way to invest. The most notable feature of financial structure in Japan is the extremely low share of direct investment in liabilities. Opening up the direct investment inflows is a central issue for the growth strategy of Japan. For ROK, portfolio investment takes a large share in liabilities. This may reflect the structural reform in early 2000s. The share has been increasing. In overall, the financial integration, measured in the volume based approach, has not been strong in CJK. Existing empirical literature identified the factors determining the international financial integration in terms of cross-border financial transactions. The significant variables are trade openness, GDP per capita, financial depth, stock market capitalization, and cumulative privatization in financial sector. This implies that CJK should undertake further reform measures, including trade liberalization, deregulation in stock market and privatization in financial markets. At the same time, the authorities should take macro-prudential measures, to maintain and improve the risk management of financial sector against foreign capital reversal.

Asset Price-based Approach: Real Interest Parity Test (Intra-Financial Integration in CJK)

Asset price based approach assumes a conversion of prices of financial assets internationally. The most straightforward method is the real interest parity test, relying on the idea that real rates of interest on financial assets like bonds will tend to converge in integrating financial markets. This methodology can test the bilateral integration and the evolution of the degree of integration over time. In accordance with major literature[21], the following estimate is undertaken here to examine the cross-country real interest rate differentials for China, Japan, ROK, and the US for reference. The hypothesis is that the real interest differentials would be small in absolute value in integrated markets, and they will show a decreasing trend over time if the markets are integrating.

<Table 4-3> summarizes the estimation results. All the combinations of countries in this estimate have statistically significant estimators, both in pre-crisis and post-crisis periods. The long-term interest rate differentials do exist for all the

[21] Goldberg, Lothian and Okunev (2003).

combinations, implying incomplete financial market integration. The levels of long-run interest rate difference vis-à-vis China are larger. The financial market of China maintained a rather isolated position. In contrast, the estimators of Japan and ROK demonstrate their stronger integration between themselves as well as with the US. Moreover, the estimated long-term interest differential between Japan and ROK is smaller than those with the US, showing stronger convergence than with the US. Overall, the financial integration in the regional level, among CJK, continues to be weak except between Japan and ROK.

<Table 4-3> Real Interest Rate Parity Test

		China	Japan	ROK	USA
China	Pre-crises		3.57	3.49	3.69
	Post-crises		1.82	2.71	4.56
Japan	Pre-crises			-0.16	0.23
	Post-crises			0.67	2.63
ROK	Pre-crises				0.41
	Post-crises				1.93
USA	Pre-crises				
	Post-crises				

(Source) Estimate by the research team, using IMF-IFS.
(Note) 1. Upper figures of the entries show the pre-Global Financial Crisis, January 2000 – July 2009. Lower figures, August 2009 – May 2013.
2. All the estimates are significant at the 10 percent level. Yellow shadow represents the difference of the coefficients between the periods before- and after-crisis are significant at the 10 level.

Implication from Financial Integration Tests

The CJK economies have shown the financial integration with global economies to the greater extent than among themselves, except for Japan – ROK relation. The finding here implies that the regional feature is weak and there is no strong anchor market that would match the US market. Global integration is not a force that competes with regional integration. However, the agenda of regional market integration and deepening, especially in the scale of ASEAN+3, is alive and its direction needs to focus on creation of a market mechanism that will endogenously bring forward real interest rate differentials to be reduced at the regional level.

Another important implication from this chapter is the importance of trade openness that is closely related to the degree of financial integration. This implies that economic cooperation among CJK is a multi-facet process rather than single-track process. Financial development and economic growth of each economy in the region is also an important factor that we should consider in the multilateral frameworks. However, a standard set of policy recommendations still apply to CJK, that the financial development does require further reforms in financial institutions and strengthened financial infrastructure and supervising system.

Finally, regional cooperation mechanisms in East Asia will significantly contribute to the development of financial sector in CJK. A notable measure is Asian Bond Market Initiative of ASEAN+3.

(3) Bond Market of China, Japan and ROK

The markets of local currency bond have steadily expanded in CJK. Especially the corporate bond in China and ROK, and the government bond in Japan have grown rapidly since 2005. When the Global Financial Crisis subdued from the end of 2009 to the first quarter of 2013, the size of local currency bond market for corporate bond of China and ROK expanded by 144 percent and 56 percent, respectively, while that of Japan declined by 8 percent. In contrast, the size of government bond in CJK expanded by 34 percent, 15 percent, and 26 percent, respectively, reflecting the expanded government deficits[22].

The expansion of market size of corporate bond was particularly much more rapid in China and ROK, while that of government and corporate bonds approximately matched. In terms of GDP ratio, the market sizes of local currency bond in CJK were 45.7, 212.6 and 123.0 percent in the fourth quarter 2012. The large ratio of Japan reflects the huge accumulation of government debt, amounting more than 200 percent of GDP. Out of 213 percent of bond market size, government bond takes a share of 195 percent. The corporate bond takes remaining 18 percent, only. The market of China is more balanced, 33 percent for government bond and 13 percent for corporate bond. The

[22] Asian Development Bank (2013), "Asia Bond Monitor".

corporate bond in ROK outweighs the government bond, 75 percent for corporate and 48 percent for government.

In 2013, taxes on local government bonds were eliminated in China; ROK revised Financial Services and Capital Market Act, establishing a central counterparty clearing house for derivatives.

Chapter 5. Movement of People

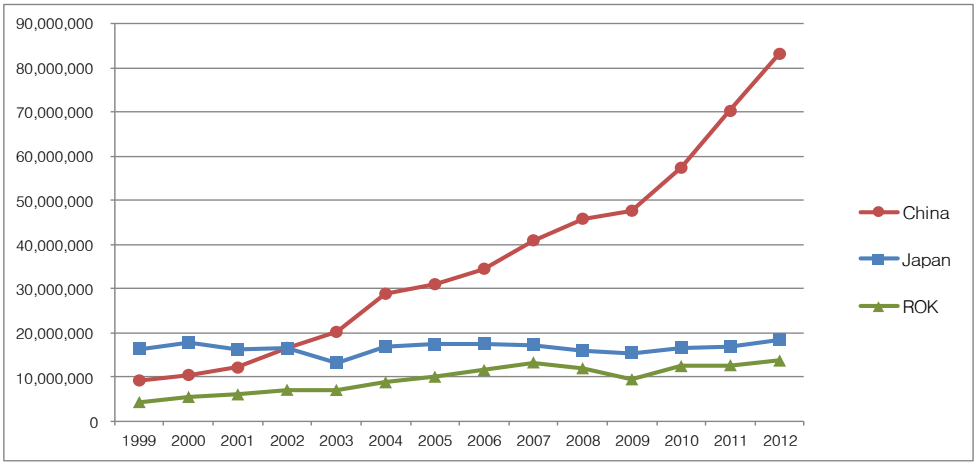
People's movement and exchange in the region has important implications for the economic cooperation and integration. In line with the report last year, this chapter examines two issues.

(1) Tourists Movement of China, Japan and ROK

Outbound and Inbound Tourists of China, Japan and ROK: Trends

There is a long-term increasing trend of international tourists, both inbound and outbound, of China, Japan and ROK. The consumption of international tourism usually increases more rapidly in high-growth developing economies like China. The number of outbound tourists (visitors) of China, Japan and ROK increased to 7.61 times, 1.13 times and 3.16 times from 1999 to 2012, (<Figure 5-1>). The growth rates of outbound tourists recorded much greater increase than their economic growth rates for the same period.

<Figure 5-1> Outbound Visitors of China, Japan and ROK



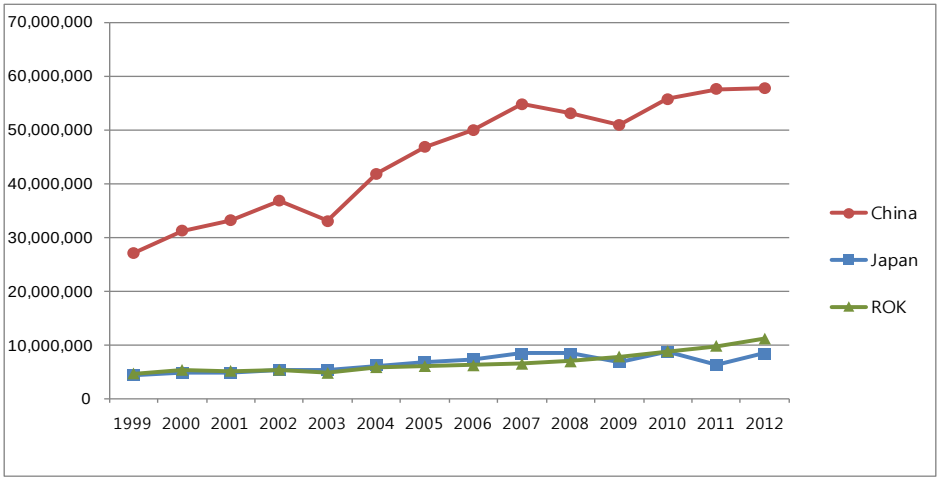
(Source) World Bank.

The ranking of the destinations of the CJK outbound tourists shows their strong geographical preference. The most visited destinations of mainland Chinese visitors are Hong Kong, China, followed by other Asian developing economies. ROK comes as fourth, and Japan, tenth. Japanese visited the US most, but the second most visited

destination is China, and third, ROK. France and Germany come within top ten in ranking. The most frequently visited destination for the Korean is China, followed by Japan, the US and other Asian countries. The difference in rankings may reflect the income levels and travel costs as well as the preference. Language barriers appear to be important to Chinese visitors.

The inflow of tourists means service exports. Almost all countries in the world, including CJK, undertake promotion policies to attract foreign tourists, and make profits from tourism services. The numbers of inbound tourists to CJK recorded substantial increases (<Figure 5-2>). During the period of 1999 – 2012, the inbound visitors to CJK increased to 2.13 times, 1.88 times and 2.39 times, respectively. However, the growth rates of inbound tourists (visitors) are lower than those of outbound tourists (visitors), except for Japan. The difference reflects the very rapid economic growth of China and ROK. The numbers of the inbound tourists are mainly determined by the income level, exchange rates and other economic factors of incoming tourists from foreign countries with lower economic growth than China and ROK. As for Japan, the earthquake and tsunami disaster, followed by the accident of nuclear plant, brought about the reduction of incoming tourists in 2011.

<Figure 5-2> Inbound Visitors to China, Japan and ROK



(Source) National sources.
(Note) China: overnight visitors, including visitors from Hong Kong and Macau.
Japan: foreign travelers, ROK: overnight visitors.

Strong Ties in Tourism between CJK

Significant people in CJK enjoy their trip within the region. China, Japan and ROK are good customers to each other in terms of tourism. As for the shares of inbound visitors to one of CJK, the other two countries always take the ranking of top two countries of incoming tourists. The combined shares of intra-regional inbound tourists in 2012 were 29 percent for China, 43 percent for Japan, and 54 percent for ROK. The strong tie provides the sources of income from service exports by tourism. <Table 5-1> demonstrates the travel service exports and imports between CJK. In 2012, the combined share of travel service export (credit) from China and Japan accounted for about 55 percent of ROK's travel service credit in total. The corresponding ratio for Japan was 43 percent. However, for China, the ratio was only 11 percent[23].

<Table 5-1> Travel Service Trade between China, Japan and ROK

	Travel Sevce Credit (US$milion) 2012			CJK
	China	Japan	ROK	Share (%)
China		3161	2108	11
Japan	4350		1984	43
ROK	3596	4187		55

(Source) Balance of payment statistics of Japan and ROK. IMF-BOP.
(Note) The countries in the column indicate exporters of travel services.

An analysis on outbound tourists between CJK would give an overview on the integration of CJK. Intensity index may capture the degree of relative bias toward the bilateral tourism[24].

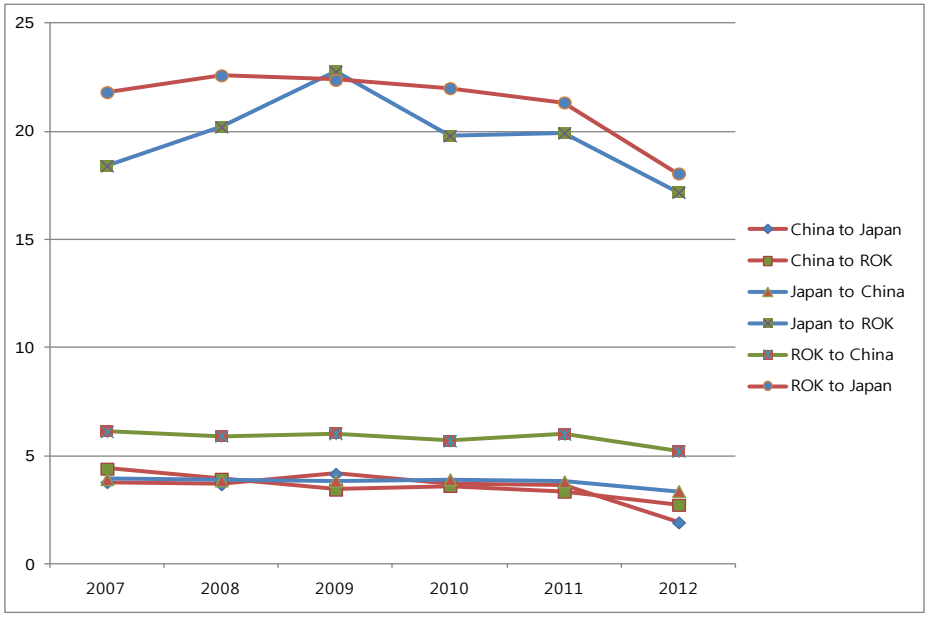
<Figure 5-3> shows the recent development of the intensity index for the outbound tourism. As the first observation, all bilateral tourisms among CJK recorded high levels of intensity, especially those between Japan and ROK. The geographic proximity contributes very strongly to the large values of indexes, granting an opportunity of cheaper travel. Moreover, tourists of these two countries must have had a

[23] This reflects the credit from travel services purchased by the foreign Chinese whose number is as many as four times of the other foreigners.

[24] The definition of the index, similar to trade intensity index, in the case of outbound tourists from China to Japan is as follows: $[(X_{cj})/(X_c)]/[\,M_j/M_W - M_c)]$, where X_{cj} means number of outbound tourist from China to Japan, X_c is the number of outbound tourists of China, and M_W is number of inbound tourists of the world.

favorable preference to each other, as well as social and historical relations. Second, all bilateral tourisms among CJK generally followed a declining trend since 2009. In particular, the indexes with the destination to Japan showed a steeper decline. As the influences from the common factors owing to Japan, as the destination, are removed from the index by deflating Japan's share of inbound tourists in the world, the decline should be owing to the factors from China or ROK.

<Figure 5-3> Intensity index of outbound tourist in China, Japan and ROK

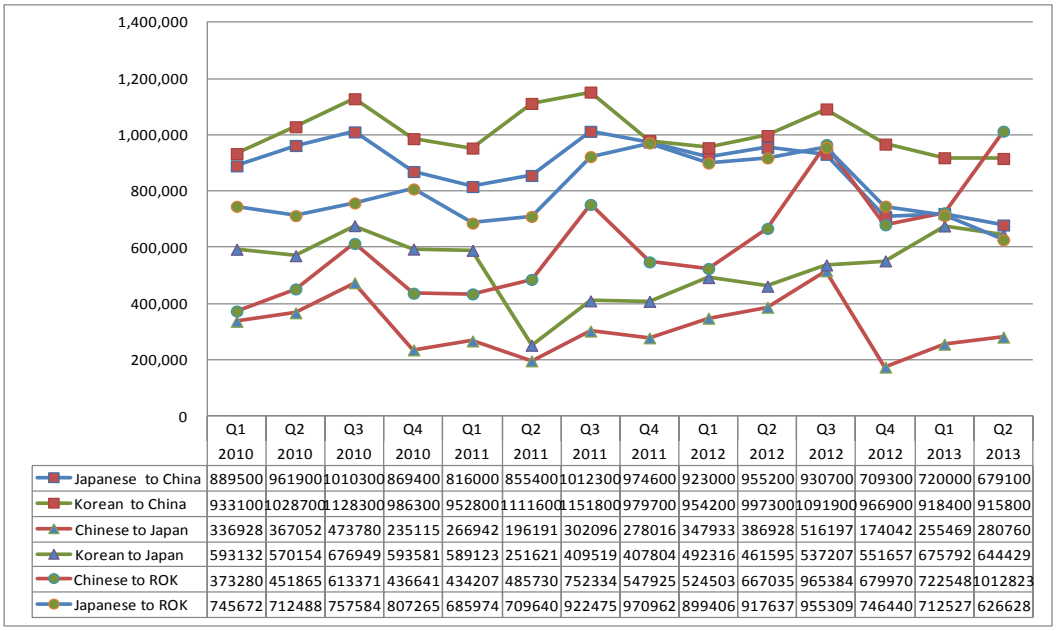


The Most Recent Change in Tourism of CJK

The most recent quarterly data show the factors that explain the declining ties between CJK in tourism sector, especially after 2011 (<Figure 5-4>). The number of intra-regional tourists increased until the third quarter 2011, but continued to decrease thereafter[25]. The declining economic growth adversely affected the international tourism in the region. In addition, as shown in the estimates of intensity index above, there must be a declining preference toward the intra-regional travel.

[25] See the quarterly growth rates, comparing to the same quarters in the previous year in the attached table in <Figure 5-4>, to make an adjustment of strong seasonal patterns.

<Figure 5-4> Quarterly Changes of Bilateral Tourists between China, Japan and ROK



	Q1 2010	Q2 2010	Q3 2010	Q4 2010	Q1 2011	Q2 2011	Q3 2011	Q4 2011	Q1 2012	Q2 2012	Q3 2012	Q4 2012	Q1 2013	Q2 2013
Japanese to China	889500	961900	1010300	869400	816000	855400	1012300	974600	923000	955200	930700	709300	720000	679100
Korean to China	933100	1028700	1128300	986300	952800	1111600	1151800	979700	954200	997300	1091900	966900	918400	915800
Chinese to Japan	336928	367052	473780	235115	266942	196191	302096	278016	347933	386928	516197	174042	255469	280760
Korean to Japan	593132	570154	676949	593581	589123	251621	409519	407804	492316	461595	537207	551657	675792	644429
Chinese to ROK	373280	451865	613371	436641	434207	485730	752334	547925	524503	667035	965384	679970	722548	1012823
Japanese to ROK	745672	712488	757584	807265	685974	709640	922475	970962	899406	917637	955309	746440	712527	626628

(Source) China, Immigration data (published by the Consulate General in Osaka).
Japan, Immigration Data, Ministry of Justice. ROK, e-stat, government of ROK.

Disasters and political factors had an influence on the recent changes. In March 2011, Japan was hit by a serious earthquake and tsunami disaster, accompanied by the nuclear contamination problem owing to the accident of nuclear power plants. The number of tourists from ROK to Japan declined sharply. However, the Korean tourists to Japan continued to increase after the bottom of second quarter 2011 up to now, recovering to the pre-earthquake level. The concern on nuclear contamination also negatively affected the number of Chinese tourists to Japan, but before that, the level had been already lowered in the fourth quarter 2010. A territory dispute between China and Japan took place in September 2010. This led to the sharp decline of Chinese tourists to Japan. Although the number of Chinese tourists to Japan gradually recovered until the third quarter 2012, another serious territory dispute brought about a large scale protest in China, triggering again the sharp decrease in Chinese tourists to Japan in the fourth quarter 2012. The number of Japanese tourists to China followed an increasing trend until the third quarter 2012. However, the large scale protest in China may have also affected the Japanese tourism to China, which continued to decrease from the peak of third quarter 2012.

Economic factors appeared to contribute the change, too. Such factors include the relative exchange rates of the currencies and economic growth. Most remarkably, Japan yen depreciated by about 25 percent since the fourth quarter 2012. That contributed to the recovery of the number of inbound tourists from China and ROK in early 2013. Competition among the three countries may have contributed to it, too. China and Japan competed with each other, as the two most popular destinations for the Korean tourists. As indicated above, Korean tourists to Japan continued to increase after the disaster in Japan in early 2011. In contrast, the Korean tourists to China continued to decrease since the peak of the second quarter 2012. The competition also worked between the intra-regional tourism and the tourism out of the region. In particular the number of Japanese tourists to both China and ROK continued to decrease since the fourth quarter 2012 by about 30 percent. It may be the case that yes depreciation discouraged the Japanese tourists to travel, but the outbound visitor of Japan decreased by only 10 percent in early 2013. This may be partly because of the asset effect for Japanese consumers to consume more luxurious goods, like a travel to Europe or the US. The diversification of the destination for the Japanese tourists reflected the decline in the intensity index in the region.

Policy Implications – To Achieve the Target

The Fifth Trilateral Tourism Minister's Meeting published a joint statement, stating that the ministers would work hard for the steady expansion of the scale of tourism exchanges among the three countries, aiming at reaching the targets of 26 million person-times of tourists by the year 2015. The intra-regional tourists still remained 17.4 million in 2012. The gap to the target implies the needs for introducing strong policy measures. Impediments to the intra-regional tourism should be reduced, and the quality of travel services should be improved. While social, political and natural disaster issues are out of control, there are many policy recommendations to be implemented, including the deregulation of multiple tourism visa or visa waiver, expediting entry procedures, improving tax exemption systems, improving the access to the airports, and training the personnel of tourism industry.

In addition, implied by the analysis above, improving the quality of tourism

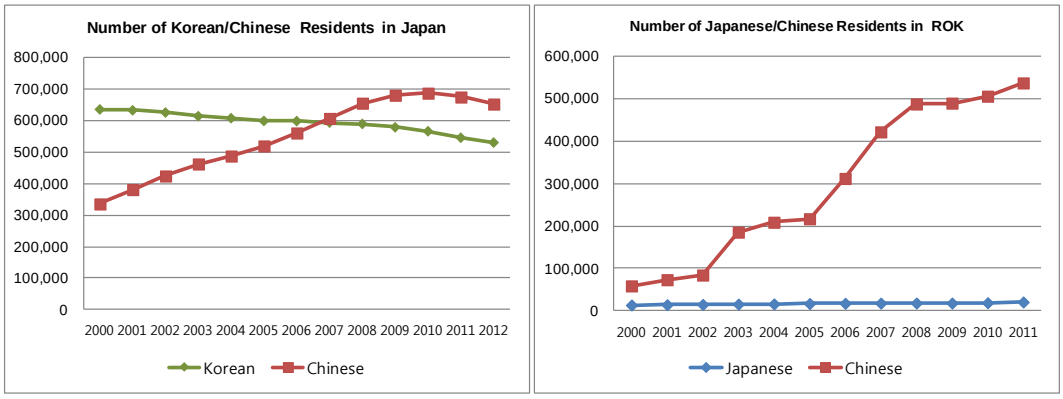
service will be a key to attract the travelers in the region. As the economy is recovering and growing, the people in the region will increasingly prefer the international tourism with "better quality". Such quality may include the attractiveness of culture and history, good services, and safety during the travels.

(2) Registered Foreigners and Student Exchange between China, Japan and ROK

Registered Foreigners

The foreigners staying in a country in the longer-terms, as registered foreigners, form a base for the people-to-people exchange. Registered foreigners mainly consist of permanent residents, business correspondents, and exchange students. Stock data are more relevant than the flow data. <Figure 5-5> illustrates the historical development of foreign residents in Japan and ROK. Relevant statistics of China are not available, except the numbers of Japanese and Korean residents in China are 6.6 thousand and 12.1 thousand in 2010.

<Figure 5-5> Registered Foreigners: Japan and ROK



(Source) National immigration data.

In Japan, while the share of the Asian residents grows, both Chinese and Korean residents have decreased since 2010. The peakout of the number of Chinese residents reflected the moderate reduction of "permanent residents[26]" and "spouses of Japanese".

[26] The greatest portion of the Chinese residents, about 30 percent, stayed in Japan as permanent residents.

The long slump of Japanese economy has discouraged the Chinese workers from staying in Japan. A great proportion of the Korean residents in Japan hold the special status, which comes from the historical legacy. The special residents continued to decrease by about 10,000 people every year, due to the aging of the residents, international marriage with Japanese and changes of system of obtaining nationality since 1985.

In ROK, Chinese residents have a significant proportion in total foreign residents in ROK, about 10 times as many as Japanese residents in ROK. This is partly because the Korean Chinese occupy a great proportion (70 percent) of the total number of Chinese residents in ROK. Both Chinese and Japanese residents increased rapidly in ROK, owing to the greater economic integration among CJK, and the good economic performance in ROK.

Student Exchange

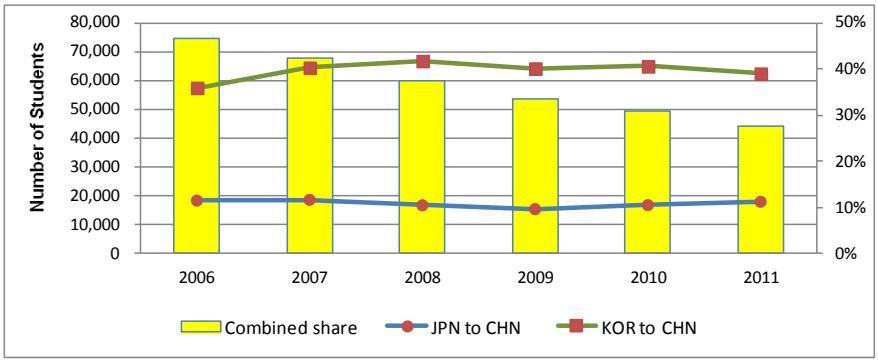
Exchange of students provides young people with opportunities for the mutual understanding of culture and society, as well as education. The students in ROK are particularly active, with 127 thousand exchange students, about 4 percent students in ROK and the number doubled from 2000 to 2010. The students in China are also active, with 564 thousand exchange students. Compared to them, the students in Japan tend to stay and study in their own country. Only 1 percent of the total students, 58 thousand, study abroad in 2012. The number of exchange student followed a declining trend since 2004, with decline of 30 percent during 2004 - 2012.

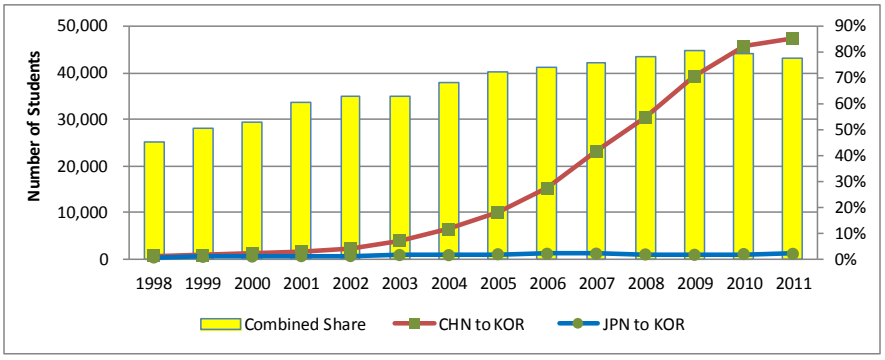
For the outbound students of CJK, the US has been the most popular destination. The popularity of the US may reflect various advantages over other countries: the quality of education, benefits of learning English, tuition and support systems, and potential recruitment after graduation. For the exchange students from China, following the US (with the share of one forth), the second most popular destination is Australia, perhaps for the similar reasons to the US. Japan is ranked third and ROK fifth. The combined share of Japan and ROK is about one-fourth. For the exchange students of Japan, following the US (37 percent), the second most popular destination in 2010 is China, with a share of 29 percent. ROK is the ninth, with a share of only 2 percent, about 1000 students. For the

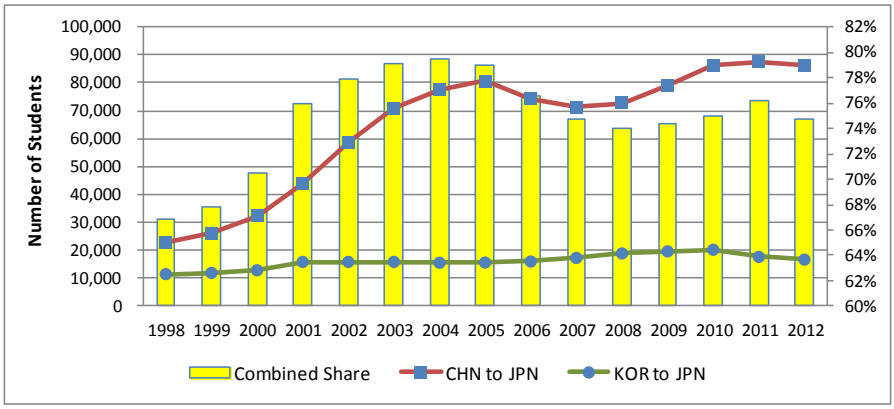
exchange students of ROK, following the US (38 percent), the second most popular destination is China (34 percent), and the third, Japan (13 percent).

<Figure 5-6> shows the historical change of the exchange students among China, Japan and ROK. Most notably, the numbers did not clearly increase since 2010, except for that from China to KOR. For China, the combined share of Japan and ROK continued to decline, due to the rapid increase in the students from the US, Thailand and Russia. The recent economic development in China attracted foreign students. For Japan, the number of foreign student from China and ROK decreased since 2011. The effects of earthquake and nuclear contamination directly made this outcome. The figure, as well as the combined share to Japan also declined in 2012. The slump in the Japanese economy affected the incoming students. For ROK, the incoming foreign student from China continued to increase. Stronger economic relations, including trade and investment, promoted the increase.

<Figure 5-6> Historical Changes of Foreign Student to China, Japan and ROK







(Source) UNESCO. Japan Student Services Organization. OECD, "Education at Glance 2013".

Overall, the numbers of exchange students appeared to follow the similar trend to the trade and investment, suggesting the influence of economic factors. In addition, the competition and diversion between the destinations worked. Chinese students may have diverted their destination from Japan to ROK. However, with other combinations and combined share being declined in the Northeast region, the destination of the students in the region increasingly prefer the outside destination, including the US.

Implications

The movement of people reflects the historical legacy in the region, as well as economic situation and development. Registered foreigners reflect the historical legacy in the region. Overall, the movement of people reflects the economic relations, but to the equal importance, economic relations are also influenced by the relation of the peoples and their movement in the region. The recent tendency of decline in the tourists and exchange students within the region need to be addressed seriously. The policy measures to support and intensify such relations will contribute to the economic integration and development of each individual country in the region. The US now has a dominant influence as the destination country for the students. However, strong economic preference in the region still exists, and the stronger economic relations will support the movement of people in the region.

PART II: Case Study on the Production Network of Electronics Industry in China, Japan and ROK

This part examines the establishment and operations of production network among CJK. The research team has picked up the electronic machinery, and more specifically digital printers, as a case of the study. The analysis consists of three sections: the first section undertakes a data analysis on the export-import relations of the electrical machinery industry among CJK, and their historical trend. The focus is placed on the production and trade of parts and components in the industry. The second section extends a case study on digital printers. Data analysis is supplemented by the information from an interview to a company. Finally, some policy recommendations come to the last.

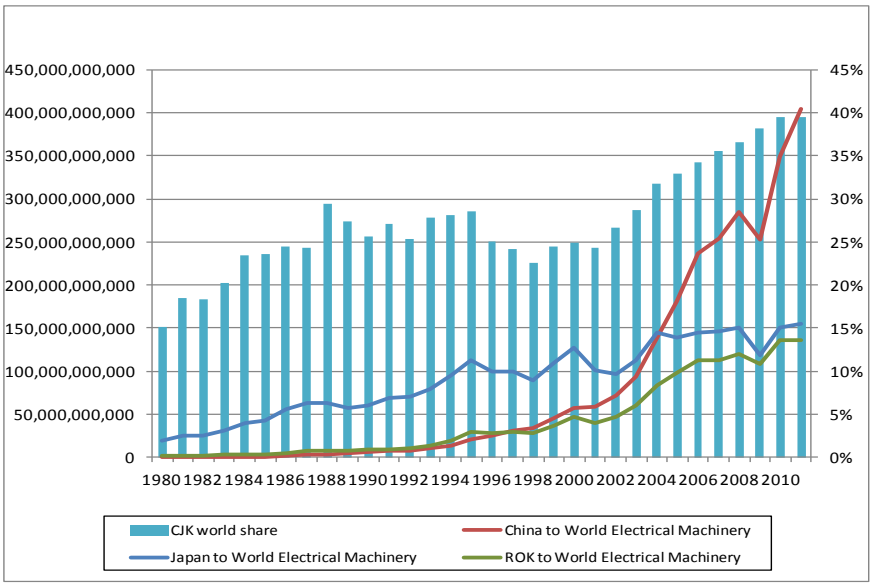
1. Production and Input-Output Relations of the Electronics Industry in CJK

Northeast Asia as the World's factory of Electrical Machinery

CJK recorded extremely rapid growth in the production of electrical machinery[27] (<Figure A-1>). Among the three countries, the growth of China's exports was remarkable, with the amount becoming seven times in 2011, compared to 2000. The combined share of CJK was only 15 percent in 1980 in the world, but it reached 40 percent in 2011. The region has become the factory of the electric machinery for the whole world.

[27] The electrical machinery is classified as SITC 09. This does not include the electric appliance for household, SITC10.

<Figure A-1> Exports of Electrical Machinery to the World



(Source) RIETI-TID2012.

Indeed, China, Japan and ROK established a network of production in the region. Therefore, analysis on individual country may not result in useful conclusion. While the exports of Japan and ROK did not increase so rapidly as that of China, the production in China was an achievement of the integrated production process and division of labor in the region.

Production Networks of Electronic Industries in the Region of China, Japan and ROK

The production of electronics industry requires high level of technology embodied in a few key components, international standardization of parts and modules, and relatively labor-intensive process in the final stage of assembly. These characteristics enabled the manufacturers to set up cross-border vertical division of labor. In the academic terms, this is called the international fragmentation, emphasizing the break-down and international extension of an existing production process in a country. The most technologically advanced enterprises, located in the countries such as Japan or the US, design and produce the “key parts” that embody the most critical know-hows and technology of the products. Research and development activities normally take place in the same countries of their headquarters. Then, the enterprises export these parts to developing countries, where they can enjoy the lower wage costs for further production.

Frequently, the importers are the affiliates of the same enterprises. The final products are exported to large markets in the world, such as the US, Europe, and Japan. The products with lower standard go to the domestic markets of the developing host economies.

The system gradually spread over East Asia in 1980s and 1990s. Especially, Japanese manufacturers, followed by Korean ones, spread over their production process in Southeast Asia[28]. In Northeast Asia, the most significant event was the China's accession to World Trade Organization (WTO) in 2001. The boom of inward FDI took place in China. The FDI in manufacturing sectors was remarkable in the early stage of the boom. Massive transfer of the production process took place from Japan and ROK to China in the mid-2000s.

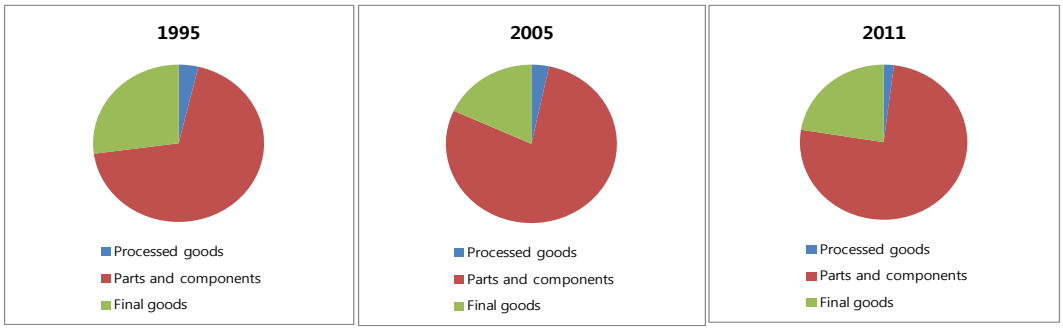
The data illustrate the trend. <Figure A-2> shows the shares of intermediate goods and final goods in the bilateral exports/imports of electrical machinery. The exports of goods are classified into three groups, according to the production stages: processed goods, parts and components, and final goods. The first two rows in the Figure represent the exports of Japan and ROK to China in 1995, 2005 and 2011, or inversely, the imports of China from Japan and ROK[29]. The share of parts and components significantly increased in 2005 (after China's WTO accession), compared to 1995. Particularly for the exports from ROK, the shares jumped to about 90 percent. The FDI boom in China had resulted in huge accumulation of capital stock, bringing about expansion of production capacity of the affiliated enterprises in China in 2005. The factories in China concentrated on the production of final assembly. The "high-tech" parts and components came from Japan or ROK. Their high level of export shares of parts and components exactly reflected the production networks of the electrical industry in China, described above.

[28] According to Kojima (1983), the widespread production through FDI was a factor to materialized the flying geese type of economic development.

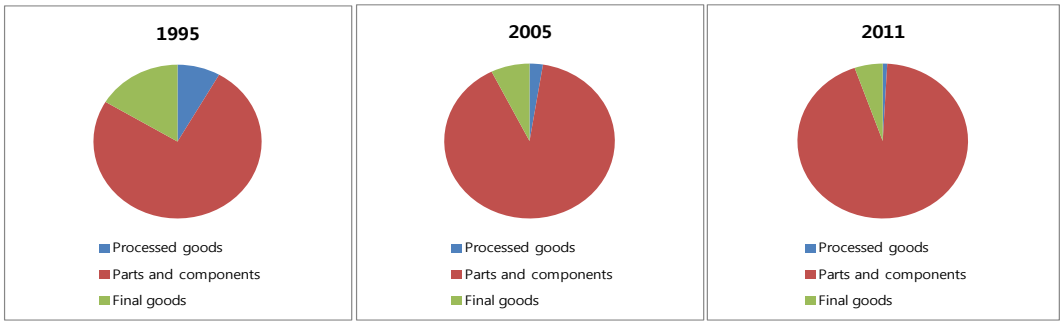
[29] The data here are from "RIETI-TID2012". The Research Institute of Economy, Trade and Industry (RIETI) in Japan publishes a consolidated database that provides a trade data set, classified in accordance with each production stage. The database makes an adjustment of bilateral exports and imports to match each other, basically giving priority to the import data.

<Figure A-2> Shares in bilateral exports of electrical machinery: Stages of production

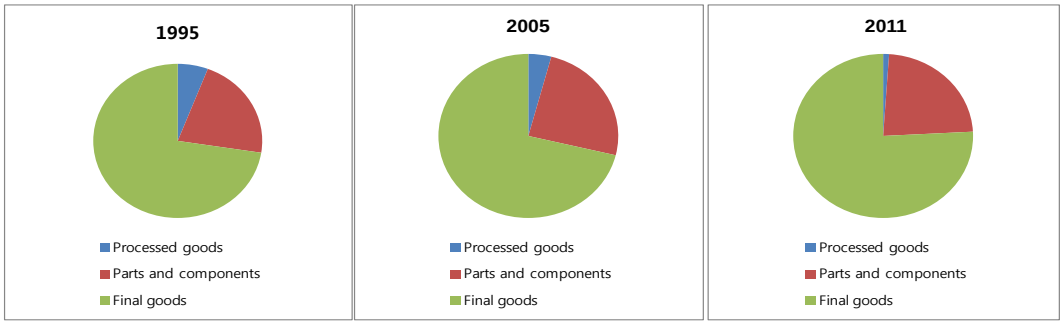
(A) Exports from Japan to China



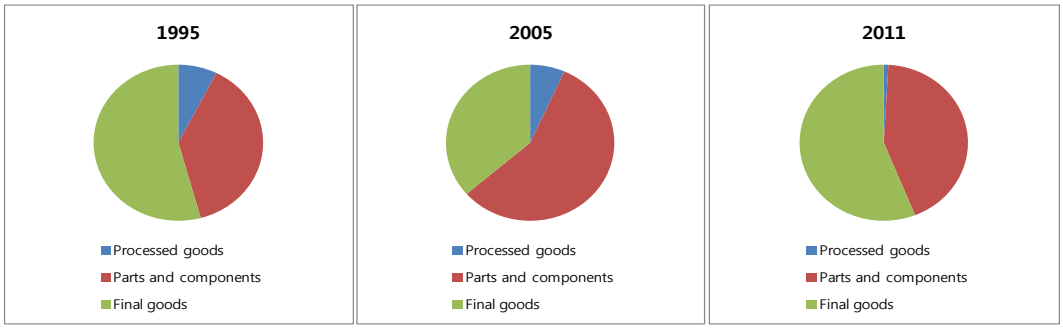
(B) Exports from ROK to China



(C) Exports from China to the US



(D) Export from China to Japan



(Source) RIETI-TID2012.

In contrast, the exports from China to the US, the third row, have the dominant and increasing shares of final goods, demonstrating that the US was a great absorber of final goods produced in China. The exports from China to Japan in the fourth row show a similar picture to lesser extent. The increase in the share of parts and components in 2005 appears to be temporary. In general, the advanced economies have played a role of customers to purchase the electronic goods from China.

<Figure A-2> arguably suggests a new feature: i.e. some rebound in the shares of final goods in 2011 was found in the import of China. China imports more final electrical machinery from Japan. Possibly, Japan is becoming a supplier of final goods with more decent quality to China. The emerging middle class of Chinese people may consume such variety of final goods.

2. Case Study on Digital Printers

Production of Printers: Manufacturers and Location

As shown in <Table 2-1 (A)>, both China and Japan intensively export printing machinery, with the shares of their total exports: 1.6 percent and 1.8 percent, respectively. Numbers of manufacturing companies from Japan and ROK have established the production base in China. The printing machinery (HS8443) includes three major categories: (i) machines which perform two or more of the functions of printing, copying or facsimile transmission, capable of connecting to an automatic data processing machine or to a network (HS844331: multi-function machines), (ii) ink-jet printers, classified as other printing machinery, capable of connecting to an automatic data processing machine or to a network (HS844332.010: ink-jet printers); and (iii) page-printers, classified as other printing machinery, capable of connecting to connecting to an automatic data processing machine or to a network (HS844332.090: page-printers).

In 2012, China produces almost 90 percent of the world production of multi-function printers (MFP) and page printers. The share of China is lower in the production of ink-jet printers, around 50 to 60 percent. Because of the simple mechanism of ink-jet printers, the manufacturers established factories in other Asian countries, as

well as China. Including China, Asia produces almost all the ink-jet printers for the world.

As for the manufacturers, the production market of the high-grade MFP is oligopolistic, shared only by several Japanese companies, owing to the sophisticated mechanism of MFP. They produce almost all of these MFP in China. These Japanese companies are also competitive in the production market of page printers and the lower grade MFP, but a Korean manufacturer and Chinese OEM suppliers are also in operation. These manufactures of ROK and China also produce ink-jet printers, mainly in China. There is no factory in Japan to produce ink-jet printers.

Export of Printers from China

The export and imports of digital printers of China, Japan and ROK are summarized in <Table A-1>. The four importing countries constitute nearly 40 percent of China's export of digital printer. Almost all the exported printers are actually manufactured by Japanese and Korean companies. One may observe the importer-specific difference of the unit price. On average, Japanese purchases the most expensive class of printers. The importers in the US bought the cheapest ink-jet printers. The German market appears to prefer cheaper MFP and page printers[30]. The printers the ROK imported were above the world average, but middle class, on average.

<Table A-1> China's Export of Digital Printers (2012)

Export Amount ($US million)					
Exporter	China				
Importer	Japan	ROK	USA	Germany	World
MFP+Page Printer	1,320	242	3,588	1,265	11,707
Ink-jet Printer	428	115	1,104	194	4,939
Share (% of China's Total Export)					
Exporter	China				
Importer	Japan	ROK	USA	Germany	World
MFP+Page Printer	11.3%	2.1%	30.6%	10.8%	100.0%
Ink-jet Printer	8.7%	2.3%	22.4%	3.9%	100.0%
Unit Price ($US)					
Exporter	China				
Importer	Japan	ROK	USA	Germany	World
MFP+Page Printer	852	372	274	200	272
Ink-jet Printer	349	195	154	170	177

(Source) UN-COMTRADE.

[30] Black and white page printers are generally cheaper than those capable to color printing.

China has a dominant production share in the world. To respond to the demand for variety in the world market, the manufacturers in China must produce a wide variety of printers, from the highest to lowest class. Some companies are most competitive in the low class, and others, the higher class. It is also possible that a company has more than a factory in China, each of which produces printers with different quality.

While China dominantly produces digital printers, China also imports the digital printers. Because the digital printers are definitely final goods, the transaction is typical intra-industry trade. While some possibility remains for re-exporting, it is suspected that two-way trade is taking place. The amount of imports equals to only 13 percent of that of exports. However, the consumers in China have demand for the imports. The unit prices of the imported printers are US$160 for MPF + Page Printers, and US$193 for ink-jet printers. Chinese customers probably desire cheaper page printers and middle-class ink-jet printers on average.

Production in China

According to an interview to a company, it does not place a factory in China to produce ink-jet printers. The company established factories to assemble ink-jet printers in other countries in East Asia. Middle class MFP and page printers are produced in China. As indicated, the mechanics of ink-jet printers are comparatively simple, and the less developed countries can do the assembly. The rise in wage rates in China is a factor for the selection of location.

A principle appears to exist for the manufacturers: namely, the factory should be located at the place with the lowest total costs of production and sales. The sales and transportation costs are cheaper, if the factory is located in a large consumption market. If trade is required, FTA should be taken into account, as well as the transportation costs. The social dispute and other impediments are just factors to add up the total costs.

Importing Parts and Components from Home Countries

Fragmentation of production process takes place only within the group of a company: the home headquarters and local affiliates. Trade statistics cannot identify the imports of specific parts and components from the home countries to the affiliated factories in China. According to an interview to a company, “key parts” are produced indeed in the home country, and exported to the affiliates in China. Such parts embody the essential technology and know-how that are not to be imitated. In other case, some process to produce parts requires high level of precision, which is unavailable in China. The incidence of 2011 earthquake in Japan evidenced it. The earthquake damaged a factory in Northeastern region of Japan. As some key parts can be produced only by the factory, a specific process of manufacturing stopped throughout East Asia. The interviewed company experienced similar incidence.

In the case of ink-jet printers, replacement of ink and other supply components are one of the core business parts in the company. The company exports the supply to China. While the export does not directly mean the supply chain for the production, it still constitutes a network of international sales. As imitation of supply tends to be prevalent in China, it is desirable to protect intellectual property right in this regard.

3. Policy Recommendations

To facilitate the business of companies, standard policy recommendations on the investment treaty may apply here. In particular, for the existing affiliates operating in China, the protection of investment is important. Recommendations include: more strict rules on intellectual property right, transparent implementation of government rules and regulations, uniform application of laws by the local authorities.

Summary Conclusion and Recommendations

(1) Major Findings and Implications

Different Macroeconomic Policies and Risks

After the Global Financial Crisis in 2008, China, Japan and ROK followed somewhat different paths of macroeconomic recovery. Facing the crisis, all the three countries adopted a combination of massive fiscal expenditure and monetary ease. Their paths of recovery diverged in 2011. The earthquake and tsunami disaster followed by nuclear contamination in Japan brought about negative GDP growth. On the other hand, China and ROK steadily followed a path of recovery in 2011. China adopted fiscal expansion of massive public expenditure. The recovery of ROK relied on external demand and tax cuts. In 2012, the slowdown of the economic growth in China and ROK became clearer, due to the slowdown of the industrialized economies in the world, while Japanese economy recorded a positive growth.

Most recently, the trend of slowdown in GDP growth continued for all the three countries in the first half of 2013. All the three countries adopt unique economic policy packages. Likonomics in China places a focus on the longer-term economic reforms, together with restraint of short-term government-directed investment. Abenomics in Japan introduces the aggressive monetary policy to end deflation, together with flexible fiscal policy and growth strategy to promote investment. The policy directions of President Park in ROK emphasize to improve the welfare of the workers, as well as to maintain high economic growth.

China, Japan and ROK face common risks for the macroeconomic growth, including slowdown in the growth of industrialized economies and possible reversal of investment capitals from industrialized economies. Their exports, already on the declining trend, will be further stagnated. Capital reversal from industrialized economies will offer a trade-off to their monetary ease. In the longer run, structural reform measures to improve the productivity and competitiveness of the economy will be a key challenge to sustain the growth.

Macroeconomic Interdependency – Synchronization of Business Cycles

Owing to the strong relations in terms of trade and investment, there has been macroeconomic interdependence between the three economies. With the larger proportion of intra-trade in the region, the business cycles of a member economy tend to extend to the other members, bringing about stronger correlation of their GDP growth rates. The stronger macroeconomic synchronization was maintained among CJK after the crisis in 2008, despite of some weakening figures. But China-ROK synchronization increased.

Structure of Trade between China, Japan and ROK: Production Network and Intra-industry Trade

The trade is naturally larger between/among CJK, due to the geographical proximity and shorter distance. The stronger trade relations largely reflected the established production networks in the region in the manufacturing sector. However, the intra-industry trade, the vertical type in particular, has recently increased in CJK, while China remains at lower level of intra-industry trade than Japan and ROK. The exporting items have become more similar than ever between the three economies, implying that the structures of comparative advantage of CJK are converging.

The trade intensity indexes on the bilateral and regional bases have continuously declined, although the levels of indexes, invariably above one, means the connection through trade has been still stronger than average. In particular, the diversification of China's imports partners is observed, from Japan and ROK to other countries in the world. This may partly be due to the globalization in the procurement of parts and components of the Chinese industries. The structure of production networks that was dominant in the region is gradually changing. For another reason, the middle- or upper-class consumers in China may have increasingly purchased the imports. Furthermore, cheaper Asian products recently have flown into China.

The service imports of CJK increased, more remarkably in the case of China. However, the balance of service trade has been deficit in CJK. The cross-border impediments to service trades are generally high in CJK in spite of the potential of

service sectors. The service trade liberalization will be one of the key challenges in the Trilateral FTA negotiations.

Slowdown of Foreign Direct Investment between China, Japan and ROK

There was an FDI boom to China in early 2000s. While the net position of FDI has remained surplus, China recently saw increase in the outward FDI. Japan performed poorly in attracting inward FDI, while the outward FDI was been large and increasing. ROK's outward FDI has been stable. In the region, China was the major FDI absorber, especially for the FDI to establish a production base in China.

The growth of Japan's FDI outflows to China is getting slow, and ROK's outward FDI to China is declining in the past few years. Wage increases and additional social security cost as well as economic slowdown in China are major reasons for these sluggish trends of FDI toward China. China may be facing an industrial transition period at which service sectors will play a greater role in its economy. Therefore, liberalization of service sectors will become much more important measures attract more direct investment from overseas.

Financial Sector Development and Integration of CJK

Facing the recent slowdown in the advanced economies in early 2013, all the three countries have resorted to monetary ease. However, money supply has been under control, and inflation is contained. The environments to the financial sector are generally good in CJK. In the light of the indicators of financial sector development, the financial sector in CJK has a room for further improvement, especially in comparison to the US.

The CJK economies have shown the financial integration with global economies to the greater extent than among themselves, except for the Japan – ROK relation. The regional feature is weak and there is no strong anchor market that would match the US market. Global integration is not a force that competes with regional integration. However, the agenda of regional market integration, especially in the scale of ASEAN+3, still exits. The direction in integrating the financial market in the region needs to focus on

creation of a market mechanism that real interest rate differentials are endogenously converged into the regional level. Another important implication is the importance of trade openness that is closely related to the degree of financial integration. Regional cooperation mechanisms in East Asia will significantly contribute to the development of financial sector in CJK. A notable measure is Asian Bond Market Initiative of ASEAN+3. The initiative has contributed to the development of the bond market in East Asia.

Intra-regional Tourism and Student Exchange – Need for Further Effort

There has been a declining trend in CJK in tourism, especially since after 2011. Disasters and political factors as well as economic factors appeared to contribute to the trend. Such economic factors include the relative exchange rates of the currencies and economic growth. Competition among the three countries may have contributed. China and Japan competed with each other as the two most popular destinations for the Korean tourists. As indicated in Chapter 5, Korean tourists to Japan continued to increase after the disaster in Japan in early 2011. In contrast, the Korean tourists to China continued to decrease since the peak of the second quarter 2012. The competition also worked between the intra-regional tourism and the tourism out of the region. In particular the number of Japanese tourists to both China and ROK continued to decrease since the fourth quarter 2012 by about 30 percent, while the outbound visitor of Japan decreased by only 10 percent in early 2013. The diversification of the destinations for the Japanese tourists reflected the decline in the intensity index in the region.

The numbers of exchange students appeared to follow the similar trend of the trade and investment, suggesting the influence of economic factors. In addition, the competition and diversion between the destinations worked. Chinese students may have diverted their destination from Japan to ROK. However, from the fact that the number of CJK exchange students has declined in the region, students also prefers to go to the outside of the region such as the US. This implies a need for stronger policy support. Strong economic preference in the region still exists in the region, and the stronger economic relations will support the movement of people in the region.

The Case of Electrical Machinery Industry and Digital Printers

The electrical machinery is a typical example of the production network in the region. China, Japan and ROK recorded extremely rapid growth in the production of electrical machinery. The manufacturers set up cross-border vertical division of labor, or international fragmentation. The share of parts and components in the bilateral exports from Japan and ROK to China significantly increased after China's WTO accession in early 2000s. The factories in China have been concentrating on the production of final assembly. The "high-tech" parts and components came from Japan or ROK. In contrast, the exports from China to the US and Japan were mainly final goods. However, a new feature has arguably emerged: i.e. some rebound in the shares of final goods in the import of China. China imports more final electrical machinery from Japan. Possibly, Japan will become a supplier of final goods with more decent quality to China. The emerging middle class of Chinese people may consume such variety of final goods.

In 2012, China produces almost 90 percent of the world production of multi-function printers (MFP) and page printers. The share of China is lower in the production of ink-jet printers, around 50 to 60 percent. Almost all the exported printers are actually manufactured by Japanese and Korean companies. On average, Japanese purchases the most expensive class of printers. China also imports digital printers from other Asian countries, which means the intra-industry trade is active in Asia.

According to an interview to a company, it does not place a factory in China to produce ink-jet printers. The company established factories to assemble ink-jet printers in other countries in East Asia. Middle class MFP and page printers are produced in China. A principle appears to exist for the manufacturers: namely, the factory should be located at the place with the lowest total costs of production and sales. The social dispute and other impediments are just factors to add up the total costs. "Key parts" are produced indeed in the home country, and exported to the affiliates in China. Such parts embody the essential technology and know-hows that are not to be imitated. In other case, some process to produce parts requires very high level of precision, which is unavailable in China. In the case of ink-jet printers, replacement of ink and other supply components are one of the core business parts in the company. The company exports the supply to China.

While the export does not directly mean the supply chain for the production, it still constitutes a network of international sales. As imitation of such supplies tends to be prevalent in China, it is desired to protect intellectual property right on this regard.

Changes in Trend of Economic Integration between China, Japan and ROK and Significance

In overall, one may observe the diversification in China's import partners of parts and components and final goods. Some globalization may have occurred in the enterprises located in China in their procurement of parts and components. In addition, consumers in China may be increasingly attracted to the final goods from all over the world. While the strong trend of production network still remains in the region, such diversifications are visible in the indexes and empirical estimates.

This seemingly weakened regional integration does not mean that regional economic interactions are not significant. The change simply reflected the technical progress of China, wider opportunities for the Chinese companies' procurement of parts and components in the world, and a rise in the income of Chinese people. The trade relation may transform to a more advanced type, i.e. vertical and horizontal intra-industry two-way trade. Existing research works identified that a growing level of intra-industry trade played a positive role to promote industrialization. Intra-industry trade allows a country to take advantage of access to larger counterpart markets in the world, and the country can specialize in the industry with greater prospects.

(2) Major Policy Recommendations

For macro-economies in CJK, all international organizations have recommended the careful management of fiscal and monetary policy in the face of emerging risks in early 2013. Together with this, the needs for the structural reform measures are emphasized. The unique policy packages of CJK follow the general direction in accordance with these recommendations. The macroeconomic situation will be closely monitored by the individual governments and international fora, such as G20.

For trade and investment cooperation, the CJK FTA has a key role for the development of trade and investment relations in the region. The governments of CJK should expedite the negotiation of CJK FTA and other region-wide FTAs. The negotiation should achieve wider range of liberalization in service trade and other domestic deregulations. Trade facilitations should be also listed as important issues. In the area of FDI, further liberalization of investment needs to be pursued. Further liberalization and facilitation of FDI are the issues that can be covered and improved in the trilateral FTA among CJK under negotiations.

The policy effort should be made for the financial development in each of CJK. In addition, regional initiatives, like ABMI, will promote the financial development of each country, as well as the region as a whole. The recent tendency of decline in the tourists and exchange students within the region need to be addressed seriously. The policy measures to support and intensify such relations will contribute to the economic integration and development of each individual country in the region.

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ABE Kazutomo is professor in the Department of Humanities and Social Sciences, School of Science and Technology for Future Life, Tokyo Denki University in Japan. Prof. Abe used to be the leading Japanese scholar for the academic joint study on CJK FTA from 2003 to 2008.

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Written by	ABE Kazutomo
Edited by	Department of Economic Affairs, Trilateral Cooperation Secretariat
Published by	Trilateral Cooperation Secretariat
Address	S-Tower 20th FL, 82 Saemunan-ro, Jongno-gu, Seoul, Republic of Korea 110-700
Telephone no.	+82 2 733 4700
Fax	+82 2 733 2525
Website	www.tcs-asia.org
E-mail	tcs@tcs-asia.org

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