Toward Trade and Investment Liberalization Among China, Japan and Korea – China's WTO Accession and Regional Integration in Northeast Asia –

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Executive Summary

The three chapters of this report cover an assessment on the impacts of China's accession to the WTO (World Trade Organization), an analysis on Free Trade Areas in China, Japan and Korea, and an analysis on the perspectives and issues of Japanese and Korean direct investment in China, with a focus on technology transfer. These three areas represent the major issues related to the trend toward liberalized trade and investment in Northeast Asia.

(1) China's WTO Accession: Its Impact on and Implications for the Chinese, Japanese, and Korean Economies

It is expected that the commitments made by China for accession to the WTO will generate a wide range of benefits to business both inside and outside China. This is confirmed by the results of both the GTAP (Global Trade Analysis Project) model simulation and our questionnaire survey. Our model simulation illustrates that although the largest proportion of the benefits belong to China herself, Japan and Korea will also have a greater opportunity to share the benefits provided by China's WTO accession. Our survey results show that among foreign companies, Japanese respondents, as opposed to Korean companies, were more inclined to regard China's WTO accession as a major business opportunity.

China's WTO accession will provide the three countries with opportunities for further growth. By making structural adjustments in their own economies, Japan and Korea are going to be able to fully take advantage of liberalized trade and direct investment relations with China. China needs to bring its WTO commitment to effect. Among other things, improving business environments is important.

(2) Analysis on Free Trade Areas for China, Japan and Korea

Regionalism, a major world trend for economic integration, has not taken root in Northeast Asian countries to date, while the degree of trade ties among China, Japan, and Korea has been strong.

Our simulation using an Applied General Equilibrium Model suggests that the benefits in terms of GDP (Gross Domestic Product) and economic welfare are larger in

cases where three countries join a FTA (Free Trade Agreement) as opposed to when only two countries do. Furthermore, simulation of a hypothetical FTA between the three countries plus ASEAN (Association of South-East Asian Nations) indicates that the benefits are, as expected, the largest.

The simulation result for a Japan-Korea FTA case shows a smaller macroeconomic benefit than the three-country FTA case, but that might offer a better chance to lead to a horizontal division of labor, together with firm-level integration. As this type of integration might involve lesser degrees of a painful adjustment process, a Japan-Korea FTA might be considered as the first step toward a larger FTA.

(3) Direct Investment in Northeast Asia – Perspectives and Issues

FDI (Foreign Direct investment) in China, Japan and Korea is not necessarily large. Our gravity model estimate indicates that the FDI flows from Japan to China as well as to Korea in 2000 were lower than predicted by the regression. This implies that Japanese FDI to China and Korea has large room for expansion. However, performance of Japanese and Korean companies in China seems to be not so good generally.

This situation contrasts with the presence of foreign companies in the Chinese economy and their rather efficient business performance. In spite of this, the questionnaire survey result shows that Japanese and Korean companies in China have expanded their business functions and that they gradually have been entrusting local staffs with supervisory roles, mainly for expanded functions, which can be regarded as one type of localization of technology and know-how. Beyond that, they function as a supply source of experienced staffs for Chinese companies.

As was evidenced by the questionnaire survey result, Japanese and Korean companies in China desire an improvement in clarification and transparency of rules and guidelines for business operations. In addition, ensuring quality of managers and engineers, protection of intellectual property rights and well-prepared infrastructure are regarded as important issues in technology and know-how transfer by foreign companies in China.

INTRODUCTION

(1) Globalization and Regionalism in Northeast Asia

Globalization has characterized the world economy in the recent years. The economic integration through freer trade and investment has progressed throughout the world. The accession of China to the WTO is a symbolic event as the most populous nation in the world has joined the global institution, with the objective of promoting trade and investment.

Regionalism is another major trend in economic integration. Most of the industrial and developing countries in the world have concluded some regional trade agreements. At present, more than one-third of world trade takes place under such agreements. In the Asia-Pacific region, regionalism took shape as APEC (Asia-Pacific Economic Cooperation) at the end of the 1980s. The historic Bogor Declaration in 1994 set a target to achieve free trade and investment in the years 2010/2020. But in the late 1990s, Asian economies appeared to seek another path for regional integration, i.e. FTAs in the subset of the Asia-Pacific region. ASEAN has taken action toward trade liberalization among its members.

Despite the rise of regionalism in Asia, regionalism has not long been familiar in Northeast Asian countries.[1)] So far, no Northeast Asian country belongs to any trade blocs. In other words, still ongoing economic integration in Northeast Asia is exclusively informal, driven by market forces without any institutional support framework. Notwithstanding, some countries have become interested in bilateral FTAs, and China, Japan and Korea have been engaged in the ASEAN + 3 process, in which institutionalization has been proceeding quite rapidly since 1997.

(2) Accelerated Trend Toward Trade and Investment Liberalization

In the context of these three countries in Northeast Asia, a trend of trade and investment liberalization appears to be accelerated. Trade liberalization measures committed in the process of China's WTO accession will undoubtedly stimulate trade

1): This shares a common understanding with *Report and Policy Recommendations on Strengthening Trade Relations between China, Japan and Korea* in joint-research by three research institutions.

among the three countries. As a result of WTO related commitments, the Chinese government will take measures to facilitate inward direct investment.

Partly due to the trend toward trade and investment liberalization in China, Japan faces a challenge accompanying its massive move of production bases of Japanese firms to China. Such "industrial hollowing-out" or de-industrialization inside Japan may be proceeding, and may become a serious issue in terms of assuring domestic employment. The Japanese economy needs to expedite economic reform in order to help bring up new industries to absorb the displacement of the labor force.

The governments of Japan and Korea have discussed a FTA. Once an agreement is made between the two, economic integration of the two countries will likely change trade and investment structures throughout Asia. In particular, firm-level integration is expected to take place that will lead to the creation of excellent companies. Several existing studies have suggested that the most significant feature of the Japan-Korea FTA would be the promotion of an integration of firms, rather than a reduction of tariff rates.

(3) How to Utilize the Trend?

It would be mutually beneficial for the three countries to consider a common perspective to utilize the recent trend of liberalization. Proximity is an asset for the three countries to strengthen their relations through economic activities. The standard "gravity model" suggests that countries in near proximity with one another tend to trade and invest more. As far as trade is concerned, complementarity is high with regard to bilateral trade between China and Japan, and China and Korea.

Moreover, the geographical location of the three countries may influence an optimal solution. As indicated above, Northeast Asian countries have not been involved in any regional trade arrangements, while the two mega-trade blocs, the EU (European Union) and NAFTA (North American Free Trade Agreement) have developed. In light of the size of the market, population, technical accumulation, and many other economic aspects, huge potential would exist in the integration of the three economies. There can be, however, many other combinations and options.

(4) Objectives and Structure of the Report

With an eye towards liberalization, this report will seek common ground and understanding of the trend in trade and investment between China, Japan and Korea. An objective analysis will help construct a future foundation to formulate a common perspective between the three economies.

The report consists of three chapters, each of which touches on current major hot issues related to trade and investment between China, Japan and Korea.

The first chapter covers an assessment of the impacts of China's recent WTO accession. Both an economic model simulation and questionnaire survey analysis will illustrate industry- and macro-based impacts.

The second chapter assesses the impact of regional integration, assuming various hypothetical memberships of FTAs. An economic model is utilized to sketch out the outcomes. An interesting point is who gains the most, and who gains the least in each of the combinations. Moreover, the analysis may possibly demonstrate what would be the first and best solution and what would be the second best.

The third chapter is on expanding direct investment. After the boom in the 1980s, direct investment inflow to China from Japan slowed down in the 1990s. It appears recently, however, that the boom may be reviving. Based on survey data, the chapter illustrates the behavior of Japanese and Korean companies in China, and the environments and difficulties they face. The survey data also cover the transfer of technology and managerial resources from the host economy, which could be the most desired byproduct of foreign direct investment.

Chapter 1 China's WTO Accession: Its Impact on and Implications for the Chinese, Japanese, and Korean Economies

Section 1: Liberalization Measures Accompanying China's WTO Accession

On November 11, 2001, China ratified the text of the agreement for its entry into the WTO. China's admission had been approved on the previous day of the WTO Ministerial Conference held in Doha, Qatar. Now, 15 years after giving notice in 1986 of its desire to resume its status as a contracting party to the GATT (General Agreement on Tariffs and Trade), China has become the WTO's 143rd member state.

(1) The Contents of the Liberalization Accompanying WTO Accession

A timetable has been set for opening up China's market in conjunction with the country's entry into the WTO (Table 1-1-1). The following five points describe the major implications that this market opening will have in terms of economic ties between China and the rest of the world, including Japan and Korea.[1-1]

First, the reduction and elimination of tariffs will prompt a more active international flow of goods, as well as improve the efficiency of China's domestic market. The simple average tariff rate for all goods, which stood at 16.4% as of 2000, is to be reduced to 10.0% by 2006. Likewise, the tariff rate for industrial goods is to be brought down to 8.9% by 2010. Additionally, the accession agreement stipulates such matters as the liberalization of systems in connection with state trading entities and the elimination or settlement of non-tariff measures that conflict with WTO agreements by mutually agreed upon terms and timetables.

Second, the liberalization of systems related to services and foreign direct investment will accelerate the international flow of not only goods but also services and people. In the accession agreement China pledges to fulfill obligations on the basis of the GATS (General Agreement on Trade in Services) and to abide by the Schedule of

1-1: The information that follows is not taken directly from the Chinese membership agreement, which reportedly consists of more than 1,500 pages. It is instead based on newspaper accounts and such WTO documents as the *Draft Report of the Working Party on the Accession of China* (Revision) (WT/ACC/SPEC/CHN/1/Rev. 8 and WT/ACC/SPEC/CHN/1/Rev.8/Corr.4), which was issued on July 31, 2001.

Specific Commitments. Additional promises include raising China's cap on the ratio of foreign ownership in telecom businesses – from 25% following accession to 35% one year later and then 49% after three years – and doing away with regional operating restrictions in this sector after five years from the accession. Additionally, the establishment of joint ventures with foreign equity stakes up to 51% is allowed in the non-life insurance industry as soon as China has become a WTO member, and non-life insurance businesses that are wholly foreign-owned will be possible after two years. The agreement also provides for the gradual liberalization of foreign participation in such sectors as life insurance, insurance for large-scale commercial risks, banking and distribution.

Third, the application of the principle of non-discriminatory treatment for all parties, regardless of nationality, will create a level playing field for Chinese and foreign businesses. A pledge to practice non-discriminatory treatment of all WTO members is part of the accession agreement. One example is the right to import and export goods. Now limited to 35,000 Chinese companies, this right will be extended to all companies through a gradual process of relaxation over a three-year period following China's WTO accession. Non-discriminatory treatment is also expected with respect to the procurement of goods and services necessary for the production of goods as well as to conditions for the production and sale of goods for China's domestic market and for exports. This standard will also apply to public utilities, that is, activity in the areas of transport, energy and basic telecommunications. Furthermore, exclusive state trading is to be phased out over a three-year period.

Fourth, the liberalization of systems for doing business in China will heighten linkage between the country's business environment and the global arena. Although China is shifting toward a market economy, its price control system remains in place. In the case of production inputs, for instance, government regulated prices apply to 9.6% of all products, government guidance prices to 4.4%, and non-regulated prices to 86.0% (Table 1-1-2). Liberalization in this sphere will make the production structure mirror China's endowment of resources.

Fifth, improvement of the environment for doing business in China will advance the country's integration with the rest of the world as both a market and a production base. The accession document has provisions for various measures in this regard. One of these is observance of the WTO's TRIMS (Trade-Related Investment Measures) agreement through the elimination of local content requirements, export performance requirements, and foreign-exchange balancing and trade balancing requirements, including constraints in connection with China's Industrial Policy for the Automotive Sector. Also built into the agreement are China's pledges to fully implement the TRIPS (Trade-Related Aspects of Intellectual Property Rights) agreement, to implement the Sanitary and Phytosanitary Measures (SPS) agreement, and to consider participation in the GPA (Agreement on Government Procurement). Furthermore, along with the establishment and reinforcement of these individual agreements and systems, the accession document stipulates that there will be a review of China's laws for the purpose of ensuring their consistency with WTO agreements. It also defines a framework for making and enforcing policies to be carried out by China's central government in order to ensure that the country's local authorities cooperate in the fulfillment of obligations on the basis of WTO agreements.

(2) The Possibilities Inherent in the Liberalization Accompanying WTO Accession

The kinds of liberalization measures outlined above are to be implemented in steps. The results of this process will bring about such economic effects as changes of industrial structure, but this will take a longer time. Plus, there is yet another remaining problem: ensuring the feasibility of implementation.

In this respect, along with the need to allow time for the anticipated effects of China's WTO membership to fully materialize, it is thought that further efforts and cooperation will be absolutely essential. Additionally, in that process, structural adjustment of domestic industries will be inevitable. The arrival of newcomers will lead to keener competition even for foreign companies that are already located in China.

To be sure, China needs to respond to the new environment accompanying liberalization in a more transparent way. In this regard, the fact that, as described above, a time frame for changes has been established as an international commitment and the specifics of liberalization have been spelled out is of great significance.

This point is significant because, even though China has achieved rapid economic growth while reforming its economic institutions, lingering problems have been mentioned on more than a few occasions. The specific issues that have been raised are uncertainties and unpredictable change in the business environment in China, which is still in a reform phase. Actually, some WTO member states even brought up these concerns during the Working Party consultations for China's membership. For that reason, China has promised to introduce international rules in connection with joining the WTO. The predictability and transparency of the country's economic climate and operating environment are thus expected to improve. From the perspective of Japan and Korea – which are in geographical proximity to China – the existence of a more open and more transparent China could present a valuable opportunity.

Japan and Korea, which are at different development stages than China, see a chance to increase the sophistication of China's industrial structure while building new regional complementary ties. Moreover, aside from trade relations, the ties that Japan and Korea have with China in terms of direct investment in the country have not necessarily been that extensive up until now. Free trade and investment with China will also provide Japan and Korea with an opportunity to undertake structural adjustments and improve efficiency in their own economies.

Accordingly, while there are questions about how to react to the process of change, China's entry into the WTO holds the potential to create huge benefits for both Japan and Korea. These benefits will be discussed later in this report.

Section 2: Expectations of Chinese Companies and Foreign Companies in China

Upon joining the WTO, China will comply with the organization's rules and gradually open up and liberalize its own regimes for trade and direct investment. These moves can be expected not only to accelerate the integration of China's economy with that of the world but also to lead to the development of an economic climate featuring higher predictability.

As is evident in the simulation results presented in Section 3, although the extent of the impact will differ depending on the country, China's WTO accession is expected to generate positive macroeconomic effects for China, Japan, and Korea. But that expectation notwithstanding, there is an undeniable possibility – at least until adjustment has been accomplished – that some Chinese businesses and industries may encounter intensified competition because of increased import activity. That will be generated by the expansion of and changes in the inflow of trade and direct investment reflecting the new climate in China.

In order to investigate the micro-level effects that were not sufficiently explained in macroeconomic statistics, we conducted a survey in the form of a questionnaire. That survey, which targeted Chinese companies and foreign companies that have set up operations in China, focused on how their business activities will be affected by China's WTO entry.[1-2] As for industrial sectors, we focused on mainly the electronic and electrical equipment sectors that will be affected most by China's WTO accession. In this respect, as it was targeted industries that were focused on, the results of the survey should not be generalized too much.

(1) Assessment of the Present Business Environment in China

First, the survey results indicate that companies currently face rules and guidelines in multiple areas, with the exception of the realm of hiring and training (Figure 1-2-1). Second, a number of companies believe that the rules confronting them do not necessarily exist in any statutory form, with respect to local content requirements, reinvestment obligations, their selection of partners, and the establishment of R&D activities. The third point is that, depending on the country of domicile of a company investing in China, there are differing circumstances in terms of the rules and guidelines that businesses have faced (Figure 1-2-2).

Of course, the line-up of rules and guidelines being referred to in this case include items of a purely economic nature as well as policies linked to social objectives.

1-2: The survey targeted 700 Chinese companies and foreign companies with operations in China. Conducted in the form of visits to companies, the survey took place from late August to late October of 2001. The total number of firms that responded was 370. Table 1-2-1, which appears later in this report, provides a profile of the respondents.

Accordingly, the actual percentage of companies that encounter rules and guidelines is not necessarily a problem in and of itself. Additionally, we should keep in mind that the results may include cases in which respondents did not understand the basis of rules and guidelines. Or the results may, for example, reflect differences related to the position that laws occupy within the society of the respondent's own country.

However, if the points that were in dispute during the accession negotiations and the commitments made by China are taken into consideration, the undeniable conclusion must be that, at least, there is room for further improvement in terms of the clarification and transparency of rules and guidelines. In response to such concerns of WTO member states, China has promised that its central government will make local governments comply with obligations in connection with the WTO accession agreement and will also enforce relevant laws in a uniform manner.

Such an analysis may be supported by the difference of circumstances between Japanese and Korean businesses. Japanese businesses show a pronounced propensity to move into the area around the delta of the Chang Jiang River, while Korean firms are strongly inclined to choose such locations as the area along the Bo Hai Gulf and China's North Eastern Region (Table 1-2-2). Consequently, it is entirely possible that, according to how local governments implement rules and guidelines in individual locations, the nature of the problems faced by businesses will end up displaying different tendencies between Japanese and Korean companies.

To be sure, the impact of corporate attributes that are also associated with domicile-specific characteristics can also be considered. For example, the survey showed relatively few instances of Korean companies facing rules and guidance pertaining to the selection of partners and foreign equity share. But this outcome is not unrelated to the fact that many of these Korean businesses are the sole investors in their operations in China (Figure 1-2-3).

(2) Assessment of China's WTO Accession

The survey results reveal that, in keeping with the above observations – and perhaps in the context of the circumstances of foreign companies in China – there were many companies with the view that progress in liberalization in conjunction with China's WTO entry will provide benefits for business (Figure 1-2-4).

Asked about the specific effects of WTO accession, many businesses identified aspects connected to foreign direct investment in China, and following that there was a relatively large number of companies envisioning an impact on the trade front (Figure 1-2-5). Conversely, the number of companies expecting to see an impact due to the liberalization of services was low, perhaps because of the survey's machinery-industry focus.

However, views on the effects of China's WTO accession for businesses are different depending on the country of domicile.

In comparison with the view held by foreign companies, Chinese companies tend to think less positively about the impact of WTO membership. This probably reflects the aforementioned sense of crisis on the part of local Chinese companies that will be exposed to global competition. However, if we look at the specific effects of WTO accession, it is clear that they are not only wary of negative effects but also find some business chances. Chinese companies stress the expansion of business through increased exports as most important aspect. One reason is that China's WTO membership gives them easier access to the global market. A second probable reason is related to the removal of restrictions on imports from China. Even though some discriminatory measures against Chinese imports will remain in place – such as the special transitional safeguard mechanism whose continued existence for the first 12 years of China's WTO membership has been built into the accession agreement – it is expected that prohibitory and numeral measures that conflict with WTO agreements and are now applied to goods imported from China will be gradually eliminated.

In contrast, foreign companies show a stronger tendency than their Chinese counterparts to think positively about the impact of WTO membership. They tend to put greater importance on market revitalization through the expansion of imports and keener competition due to an increase of foreign direct investment. The former perception can be seen as stemming from the expectation that not only will Chinese tariffs be reduced but there will also be an expanded degree of freedom on the import front in connection with local business activities within China thanks to the liberalization of trading rights. As for the latter, it is likely that the scenario envisioned involves brisker competition among foreign businesses as a result of new direct investment from overseas.

Among foreign companies, Japanese respondents were highly inclined to regard China's WTO accession as a major chance. This positive outlook on the part of Japanese companies is a tendency that can also be seen in other studies.[1-3] On the other hand, Korean companies tended to have a relatively sober outlook (Figure 1-2-6). In specific terms, first, the number of Korean companies making the positive assessment that progress in liberalization will lead to strengthened competitiveness was relatively small. Second, despite their expectation that stepped-up imports and foreign direct investment will create a more active market, the number of Korean businesses that anticipate stiffer competition was relatively large.

Korean companies' distinctive assessment of the impact of China's entry into the WTO can be understood as follows. As mentioned in Chapter 3, the comparatively short history of Korean direct investment in China means that its accumulated expertise and track record are relatively limited. In addition, foreign direct investment by Korean businesses has also been subject to the impact of the 1997 Economic Crisis and there is reportedly a growing sense of insecurity on the part of their overseas subsidiaries.[1-4] Consequently, it may be thought that Korean businesses are focusing their attention on the home front to an increasing extent nowadays, rather than being oriented toward overseas operations.

1-3: A similar tendency is evident, for example, in the results of *The 6th Questionnaire Survey of Japanese Companies in China*, which was conducted by the Japan-China Investment Promotion Organization in March, 2000.

1-4: Seong-Bong Lee, *Korea's Overseas Direct Investment: Evaluation of Performances and Future Challenges* (Korea Institute for International Economic Policy, December, 2000).

Furthermore, for most of the Korean businesses that responded to the survey, the purpose of their presence in China is to produce goods for export to their own country (Figure 1-2-7). This could explain why these companies are not all that inclined to develop a local market for the goods they manufacture in China on the occasion of the reduction of that country's tariffs and the improvement of the operating environment there. Rather, Korean companies tend to be much more concerned about competition – from other foreign firms with production bases in China and Chinese firms – in the realm of exports bound for Korea. Conversely, though, it can thus be assumed that this factor will cease to exist as the structural adjustment of the Korean economy progresses and the country's business community acquires a more extensive track record in foreign direct investment. There is, therefore, ample possibility that Korean companies will do an about-face and take a more aggressive stance vis-à-vis moving into China.

Section 3: Model Simulation Results

This section estimates the economic effects of China's accession to the WTO from a macroscopic viewpoint using a general equilibrium model. As demonstrated in Section 2, the questionnaire survey indicates that many businesses expect positive effects from China's accession to the WTO. These expectations will be compared with the estimates derived from the economic model.

(1) Summary of Previous Estimates

Originally developed as a world trade model for static analysis, the GTAP model has been receiving many modifications in recent years for dynamic analysis. The latest version 6.1 of this model has formally incorporated variables that reflect the capital accumulation effect, providing the option for performing dynamic analyses.

On China, a couple of working papers discussed the effect of China's growth deceleration on the world and the effect of the tariff reduction by other countries on Chinese exports, as well as an assessment on the impact of China's WTO accession. One of the former studies is "China's Accession to the WTO: Timing is Everything" (Hertel. T and T. Warmsley) published in September, 2000.

As the contents of commitments have become available due to accession, this study can make the most updated simulation on the latest information on tariff reduction.

(2) Estimates Derived from the GTAP Model

i) Simulation Scenario

This simulation is conducted to measure the impact of tariff reduction committed by the Chinese government. While the approach of general equilibrium models is inherently limited to static analysis, the model builders have tried to widen the function of the model to assess some aspects of the dynamic effects of trade liberalization. As a result, the recent models can incorporate a mechanism of capital accumulation induced by trade liberalization. The mechanism is as follows: increased incomes caused by an enhanced efficiency of the economy lead to increased savings, and the increased savings induce an increase in investment, and such an increase continues until the increased capital stock requires a larger amount of capital depreciation to balance the net investment.

As a model option, free capital movement is chosen. This option assumes that there may be changes of the amount of international capital flows, filling the gaps in the rates of returns of capitals. This simultaneously means that the current / trade balance may change.

This study uses the latest version 5.0 of the GTAP database released in the summer of 2001. The simulations cover eight regions, nineteen industries and four production factors (land, unskilled labor [as the "sluggish" factor], skilled labor [as the "mobile" factor], and capital [mobile]) with particular emphasis placed on China, Japan, Korea and their industries susceptible to China's accession to the WTO. Tables 1-3-1 and 1-3-2 show the areas and industries covered by the simulation.

The shocks implemented to the simulation model are as follows:

1. Tariff rates lowered to the level of 17% for grain, agricultural produce, and processed foods;
2. Tariff rates lowered by 13.85% points for textiles, chemicals, metals, general machinery, and other products of the manufacturing industries excluding transportation equipment and electric machinery;
3. Tariff rates lowered to 0% for electric machinery;
4. Tariff rates lowered by 52% points for transportation equipment.

If the above conditions result in any rises to existing tariff rates, no change is assumed.

ii) Simulation Results

a) China will enjoy considerable increases in output and economic welfare

The simulation result indicates that China's lowering of its tariff rates after its accession to the WTO will increase its real GDP by 3.2% and economic welfare by $13,301 million dollars (Table 1-3-3). On the other hand, China's trade surplus will receive an impact to decrease but only by less than 0.1 %; while both real exports and imports will increase, the increase in imports will exceed this, reflecting the rise in the rate of return on capital in China and drawing foreign capital.

b) Impacts on sector base: mixed results.

On sector base impact, the production of labor-intensive industries will expand, and that of capital- and land-intensive ones will decrease. The latter sectors include grain, food products and transportation equipments. This is because tariff reduction will lead to revelation of the comparative advantage reflecting the resource endowment in China.

While capital-intensive industries, in particular automobile manufacturing, may have an adverse effect in the simulation, actual production of such industries may not decline. This is because the direct investment inflow is active in the sectors, and the technological improvement will more than offset the adverse effects.

Industries other than grain, food, and transportation equipment will generally increase output. In particular, the production of electrical appliances will increase by as much as 14.61 %. This increase will be promoted by China's improved price competitiveness. Lowered tariffs will result in decreased prices of imported materials and parts necessary for production in the sector.

c) Japan and Korea will receive benefits

Japan and Korea will be the two largest beneficiaries of China's WTO accession. Japan will enjoy increases in the production of chemicals, metals, transportation equipment, etc. The production of transportation equipment will show a notable increase of 1%. This will result from the increased exports of these products to China.

Korea will get a production increase in industries other than grain, transportation equipment and electrical appliance industries. This will be caused by increased imports of these products to China.

d) Comparison with the questionnaire result

The simulation results were compared with the questionnaire result described in the previous section. Interestingly, they are consistent with each other in some points. First, many businesses (notably local industries) expected that China would increase exports of electrical appliances. Likewise, the simulation result indicated that China would increase exports of these products and consequently increase the output. The second expectation found in the questionnaire result was the activated economy through direct investments. The simulation result also shows a large capital stock accumulation in the electrical appliance industry.

Table 1-3-4 shows the changes in GDP by country and industry brought about by China's lowering its customs duties after its accession to the WTO.

iii) Impact on Trade Intensity

The tariff reduction will generally increase bilateral trade between China and other countries, but with differing magnitudes. This may raise the question as to which country will have a stronger trade relation with China. This is measured by the "trade intensity index". The "export intensity index" adjusts export shares of the exporting

country by the relative size of total imports in the importing country. An index greater than unity indicates that the two countries have relatively strong ties.[1-5] The import intensity index can be obtained by changing exports with imports.

Table 1-3-5 shows the changes of China's trade intensity indexes caused by WTO accession. In relation to Japan and Korea, China's export intensity will decline, and import intensity will rise. Tariff reduction by China will intensify her imports from Japan and Korea, while cheaper imported goods will reduce the production costs in a wider range of industries. This in turn will stimulate China's exports to all over the world, not limited to Japan or Korea. This explains the decline in her export intensity indexes with Japan and Korea.

iv) Note on the limitation of the simulation

General equilibrium models in principle measure impact by comparing two situations, i.e. with and without policy shocks, assuming full-employment always prevails. However, China actually has potential under-employment in its inland areas. This means that if labor-intensive industries increase their outputs particularly in the coastal areas, then they may absorb unutilized labor from the underemployment regions to increase their outputs. This may result in an increase in the production level of such industries without negatively affecting the production in transportation equipment and other relatively capital-intensive industries.

Moreover, as indicated in section 1 and 2, China's WTO commitments cover a very wide range of measures. Our model simulation above only assesses the impact of tariff reductions. Accordingly, the assessment fails to capture the impacts of the measures with potential benefits. Such measures would be the facilitation of direct investment that may cause more intra-industry trades, service deregulation, introduction of non-discriminatory treatment, improvement of business environments, and

1-5: Export intensity index IEX is defined as $IEXij = (Xij/Xi)/(Mj/(MW - Mi))$ where Xij/Xi represents the share of country j in the total export of country i and $Mj/(MW - Mi)$ means the share of country j in the total world imports except country i's imports. Import intensity index IIM is obtained from $IIMij = (Mij/Mi)/(Xj/(XW - Xi))$. The underlying idea of the index is: even though the export share for a given country may be small, it cannot be concluded immediately that a trade relationship is weak if the importing country is small and, therefore, has a small share in the global market.

international dissemination of structural adjustment. It is important to keep in mind that such measures might have different impacts.

Section 4: Conclusions and Policy Implications

(1) WTO Accession – Wide Range of Expected Benefits to Business

The commitments made by China will generate a wide range of benefits for business both inside and outside of China. First, trade with China will increase owing to liberalization measures such as tariff reduction and trade facilitation in China, as well as regulatory reforms in China. Second, direct investment will increase, reflecting the investment and service deregulation and application of non-discriminatory treatment to both foreign and domestic firms. Moreover, the business environment in China will improve, and this will in turn make China attractive as a site for production bases and headquarters in Asia. In addition, freer trade and investment with China will induce structural adjustment in her trading and investment partners.

Results of our questionnaire survey illustrate that the companies located in China recognize the effects of WTO accession. These foreign companies tend to expect more benefits through the promotion of exports and improvement of their businesses than local companies do. This may reflect an expectation of market revitalization due to an expansion of imports and keener competition due to foreign direct investment. Local companies, on the other hand, appear to feel a menace from WTO accession and foresee more severe competition and an increase in imports. However, if we look at the specific effects of WTO accession, the Chinese companies also stressed an expansion of business through increased exports as the most important aspect of accession.

(2) The Impact of Trade Liberalization in China

Our model simulation illustrates a large benefit from China's WTO accession. The largest proportion of the benefits belongs to China herself. The GDP of China will rise in the long run by 3.2 %. Welfare gains to the Chinese people, measured by the Equivalent Variance, will be large. Due to an expansion of income, imports will increase by two digits, and will be more than exports. However, the trade surplus will reduce only marginally. It is noteworthy that Japan and Korea are only two of the

foreign countries that will receive significant benefits from China's tariff reduction through WTO accession.

In general, labor-intensive industries will expand in China, while capital-intensive industries will face an adverse effect. The former group includes textile and electronics and the latter includes transportation equipment. Naturally, the comparative advantages in trade will reflect the resource endowment in China. It should be noted, however, that the massive inflow of direct investment expected in automobile manufacturing, which cannot be covered by the model, may more than offset the adverse effect.

(3) Significance to Japan and Korea

Japan and Korea have a greater opportunity to share the benefits provided by China's WTO accession. As is shown in the model simulation above, Japan and Korea will receive larger benefits than other countries. China's import intensity indexes with Japan and Korea will increase, while export intensity indexes will somewhat decline. The trade liberalization by WTO accession will make China a more attractive market for Japan and Korea.

Reflecting the gaps in economic development stages, the industrial and export structures are different between China, Japan and Korea. The complementarity in exports caused by the difference will create trade which will reflect comparative advantages, at least for some years. In addition, direct investment from Japan or Korea, which was not very active in 1990s, and trade with China will stimulate each other, once more liberalized and improved trade and investment environments are achieved in China. In the longer-run, horizontal trade will increase its share in trade among the three countries. The amount of trade with China, accordingly, will not necessarily diminish because the intra-industry or horizontal trade will compensate the decrease in trade based on complementarity.

Our business survey provided an interesting contrast between the perceptions by Japanese and Korean companies on the impact of China's WTO accession. Among foreign companies, Japanese respondents were highly inclined to regard China's WTO accession as a major chance for increased business. On the other hand, Korean

companies tended to have a relatively sober outlook. Above all, Korean companies tend to be much more concerned about competition – from other foreign firms with production bases in China and Chinese firms – in the realm of exports bound for Korea. Conversely, though, it can thus be assumed that this factor will cease to exist as the structural adjustment of the Korean economy progresses and the country's business community acquires a more extensive track record in foreign direct investment. There is, therefore, ample possibility that Korean companies will do an about-face and take a more aggressive stance vis-à-vis moving into China.

(4) Policy Implications

China's WTO accession will provide the three countries with chances for further growth. Japan and Korea are going to be able to take advantage of liberalized trade and direct investment with China. The increased trade reflecting comparative advantages with China will induce the structural adjustment in the trading partners to achieve more efficient division of industries. The higher opportunities for direct investment to China might expedite an outward move of production bases from Japan and Korea, resulting in a dislocation of labor. Japan and Korea will be required to help bring up new industries to absorb the resulting dislocated labor, as well as provide social safety nets.

Above all, China needs to bring the WTO commitment to effect. Improving business environments is all important. Trade liberalization, whose macroeconomic impact is large, will have an adverse impact on some sectors, notably capital-intensive industries. Drawing foreign capital and ensuring technology transfer will be essential to strengthen such sectors.

Chapter 2 Analysis on Free Trade Areas for China, Japan and Korea

This chapter will assess impacts of regional integration, assuming various hypothetical memberships of FTAs. An economic model is utilized to sketch out the outcomes. An interesting point is who gains the most, and who gains the least in each of the combinations. Moreover, the analysis may possibly demonstrate what would be the first best solution and what would be the second best.

Section 1: China, Japan and Korea Facing the Challenge of Worldwide Regionalism [2-1]

Globalization has characterized the world economy in the recent years. Economic integration through freer trade and investment has progressed throughout the world. The accession of China to the WTO is a symbolic event as the most populous nation in the world has joined the global institution, with the objective of promoting trade and investment.

Regionalism is another major trend in economic integration. Most of the industrial and developing countries in the world have become members of some regional trade agreements. At present, more than one-third of world trade takes place under such agreements. In the Asia-Pacific region, regionalism took the shape of APEC at the end of 1980s. The historic Bogor Declaration in 1994 set a target to achieve free trade and investment in the years 2010/2020. But in the late 1990s, Asian economies appeared to seek another path for regional integration, i.e. FTAs in the subset of the Asia-Pacific region. ASEAN has taken action toward trade liberalization among its members.

Among these many existing and upcoming regional trade agreements, two trade blocs draw special attention because of their substantial impact on the world economy as a whole. First, the EU continues to widen and deepen its ongoing economic integration. The European Council met in Nice on December 7 - 9, 2000, and reaffirmed the historic significance of the EU enlargement process. Many expect the

2-1: This section is based on research outcome for the year 2001, compiled through joint research of three institutions, KIEP in Korea, DRC in China and NIRA in Japan.

advent of a much-enlarged EU encompassing many Central and Eastern European countries before 2010. In addition, the Cooperation Council was created by the 1995 Madrid Treaty between the EU and the MERCOSUR (Mercado Comun del Sur), which Chile joined in 1996, with a view toward forming a free trade area. Having successfully concluded an FTA with Mexico, the EU will form another cross-regional FTA with major Latin American countries.

On the other hand, after having abandoned its long-standing opposition in the 1980s, the U.S. has been pursuing economic integration in the Americas. In 1990, it announced the Enterprise for the Americas Initiative to explore a hemisphere-wide free trade zone between the countries of North, Central and South America. In 1992, the U.S. signed NAFTA with Canada and Mexico. At the Summit of Western Hemisphere Countries in Miami in 1994, regional leaders agreed to form the FTAA (Free Trade Area of the Americas); in April, 2001, thirty-four regional leaders met in Quebec City and pledged to continue to move forward with negotiations for an FTAA by 2005. Given that the Bush administration also seems to support this policy, the FTAA, whose coverage is the entire western hemisphere, will probably emerge within this decade. Consequently, before long, it is quite likely that world trade will be dominated by two mega-trade blocs: one in Europe and the other in the Americas.

Despite the rise of regionalism in Asia, regionalism has not taken root in Northeast Asian countries.[2-2] So far, no Northeast Asian country belongs to any trade blocs. In other words, still ongoing economic integration in Northeast Asia is exclusively informal, driven by market forces that have no institutional support framework. Notwithstanding, some countries have become interested in bilateral FTAs, and China, Japan and Korea have been engaged in the ASEAN + 3 process, in which institutionalization has been proceeding quite rapidly since 1997.

2-2: *Report and Policy Recommendations on Strengthening Trade Relations between China, Japan and Korea* in joint-research of three research institutions.

Section 2: Current Status of Intra-Regional Trade

(1) Trade Intensity Index

We will examine how strong the ties of trade are between the three countries. Share is a suitable indicator of the relative importance of the respective trade partners. It does not, however, explicitly show the strength or intensity of trade. Even though the export share for a given country may be small, it cannot be concluded immediately that a trade relationship is weak if the importing country is small and that it has a small share in the global market.

As was indicated in Section 3, Chapter 1, such relative intensity is captured by the "trade intensity index." The "export intensity index" adjusts export shares by the relative size of total imports in the importing country. An index greater than unity indicates that the two countries have relatively strong ties.[2-3] The following parts of this section examine the intensity indexes of the three countries.

(2) Trade Intensity of China

China's export intensity index with Japan continued to be high, at a level of around 2 to 3 (Figure 2-2-1). In particular, the index rose in the 1990s, except for 2000, when an increase in China's exports was extremely rapid and exports to Japan did not catch up. The intensity index of exports to Korea has shown a similar trend to that of Japan, but the level was lower, around 1.5 to 2.

As for the intensity of China's imports, the most significant feature is the rise of the index of imports from Korea (Figure 2-2-2). The index rapidly rose from a level of below 1 to more than 4. While the intensity index of imports from Japan remained high, at a level of around 2.5, that of Korea became higher in the early 1990s.

(3) Trade Intensity of Japan

The export intensity indexes of Japan with China and Korea in the 1990s were at a somewhat lower level than those in the early 1980s (Figure 2-2-3). The index with

2-3: Export intensity index IEX is defined as $IEXij = (Xij/Xi)/(Mj/(MW - Mi))$ where Xij/Xi represents the share of country j in the total export of country i and $Mj/(MW - Mi)$ means the share of country j in the total world imports except country i's imports. Import intensity index IIM is obtained from $IIMij = (Mij/Mi)/(Xj/(XW - Xi))$.

Korea was still high, around 2.5 in the 1990s, while that with China was a little less than 2. Japan's export intensity with ASEAN4 has continued to rise since the mid-1980s. This reflects the exports of parts and materials from Japan, backed up by active direct investment to ASEAN4 countries. The intensity with the US has shown a moderately declining trend since the late 1980s.

The rise in the intensity index of import from China was remarkable, approaching almost 4, in the late 1990s (Figure 2-2-4). Compared with China, the index of Korea has declined since the late 1980s, but the level is still high at around 2. The extremely high intensity of import from ASEAN4 reflected oil imports.

(4) Trade Intensity of Korea

The export intensity index with China rose rapidly in the 1990s (Figure 2-2-5). It has declined since 1998, but the level was still high, at around 3 in 2000. The index with Japan has stagnated since the late 1980s. But the level was still at around 2, higher than that with the US.

The import intensity index with Japan continued to be high, above three in the 1990s (Figure 2-2-6). That with China was stable, at around 2, but declined in 2000 to 1.5.

(5) Trade Intensity among Three Countries

The intensity indexes summarized above show that trade relations among China, Japan, and Korea have been very strong. The indexes in all combinations of these three countries exceed 1.5. In particular, the indexes for the following cases exceeded 2 (Figure 2-2-7).

- China's export to Japan, and Japan's import from China
- Japan's export to Korea, and Korea's import from Japan
- Korea's export to China, and China's import from Korea
- China's import from Japan

(6) Changes in Trade Structure

For the past ten years, complementarity has faded in the trade among the three countries. In other words, industrial divisions of labor between Japan and Korea as well as between Korea and China are less distinctly vertical, even though vertical division of labor between China and Japan is still quite evident. In fact, the structures of Sino-Japanese trade and Sino-Korean trade have demonstrated a tendency towards convergence. As for Sino-Japanese trade, the proportion of machinery equipment and electronic products has considerably increased, taking the form of processing trade. While most is produced by Japanese-invested enterprises in China, it is sure that intra-industry trade and intra-company trade have expanded. The commodity structure of Korea's imports from China has also undergone a drastic change in the 1990s. In the early 1990s, the main importable goods from China were primary goods. In recent years, however, Korea has imported a substantial amount of industrial goods from China. As a result, intra-industry trade will become more prevalent.

Despite an increasing horizontal division of labor among the three countries, each country still enjoys its own comparative advantage. Chinese commodities that have competitiveness against Korea and Japan are mainly farm produce or such labor-intensive industrial products as foodstuffs, miscellaneous manufactured products, wooden products and shoes. Japanese industries with comparative advantage are mainly concentrated in machinery and basic materials, and Korea has comparative advantage in chemical products, mineral products, metal, plastics, rubber and machinery.

(7) What would happen if a FTA is formed among China, Japan and Korea?

At least partly reflecting the benefit of proximity, trade ties among the three countries have already been stronger than those with other countries. However, once a FTA is formed among the three countries, economic integration will be much stronger, causing various shocks and inducing adjustments and dislocations. A larger integrated market will provide businesses with massive opportunities to explore the benefits of increasing returns to scale. The size of the three countries combined amounts to 19 % of the world GDP, 24 % of the world's population, and 12 % of world exports in 2000.

In addition, Northeast Asia has been and is supposed to be one of the major

centers for economic growth and "the factory of the world". A large growth potential exists in the area, and the potential would possibly expand through synergetic effects expected by integration.

In the next section, the impact of this will be assessed by means of an applied (computable) general equilibrium model. The model estimate will only cover the effects of tariff elimination and therefore cannot capture the dynamic / synergetic effects of technological progress and other benefits stemming from integration. It will, however, illustrate one of the most important impacts, i.e. efficiency gains from liberalized trade.

Section 3: Model Simulation Results

(1) Assumptions for Simulation

This section summarizes simulation results for various FTA memberships using a GTAP model. As in Chapter 1, simulation here will adopt the assumption that capital accumulation will take place and international capital movement is assured. The simulations also use the latest version 5.0 of the GTAP database and cover eight regions, with 19 industries and 4 production factors.

As a shock, a tariff rate of 0% was applied to bilateral trade inside the hypothetical cases of FTAs (Table 2-3-1).

(2) FTA among China, Japan and Korea

As a standard case, impact is assessed in the case that China, Japan and Korea simultaneously join an FTA. Alternative cases are any two of the three countries forming an FTA. Among the cases, the three-country FTA generates the largest benefits in terms of real GDP and economic welfare (Table 2-3-2). In this case, the real GDP of Japan increases by 0.2 %, China by 1.3%, and Korea by 3.2 %. In terms of absolute value of economic welfare, Japan would enjoy a gain almost equal to that of Korea and China. While free capital movement is set in the model, trade balance is virtually unaffected.

As for the sector-base impact by a three-country FTA, elimination of tariffs

would naturally induce bilateral trade among the three countries to reflect comparative advantages in greater degrees. While production of textiles would increase in all three countries with increased exports to the US and the EU, specialization would take place in grain, food products and electric equipment in China, other manufacturing goods in Japan, and food products and chemicals in Korea.

Among alternative cases, a Japan-Korea FTA may be the most feasible under recent circumstances. Gains in real GDP would be about half of 0.1 % for Japan and 1.1 % in Korea. Welfare gains would be around 2 billion US dollars and 4 billion US dollars, respectively. The gains from tariff elimination would be modest, compared to the three-country-FTA case, probably because industrial structures between Japan and Korea are similar, and there is smaller room for specialization.

It should be noted, however, the tariff elimination could be one of the wide-ranged menu items included in the package of an FTA. As the industrial structures of Japan and Korea are similar, there might be a better chance for an FTA to lead economies based on a horizontal division of labor, together with firm-level integration. Several existing studies have suggested that the most significant feature of a Japan-Korea FTA would be measures to promote an integration of firms, rather than the reduction of tariff rates. This type of integration might involve a lesser degree of painful adjustment processes. Thus, a Japan-Korea FTA might be considered as the first step toward a larger FTA. Moreover, forming a FTA implies that more domestic sectors will be exposed to competition with foreign economies. A FTA would bring about more cases where less efficient domestic sectors/firms would face reform. In the long run, this would contribute to bolstering the growth of these economies.

Forming an FTA will naturally intensify the ties in terms of trade between the joining members. By means of a trade intensity index (see Section 3 in Chapter 1 for definition), the degree of the tie through trade can be measured. Table 2-3-3 shows that all the indexes between the three countries will rise. In particular, China's imports from Korea, Japan's imports from China, Korea's imports from Japan, and Korea's exports to China, which recorded the highest values in the indexes in 2000, will become extremely intensified after forming a FTA. The correspondence between before and after forming a FTA implies that the strong complementarity shown by the high indexes

in such trade combinations would be further accelerated by a FTA.

(3) FTA by China, Japan, Korea and ASEAN

A simulation is undertaken on the hypothetical FTA of the three countries plus ASEAN. The benefits are, as expected, the largest among our simulations (Table 2-3-4). All three countries, as well as ASEAN, will gain large increases in GDP and economic welfare. While such an arrangement is outside the short-run scope, the magnitude of benefits should be emphasized.

Section 4: Conclusions and Policy Implications

(1) Challenge of Worldwide Regionalism

Regionalism has become a major world trend for economic integration. Most of the industrialized and developing countries in the world have committed themselves to some regional trade agreement. At present, more than one-third of world trade takes place under such agreements. In the late 1990s, Asian countries appeared to seek the possibility of forming FTAs in the subset of the Asia-Pacific region. ASEAN has taken actions toward trade liberalization among its members.

Despite the rise of regionalism in Asia, regionalism has not long been a familiar feature in Northeast Asian countries. So far, no Northeast Asian country belongs to any trade blocs. Notwithstanding, China, Japan and Korea have been engaged in the ASEAN + 3 process, in which institutionalization has been proceeding quite rapidly since 1997.

(2) Strong Ties in Trade among China, Japan and Korea

The degree of trade ties, measured by a trade intensity index among China, Japan, and Korea has been strong. In particular, (1) China's exports to Japan, and Japan's imports from China, (2) Japan's exports to Korea, and Korea's imports from Japan, (3) Korea's exports to China, and China's imports from Korea, (4) China's imports from Japan have a strong intensity.

These existing strong ties may reflect the geographical proximity of the three countries. In addition, the four cases above achieved higher intensity due to greater

complementarity. For the past ten years, however, complementarity has faded in the trade among the three countries. In fact, the structures of Sino-Japanese trade and Sino-Korean trade have demonstrated a tendency towards convergence. As a result, intra-industry trade has become more prevalent. The amount of trade need not decline, as an increase in intra-industry trade may compensate the decrease in trade based on complementarity.

(3) Simulation Results on an FTA in Asia

Our simulation using an Applied General Equilibrium Model suggests that the benefits in terms of GDP and economic welfare become larger in the case where all three countries form an FTA, as opposed to the case where only two countries form it. As indicated by the great rise in the intensity indexes in the simulation, the three-country-FTA case will most intensify trade ties.

The benefits, however, will involve adjustment costs due to the dislocation of employment required for optimizing allocation of limited economic resources. A so-called "industrial hollowing-out" or de-industrialization inside Japan will occur. The economies need to expedite economic reforms to help bring up new industries to absorb such a dislocated labor force.

A simulation is also undertaken on a hypothetical FTA composed of the three countries plus ASEAN. The benefits are, as expected, the largest. All three countries, as well as ASEAN, will gain large increases in GDP and economic welfare. While such arrangement is outside the short-run scope, the magnitude of benefits should be emphasized.

(4) Japan-Korea FTA and the Necessity for Further Study

Between Japan and Korea, the governments have discussed the possibility of a FTA. If an agreement is made in the future, the economic integration of two countries will change trade and investment structures throughout Asia. The simulation result in this case shows a smaller macroeconomic benefit than the three-country-FTA case. But it may be noted that, as the industrial structures of Japan and Korea are similar, there might be a better chance to lead to a horizontal division of labor, together with firm-level integration. Several existing studies have suggested that the most

significant feature of a Japan-Korea FTA would be measures to promote the integration of firms, rather than the reduction of tariff rates. This type of integration might involve lesser degrees of painful adjustment processes. Thus, a Japan-Korea FTA might be considered as the first step toward a larger FTA.

In this section, various simulations were conducted by using the general equilibrium model to estimate the impact of elimination of tariffs. But the elimination of tariffs is only one aspect of the FTA. They only provide a very rough picture of outcomes. Further discussion and study would be necessary to more fully capture the impact of a FTA. Exchange of knowledge and perspectives among the three countries on economic integration would lead to a common understanding, and this would pave the way to formulate the best perspective for the three countries.

Chapter 3 Direct Investment in Northeast Asia – Perspectives and Issues –

Section 1: Trends in Direct Investment

(1) Global Trends in Direct Investment

Global direct investment flows continue to increase steadily. In the last five years, their scale has more than tripled. In the year 2000, both outward and inward direct investment each exceeded the one trillion dollar level (Tables 3-1-1 and 3-1-2).

When direct investment flows are broken down by region, the industrialized economies except for NIEs (Newly Industrialized Economies) account for around 90 % of outward direct investment and from 70 to 80 % of inward direct investment. While the position of the industrialized economies except for NIEs has long been dominant as investors, their position as recipients of direct investment has also been on a rising trend in recent years.

The EU and the US account for around 80 % of global outward direct investment and 60 to 70 % of global inward direct investment. By contrast, Japan's weight in the global direct investment flows is limited. While global direct investment continues to expand, Japan's outward direct investment has been on the downward trend since the second half of the 1990s, and its share of inward direct investment seems not to exceed 1 %.

Among the developing economies and NIEs, the weight of Asia, especially that of NIEs is relatively high. Asia accounts for between 70 to 80 % of all outward direct investment and around 60 % of all inward direct investment by developing economies and NIEs. Their share in both outward and inward direct investment declined sharply in 1998, apparently reflecting the Asian Economic Crisis. However, in 2000, their direct investment appeared to start recovering.

(2) Trends in Direct Investment for China, Japan, and Korea

Japan has been a major supplier of savings in the world. But the Japanese share of outward FDI was modest and on a declining trend in the 1990s. During 1989-1994, the averaged share of Japanese outward FDI was 13 %, followed by 6 % in

1995 and 3 % in 2000. The share of Korean outward FDI was about 1 % in the mid-1990s, and sharply declined thereafter, to around 0.3 % in 1999 and 2000. China, excluding Hong Kong, has played a minor role in outward direct investment.

FDI inflow has not at all been a major source of investment in Japan (Table 3-1-3). Korea had followed the same track until 1997, but since 1998, Korea switched her policy toward attracting foreign capital in accordance with the structural adjustment measures after the Economic Crisis. The share of Korean inward direct investment in GDP rapidly increased since 1998. China continued to be a major absorber of FDI. Her share of inward FDI was more than 10 % in mid-1990s. The share declined thereafter, but including Hong Kong, it still remained at the level of about 8 % in 2000.

(3) Intra-regional Direct Investment Among China, Japan, and Korea

In terms of volume, Japan is the main investor and China the main recipient of direct investment, with Korea positioned between the two. The largest bilateral flows among the three nations are from Japan and Korea to China and from Japan to Korea (Table 3-1-4). The average amount of intra-regional investment by Japan is much larger than that of China and Korea (Table 3-1-5).

A "FDI intensity index" is defined by adjusting for the host country's share in total world FDI. Table 3-1-6 [3-1] shows FDI intensity in 1995. Japan's index with China was about 1 which means the relation is at an average level. That with Korea was higher, though it is smaller than in 1985. Japan has closer FDI relations with the ASEAN4 countries and the NIEs (excluding Korea), whose indexes for 1995 are 4.9 and 3.2 respectively.

To examine whether the intra-regional FDI is large or not, an econometric test is undertaken (Table 3-1-7). The test adopted here is a so-called gravity model. Like trade, FDI is a transaction between two countries. The remoter the two countries are, the less the bilateral FDI flow is expected to be. A regression analysis was carried out by setting distance, income, trade and some others factors, as independent variables. (Tables 3-1-8 and 3-1-9)

3-1: Sinpo, et.al "A Perspective for Economic Relation in Northeast Asia in the 21_{ST} Century" submitted to this Symposium in 2000.

The gravity model analysis indicates that FDI flows from Japan to China and Korea in 2000 are lower than predicted by the regression.[3-2] This, with the comparison of the results with the world average, implies that Japanese FDI to China and Korea has large room for expansion. Indeed, many recent anecdotal examples also suggest an upward trend of Japanese FDI, especially to China after WTO accession.

Section 2: Status of Foreign Companies in China

(1) Improving Environments for Foreign Companies in China

China has been gradually revising its investment-related laws and regime in preparation for joining the WTO. Such revisions include the amendment of The Foreign-Funded Enterprise Law of China on October 30, 2000 and the revision of the Chinese-Foreign Joint Ventures Law in March, 2001.

The fundamental orientation of drive for the provision and revision of China's laws and regulations pertaining to inward direct investment is to establish an economic system that assures liberalization and transparency. But the application of the principle of non-discriminatory treatment can have a greater significance for foreign companies in particular. Specific illustrations of this are changes that have already been introduced through the above-mentioned legal amendments. These include China's shift from compelling wholly foreign-owned businesses to export to encouraging them to do this, elimination of the obligation to practice local procurement of raw materials and parts, and abolishment of foreign-exchange balancing restrictions. Likewise, progress is also being made with respect to joint ventures through such steps as doing away with the list of restricted industries for foreign equity, eliminating constraints on the ratio of domestic sales, and relaxing controls on overseas remittances. In line with this trend, China is expected to improve the environments for FDI.

(2) Significance of Foreign Companies in China

As of 1999, the proportion of foreign companies among the total number of enterprises in China [3-3] remained at about 7%. In terms of gross output value, however,

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3-2: The estimated value is larger by more than 50 % than actual values in 2000.

3-3: All state-owned industrial companies and companies with an annual sales of over 5 million yuan.

foreign companies accounted for 16%. Moreover, this share has grown, more than doubling in the last five years (Figure 3-2-1). In terms of value added per company, although small-scale foreign-owned businesses are excluded from the statistics, the level for foreign companies is approximately twice that for all enterprises and is steadily rising (Figure 3-2-2).

The share of foreign companies in terms of total investment in fixed assets has tended to fall off in the last few years. Until recently, though, foreign companies have made a disproportionately large contribution outweighing their share in the total number of enterprises in China (Figure 3-2-3). In the mid 1990s, foreign companies with a share of around 4% in the number of enterprises in China had made about 10% of the total investment in fixed assets in China. The share of foreign companies in exports has risen constantly reaching around 46% in 1999. In these ways, foreign companies in China have played a very crucial role in obtaining foreign currency.

Foreign companies tend to have provided greater employment opportunities in urban areas than in rural areas, although the share of jobs in foreign companies is still not large. Given the fact that wage levels are relatively high compared with the national average in China, favorable opportunities for employees are presumably being provided by foreign companies (Figure 3-2-4).

(3) The Role to Transfer Technology by Foreign Companies

One of the important roles of foreign companies for recipient economies is to transfer their technology and managerial know-how to domestic companies.

Comparing foreign and Chinese companies' business indicators, it is judged that foreign companies are more efficient than Chinese companies (Figures 3-2-5 and 3-2-6). For instance, the ratio of total profit to sales, that of sales profit to assets and the asset turnover ratio for foreign companies has consistently exceeded corresponding ratios for Chinese companies.

Thus, it is likely that foreign companies in China can play an important role in bringing about higher profit margins and higher asset efficiency in Chinese economies.

Among foreign companies, the number of Japanese businesses with operations in China totals approximately 18,000 (as of 1999), and that of Korean companies is 4,840 (as of 2000).[3-4]

Seventy-eight Japanese companies are listed among the top 500 foreign businesses in China in terms of sales volume. However, the overall business situation of Japanese companies has not been good. According to a survey of 1,276 Japanese businesses in the manufacturing industry that have operated in China, their profit indicators are not excellent at all (Table 3-2-1).[3-5] Another survey shows that Japanese companies in China are struggling to improve their profit performance and moreover, in many cases, their sales, profits and profit ratios are not improving according to their plan.[3-6] With respect to the objective of business, the number of Japanese companies whose objective is to tap into China's domestic market is climbing. Nevertheless, in recent years, the export proportion of their sales is at a level of more than 50%.

Meanwhile, according to the findings of a questionnaire survey on 57 Korean companies (all industries), their profit indicators are superior to those of Japanese firms.[3-7] But even so, their numbers are still at a level that falls short of the collective performance of foreign companies. Additionally, when the same survey was carried out in 1998, it revealed red ink in the net profit for Korean businesses. This suggests that it may not be appropriate to simply describe the business situation of Korean companies in China as being favorable. Korean companies, like their Japanese counterparts, also export more than half of total sales.

Japanese and Korean companies, when compared with the overall performance of foreign companies in China, are in general facing difficult business circumstances.

3-4: Mitsubishi Research Institute, Inc., ed., *Chugoku Jouhou Handobukku 2001 Nenban* (Handbook on Information about China 2001), Sososha, 2001, and information provided by the Export-Import Bank of Korea.

3-5: Ministry of Economy, Trade and Industry, *The 27th Survey of Overseas Business Activities*, 2001.

3-6: The other surveys include *The 6th Questionnaire Survey to Japanese Enterprises in China*, which was conducted by the Japan-China Investment Promotion Organization in Mar. 2000.

3-7: The Export-Import Bank of Korea, *1999 Financial Statement Analysis of Foreign Subsidiaries of Korean Companies*, 2000.

Yet, through the process of their activities in China, Japanese and Korean companies are thought to positively affect Chinese companies and the Chinese market in various ways. We will elaborate on this point in the next section.

Section 3: Technology Transfer through Foreign Companies in China

(1) Roles of Direct Investment

Various theories both from macroeconomic and management viewpoints have been set forth to explain the primary factors behind direct investment. On the other hand, concerning the significance of attracting direct investment, the need to ensure stable, long-term capital flows and the transfer of technology and managerial resources encompasses two points. Minimally, however, focus should be placed on the most distinctive characteristic of direct investment – the transfer of technology, production, sales and managerial know-how.

There has been a large amount of empirical research on the technology transfer effects of direct investment based on analysis of productivity differences between foreign and Chinese companies. Nonetheless, research on the ripple effects of direct investment on countries receiving investment is rather rare. The effects of the special attributes of the companies that undertake direct investment are another topic deserving of study.

In what follows, transfer and dissemination of technology and know-how through direct investment will be focused on. We will take up the case of direct investment in China and compare it with the situation of Japanese and Korean companies.[3-8]

(2) Internal Technology and Know-How Transfers by Foreign Companies in China

First, cases in which technology and know-how were transferred inside the same companies will be considered. Comparison was made between Japanese and Korean companies investing in China to assess the degree to which they have expanded local functions and promoted localization of supervisory roles through such efforts as

3-8: See Table 1-2-1 for responses to a questionnaire concerning the attributes of firms.

training and education.

i) Expansion of functions in China

Our questionnaire results revealed the four points described below (Figures 3-3-1, 3-3-2, and 3-3-3).

First, both Japanese and Korean companies held functions of "assembling," "inspection & certification," and "repair & service" from the start.[3-9] Second, over time, a growing number of the companies were expanding functions into such areas as "product development" and "repair & service". Third, only a few companies hold the functions of "R&D," "equipment and tool development," or "parts processing and module production." Fourth, while Japanese companies supposedly are not slow in expanding their local functions, the survey shows that Korean companies seem to have dragged their feet in R&D.

Electrical equipment manufacturers are required to be flexible in order to be able to expand their local functions. This may reflect the fact that electrical equipment companies in comparison with other industries have added functions that were not at the status of their operations in China.

ii) Increase in employment in accordance with expanded functions in China

As foreign companies have expanded their functions in China, their employees have also increased. In comparison between Japanese and Korean companies, a higher proportion of Japanese companies subsequently made increases in their local staffs for newly expanded functions, while the proportion of such increases at Korean companies was lower.

iii) Localization in supervisory functions in China

The localization of staff in charge of supervision of various functions can be regarded as a localization of those functions (Figure 3-3-4 and Table 3-3-1). The degree of localization varies by function. About a half of the companies at startup localized the supervision of such functions as "parts manufacturing," "parts processing & module production," and "assembling." Over time, local staff has also

3-9: 95% of firms responding to our questionnaire were established in the 1990s or later.

played a larger role in supervision for expanded functions such as "parts production" and "assembling." Korean companies seem to have been slower to transfer supervisory functions in "parts production" and "parts processing & module production" and so on.

iv) Internal technology and know-how transfer

Over time, both Japanese and Korean companies have undertaken internal technology transfers. However, the role of dispatched staff in setting up local operations is relatively large in the case of Japanese companies. This may evidence the concern that "Japanese industry does not actively transfer technology." But aside from the speed of technology transfer, the survey indicates that Japanese companies were gradually turning over authority to their local branches. Korean companies in the survey appear rather slow in transferring technology and know-how. That may be because most of the Korean companies surveyed herewith are sole proprietorships and they tend to appoint Korean top managers. As a result, there appears to be a tendency to introduce Korean management styles.

On methods to transfer technology and know-how (Figure 3-3-5), the majority of companies use a combination of "dispatching engineers to the local branch," "Chinese-language manuals," "in-house seminars during business hours," and "on-the-job training." Among such methods, "dispatching engineers" and "on-the-job training" are generally regarded as the most effective approaches, but "holding in-house seminars during business hours" is usually given low marks in evaluation. Indeed, from the viewpoint of effectiveness, formal transfer in the form of licensing and provision of plans and specifications are rated relatively highly. Such formal transfer would be important to promote technology transfer.

(3) External Technology and Know-How Transfers by Foreign Companies in China

External technology transfer means the transfer of staff from foreign companies in China to Chinese local companies.

Like foreign companies, Chinese companies also engage directly in expanding their own functions (Figure 3-3-6). A majority of companies are adding the functions of "in-house R&D" and "product development."

Naturally, developing these new functions requires the employment of workers capable of doing them. However, such capable workers often need to be transferred from the foreign companies.

While most employed staffs were trained internally to perform functions in place since the firm had been established, many companies hire staff with experience working for foreign companies for such newly added functions as "R&D," "product development," and "others"(management, sales, and accounting) (Table 3-3-2). The same can be said of staffs in charge of supervision of various functions (Table 3-3-3). As we pointed out in Figure 3-3-6, most Chinese companies added these functions to existing operations. They were able to count on support from staff with experience working for foreign companies when implementing the expansion.

(4) Issues Faced by Foreign Companies in China

For the promotion of technology and know-how transfer, China's policy for preferential tax treatment has been rated high by foreign companies (Figures 3-3-7 and 3-3-8).

Both foreign and Chinese companies consider the quality of managers and engineers, protection of intellectual property rights and well-prepared infrastructure as important. However, they regard such conditions as still needing to be improved.

Raising the quality of managers and engineers, who are the core players in transferring technology and know-how, has become an issue of vital importance. As regarded by foreign companies, it is important for China to provide adequate protection of intellectual property in pursuant to the commitment in China's WTO membership agreement. While foreign companies regard preferential tax treatment in China as important and evaluate the present situation highly, these special favors will become smaller when China enters the WTO. Therefore, foreign companies need to be ready for such a new business environment.

(5) Other Type of Technology Transfer – Merits of Scope and Agglomeration

While our survey did not cover it, there is another important route for the

transfer of technology. Historically, at the inception stage of the open-door policy in China in 1980s, foreign companies were allowed to be located in limited areas, such as Special Economic Zones. Within these zones, foreign enterprises were collectively located and this resulted in creating a common pool of skilled labor and of local suppliers of parts and intermediate goods. This helped to transfer technology both internally and externally, as well as improve the productivity of foreign companies. The locations for the operation of foreign companies expanded thereafter, however, and such merits of the scope or agglomeration are observed throughout China.

Section 4: Conclusions and Policy Implications

(1) Trends of FDI Flows related to China, Japan and Korea

As for the intra-regional FDI among China, Japan and Korea, Japan has tended to be the main investor and China has been the main recipient with Korea positioned between them.

Japan has been a major supplier of savings in the world. But the Japanese share of outward FDI was modest and on the declining trend in the 1990s. The share of Korean outward FDI was about 1 % in the mid-1990s, and sharply declined thereafter, to around 0.3 % in 1999 and 2000. China, including Hong Kong, decreased her share from 7 - 8 % in the mid-1990s to around 2 % in 1999, but the share recovered to 6 % in 2000.

As a recipient, FDI inflow has not been at all a major source of investment in Japan. Korea had followed the same track until 1997, but since 1998, Korea switched her policy toward attracting foreign capital in accordance with the structural adjustment measures after the Economic Crisis. The share of Korean inward direct investment over GDP has rapidly increased since 1998. China continued to be a major absorber of FDI. Her share of inward FDI was more than 10 % in mid-1990s. The share declined thereafter, but if we include Hong Kong, it still remained at a level of about 8 %.

Japan's presence in FDI to China is not particularly large when compared with that of other developed countries. For instance, Japan's FDI intensity index with

China, that indicates the strength of the FDI relation of Japan with China, has been about 1, which means the relation is at an average level. Japan has closer FDI relations with the ASEAN4 countries and the NIEs. As an investor, Korea's FDI intensity with China was high, but that with ASEAN is a bit higher.

Our gravity model analysis indicates that FDI flows from Japan to China and Korea in 2000 are lower than those predicted by the regression. This implies that Japanese FDI to China and Korea has large room for expansion. Indeed, many recent anecdotal examples also suggest an upward trend of Japanese FDI, especially to China after WTO accession.

(2) Position of Japanese and Korean Companies in China

As of 1999, the number of foreign companies occupied about 7% of total enterprise in China. Among foreign companies, approximately 18,000 Japanese (as of 1999) and 4,840 Korean (as of 2000) companies with operations in China are identified.

In terms of project size, Japanese investment has tended to be larger than that of Korea. While all inward direct investment in China including that from Japan and Korea is concentrated in the manufacturing sector, especially in electronic and telecommunication equipment, the focus of Japanese and Korean direct investment in China has been more diversified in such manufacturing sectors as chemicals, machinery and transportation equipment.

Foreign companies in China recorded better performance measured by such business indicators as the ratio of total profit to sales and the asset turnover ratio. However, performance of Japanese and Korean companies seems not to be so good generally. This holds true in comparison with the performance of American companies in China. From those observations, concerns may arise that the factors resulting in inferior business performance of Japanese and Korean companies in China will hold down investment activities in China.

(3) Challenges Faced by Japanese and Korean Companies in China

The questionnaire survey results show that Japanese companies in China expand their business functions. The results also made clear that they gradually entrust

supervisory roles with local staffs, mainly for expanded functions, which can be regarded as localization of technology and know-how. This seems to go against the common presumption that "Japanese industry is not active in technology and know-how transfer." Rather, in comparison, Korean companies tend to lag behind in technology transfer.

In addition to internal transfer, foreign companies function as a supply source of experienced staff for Chinese companies. Chinese companies have enlarged their business functions over time, and in large part, supervisory roles tend to be performed by staff from foreign companies as well as by individuals from other Chinese companies. This point is a distinguishing feature of "R&D" and "product development." Labor mobility from foreign companies to Chinese ones, problematized as the phenomenon of job-hopping, plays an indispensable role in technology and know-how dissemination in China.

On the other hand, looking at the importance of and evaluation of the present status of factors affecting technology and know-how transfer, there seems to be room for both investors and on the Chinese side, for further action. As for investors, they need to consider adoption of more effective methods for technology and know-how transfer such formal methods for licensing and documents transfer. On the Chinese side, it is expected that the gap should be bridged between what investors place importance on and what they evaluate the present status to be. Among other things, improving the quality of managers and engineers, protection of intellectual property rights and betterment of essential infrastructure are the important tasks ahead.

(4) Policy Implications

Direct investment has a crucial importance in the transfer of technology, production and managerial know-how, and marketing as well as in financing domestic investment through capital inflow. It is also expected that transfer of technology and managerial resources will promote the reorganization of businesses and industrial structure, leading to materialization of scale and a larger scope of merit.

However, direct investment in China, Japan and Korea is not necessarily large. In this sense, the three countries may not fully enjoy potential gains from direct

investment.

As direct investment in China by the countries will continue to be focused on, in relation to the expected effects of China's accession to WTO, it is expected that promotion of direct investment in China will be explored in order to share larger benefits.

From the questionnaire survey results, China needs to improve clarification and transparency of rules and guidelines for business operations in China. Quality of managers and engineers, protection of intellectual property rights and well-prepared infrastructure, in particular, are important to promote technology and know-how transfer. It may also be important to prepare the environment for labor transfer in order to reap the benefits of the spillover effects from the Chinese point of view.

Concluding Remarks – Issues for Further Joint-Research

Joint-research by China, Japan and Korea was launched in 2000. Officials from the governments of the three countries participated in the first symposium held in Tokyo in December 2000. Following the successful conclusion of the symposium, the governments undertook research in the second half of 2001.

The recent trend of regionalism, which could lead to trade and investment liberalization in the region, timely fits the philosophy of the joint research. There are many common issues in the region to be considered and analyzed jointly by the three parties. Joint-research will provide an appropriate opportunity to develop common understanding and common perspectives on such issues.

The study in this report provided the Japanese research team with many feasible areas and issues for further study. Such areas and issues include: assessment of the wider impacts of China's WTO accession, and not limited to an assessment on the impact of tariff reduction through applied general equilibrium models; assessment of intra-regional trade in services, not limited to merchandise trade; and more profound analyses on FTAs in the region, covering many other measures to be taken by FTAs.