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"POLICIES NEEDED TO ENSURE JAPAN'S INTERNATIONAL COMPETITIVENESS"

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Preface

This report is a compilation of the findings of a year-long research project, conducted by our institute and funded in part by a FY2011 Grant-in-Aid for International Affairs Research Studies and Recommendation Projects from the Ministry of Foreign Affairs, on the topic of "Policies Needed to Ensure Japan's International Competitiveness."

The bursting of the asset price bubble in the early 1990s sent the Japanese economy into a prolonged slump, and Japan's competitiveness relative to the rest of the world has since been in a downtrend that has only accelerated with the remarkable catch-up achieved by emerging countries.

The devastating earthquake and tsunami that struck eastern Japan last year as well as the consequent nuclear power plant accident confronted Japanese companies with huge challenges as supply chains were severed and power shortages occurred. To make matters worse, many Japanese firms with operations in Thailand suffered losses from the flooding there. These problems were compounded by the recession in Europe and the historic appreciation of the yen, all of which contributed to poor business results among Japanese companies last year.

However, such external factors are not the only threats facing Japanese business. Emerging countries in Asia, South Korea and China in particular, have gained tremendous momentum, now standing on par with Japan and the West in terms of international competitiveness.

Japan has recently begun considering TPP participation and autumn university admissions, and the time has come for the country to actively adopt global standards and cultivate its strengths within an open global market in a bid to boost its international competitiveness.

This project benefited from the participation of leading Japanese researchers from various fields in discussing the question of how to improve Japan's international competitiveness from the perspectives of demographics, employment, trade, investment, regulatory reform, R&D, and human resources development.

The results of this research project were presented at a February 18 open symposium that doubled as the project's final briefing session, and the project members engaged in lively discussions with many of the symposium participants. Support from Mizuho Research Institute Ltd. was instrumental in making the symposium a grand success. Let me take this opportunity to convey my sincere gratitude to all involved.

It should be noted that the views expressed herein are entirely those of the respective authors and do not necessarily reflect the views of the Japan Institute of International Affairs. Nevertheless, I have every expectation that these research findings will prove both meaningful and useful in pondering the future of Japan's foreign policy.

In closing, let me once again express my deep appreciation to the authors who undertook this research with such dedication and worked so hard in preparing this report, and to everyone who cooperated in these efforts.

March 2012

NOGAMI Yoshiji
President
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*This research project was organized as one of the Ministry of Foreign Affairs' FY2011 international affairs research/recommendation projects.

PART 1
—SECURING LABOR RESOURCES AND YOUTH EMPLOYMENT—

Chapter 1
The Growing Population Onus and Manpower Issues

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Introduction

This paper considers various population-related labor issues that Japan will likely face in the coming decades. Before delving into the main discussion, however, I would like to outline how this paper is related to the main theme of this symposium. The title of this symposium is "Policies Needed to Ensure Japan's International Competitiveness," which indicates that we should first identify what "Japan's International Competitiveness" actually is.

Why having international competitiveness is important

Truly, signs of "Japan losing international competitiveness" can be seen everywhere. Firstly, Japan's macro-economic performance is low compared to many other developed nations. We have been suffering from deflation for a prolonged period of time, and have been unable to grow out of it. Our growth has remained sluggish, and we are no longer the second largest economy in the world; that position is now held by China. Secondly, Japan's visible trade balance turned to a deficit. In 2011, our visible trade balance plunged into the red for the first time in 31 years, and this condition appears likely to continue for the foreseeable future as well. Increased fuel imports after the accidents at the nuclear power plants and other extraordinary circumstances of course had some influence on this development, but it is hard to ignore the signs that the era of Japan exporting competitive products and continually holding a huge trade surplus has already ended. Thirdly, Japan is noticeably falling behind the global competition in terms of both micro industry and business aspects. We are facing an uphill battle with countries like South Korea catching up in areas that used to be our specialties, such as automobiles and digital home electric appliances. Fourthly, Japan seems to suffer from a weakening of its competitiveness in terms of the human resources that support our economy. Japan's ranking in global comparisons of academic ability is no longer as high as before, and the number of students studying abroad has decreased sharply in recent years.

Many consider it important for Japan to regain its leading position in the global competition within these fields. However, if we focus solely on these individual fields and the building up of our competitiveness there, we might miss out on several important points.

The first reason for this is that an important question has not been addressed yet. Why is it important to heighten our international competitiveness to begin with? My answer to this question is as follows.

Needless to say, the ultimate purpose of any economy is to ensure a high standard of welfare for its citizens. In order to improve the standard of welfare as much as possible in a sustainable manner, it is crucially important that all citizens produce as much added value as possible, and that this value is distributed fairly. The purpose of improving our international competitiveness in individual fields is the achievement of this goal. If the international competitiveness of our industries, companies, and human resources is high, it should be possible to produce more added values than other countries using the same economic resources and labor force. Hence, we should consider improving each individual's competitiveness as a means to improve welfare for everybody.

Secondly, there is a possibility that policies for areas not directly exposed to global competition may be neglected. For instance, it is necessary to redistribute income appropriately, design social security programs, maintain sound financial policies, and so on in order to improve our citizens' welfare. However, since these issues are outside the scope of international transactions, it is hard to connect them to the concept of "competitiveness." Nonetheless, it is mandatory to take measures that compare favorably with similar initiatives in other countries.

Thirdly, many people tend to believe that the only acceptable result of improving our global competitiveness is that "we must be number one in all fields." However, in order to take advantage of the "principle of comparative advantage" to maximize the benefit of the international division of labor, it is also necessary to concentrate our resources on our strong fields and to recognize Japan's weaknesses and withdraw from those fields. For example, it is necessary to increase both exports and imports in order to expand free trade through the promotion of the Trans-Pacific Strategic Economic Partnership Agreement (TPP) and so on.

Global competition for affluence

I found an impressive statement in the "White Paper on the Economy and Public Finance" for 2011; "increasing imports does not mean that we 'lose in the global competition,' but we 'win in the competition for affluence' if we increase both exports and imports." [1] This illustrates the meaning of trading and can be considered a considerably intrinsic and important point.

At the end of the day, our goals in global competition should be all about "affluence." If there are countries similar to Japan that are more affluent than us, Japan will have lost in the competition for

affluence with those countries. In order for Japan to become a proud, leading country in the world, we must win in the competition for affluence.

Economically speaking, the best indicator for such affluence is "income per capita." Although some may argue that "a high income does not automatically make a person happy," it is certainly true that a high level of income broadens people's freedom and range of possibilities.

In order to examine this point, I have compared the per capita GDP of OECD countries (Table 1) and the result shows that Japan is ranked 14th, at a level that is approximately half that of Norway. This indicates that Japan is still lagging far behind in the "competition for affluence."

Note that we eventually reach the conclusion that—assuming other conditions remain the same—the income per capita decreases as the demographic structure of Japan changes. In order to avoid this, it becomes necessary to increase our labor force participation rate and strengthen our labor productivity further.

This is how the consideration of "labor issues in relation to population issues" leads to the awareness of issues of "securing Japan's international competitiveness" discussed at this symposium.

Table 1 Per capita gross domestic product of OECD countries (dollars)

(Unit: 1000 dollars)

Rank	Country	1994	2000	2005	2008	2009	2010
1	Luxemburg	43.5	46.5	81.0	118.4	104.5	105.3
2	Norway	28.7	37.5	65.3	93.4	76.8	84.5
3	Switzerland	38.4	34.7	49.7	65.3	63.1	67.8
4	Australia	20.3	21.3	37.2	48.5	45.2	56.4
5	Denmark	29.5	30.0	47.6	62.6	56.3	56.3
6	Sweden	24.8	27.9	41.0	52.7	43.5	48.9
7	Netherlands	22.8	24.2	39.1	53.0	48.0	46.9
8	United States	26.7	35.1	42.4	46.6	45.1	46.6
9	Canada	19.5	23.6	35.2	45.1	39.7	46.2
10	Ireland	15.6	25.6	48.9	59.3	49.9	46.2
11	Austria	25.4	24.0	37.1	49.7	45.7	45.2
12	Finland	19.8	23.5	37.3	51.2	45.1	44.5
13	Belgium	23.9	22.7	36.0	47.3	43.8	43.1
14	Japan	38.8	37.3	35.8	38.0	39.4	43.0
15	Germany	26.4	23.0	33.5	44.1	40.3	40.1

(Source) Reference charts and tables in the "Annual Report on National Accounts of 2010" by the Cabinet Office

1. International comparison of conditions of population onus

When considering the future of the Japanese economy and society, population issues are critically important. Why are population changes important, then? It is my understanding that the key to answering this question is "population onus." Moreover, as explained in the following, an examination of the concept of "population onus" clearly indicates that the population burden is significantly greater in Japan than in other countries.

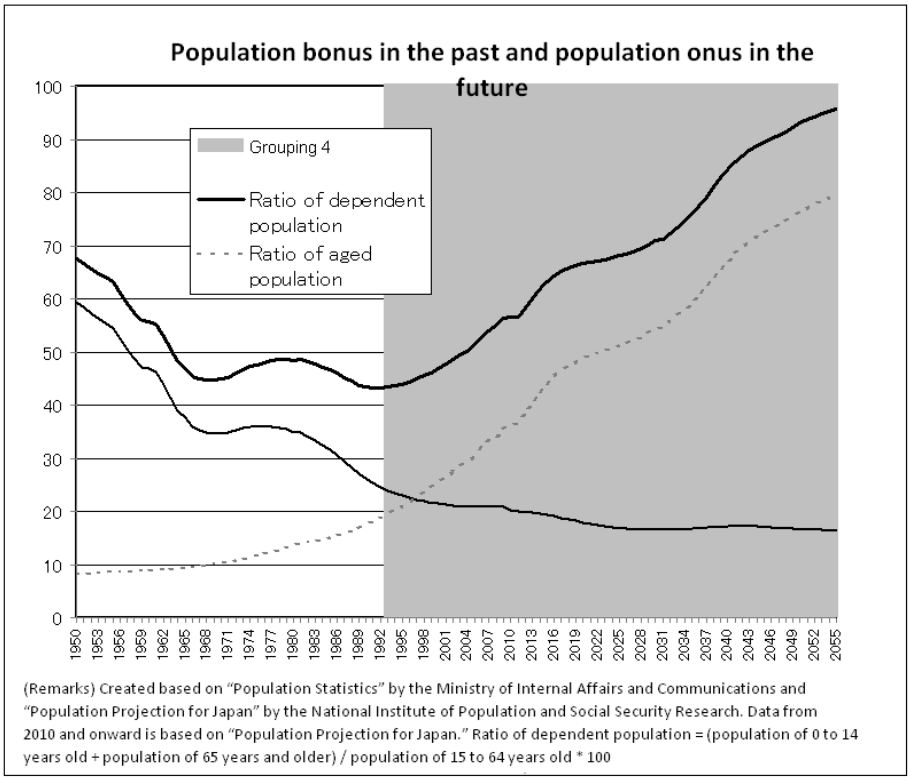
(1) What is population onus?

No one would deny that the impact of population changes is important in the long term outlook of the future Japanese economy and society. The population changes themselves can best be described using terms such as "depopulation," "aging population," and "falling birthrate," but the impact of these population changes in the future can be expressed in the single phrase "population onus."

This term indicates the phenomenon of a declining ratio of workers to total population. "Onus" means "burden" and formed as an expression indicating the opposite of "population bonus." These two phenomena occur in series; a period of "population bonus" is eventually succeeded by a period of "population onus."

Postwar Japan went through precisely this transition. The Japanese birthrate gradually declined after the war. After some time, the people born during the era of high birthrates grew up to become a large working-age population (15 to 64 years old) while the newly born population shrunk, and as a result the overall ratio of the dependent population (sum of the child and elderly populations divided by the working-age population) dropped considerably. Assuming for the sake of simplicity that the working-age population is equal to the worker population, the ratio of the working population out of the entire population increased significantly as a consequence; this is referred to as a population bonus. The period from the 1950s to the 1970s, which coincided with a period of high growth, was a period of population bonus. This condition does not last long, however. While fewer and fewer people enter the working-age population, people born in the past period of high birthrates age year by year, increasing the ratio of the dependent population. This is referred to as a population onus. Japan entered this phase around the 1990s.

Figure 1 Population bonus in the past and population onus in the future



(Remarks) Created based on "Population Statistics" by the Ministry of Internal Affairs and Communications and "Population Projection for Japan" by the National Institute of Population and Social Security Research. Data from 2010 and onward is based on "Population Projection for Japan." Ratio of dependent population = (population of 0 to 14 years old + population of 65 years and older) / population of 15 to 64 years old * 100

Figure 1 shows future trends in the ratio of the dependent population in Japan based on statistics produced by the National Institute of Population and Social Security Research (2006, projections on medium-variant fertility and mortality assumptions). From this figure, it can be seen that the ratio of dependent population continues to rise in the future and that we have just entered the early stages of a period of population onus that will last for a long period of time.

(2) International comparison of population onus

Thus, Japan already faces a population onus whose severity is only going to intensify in the years to come. From an international comparison point of view, the following two points are important regarding this population onus.

The first point is that the level of population onus will become very high relative to the international standard. Table 2 lists countries with high dependent population ratios from among 50 major countries based on the 2010 Revision of the World Population Prospects by the United Nations. The ratio of the dependent population in Japan was ranked 7th in the 2010 revision, but will become the highest in the

world in 2050. (In 2050, the index of Japan is 96 in the projection by the UN and 93 in the projection by the National Institute of Population and Social Security Research. Since the index of number 2 on the list, Spain, is 90, Japan's value is the highest in the world regardless of the projection used.)

Table 2 Ranking of ratio of dependent population in 50 major countries

2010			2030			2050		
Rank	Country	Ratio	Rank	Country	Ratio	Rank	Country	Ratio
1	Nigeria	86	1	Nigeria	77	1	Japan	96
2	Norway	83	2	Japan	75	2	Spain	90
3	Pakistan	66	3	Germany	72	3	Italy	89
4	Philippines	64	3	Finland	72	4	Portugal	87
5	Israel	60	5	France	68	5	South Korea	85
6	Egypt	58	5	Netherlands	68	6	Germany	83
7	Japan	56	7	Belgium	67	7	Switzerland	82
8	India	55	7	Sweden	67	8	Greece	82
8	Mexico	55	9	Italy	66	9	Singapore	81
8	Argentine	55	9	Denmark	66	10	Austria	78
Reference	Entire world	52		Entire world	53		Entire world	58
	Developed nations	48		Developed nations	63		Developed nations	73

(Source) Based on "World Population Prospects, the 2010 Revision" by the UN. Ranking among 50 countries with a large economic scale.

In other words, Japan is facing the greatest burden of population onus in the world. This means that Japan must consider population onus issues the most seriously and do whatever it possibly can to counter the problems caused by them.

Figure 2 shows the future prospects of a number of developed countries with a high dependent population ratio. While the ratio will rise in the long term in all of these countries, the ratio in Japan stays at the highest level throughout most of the period covered in the figure.

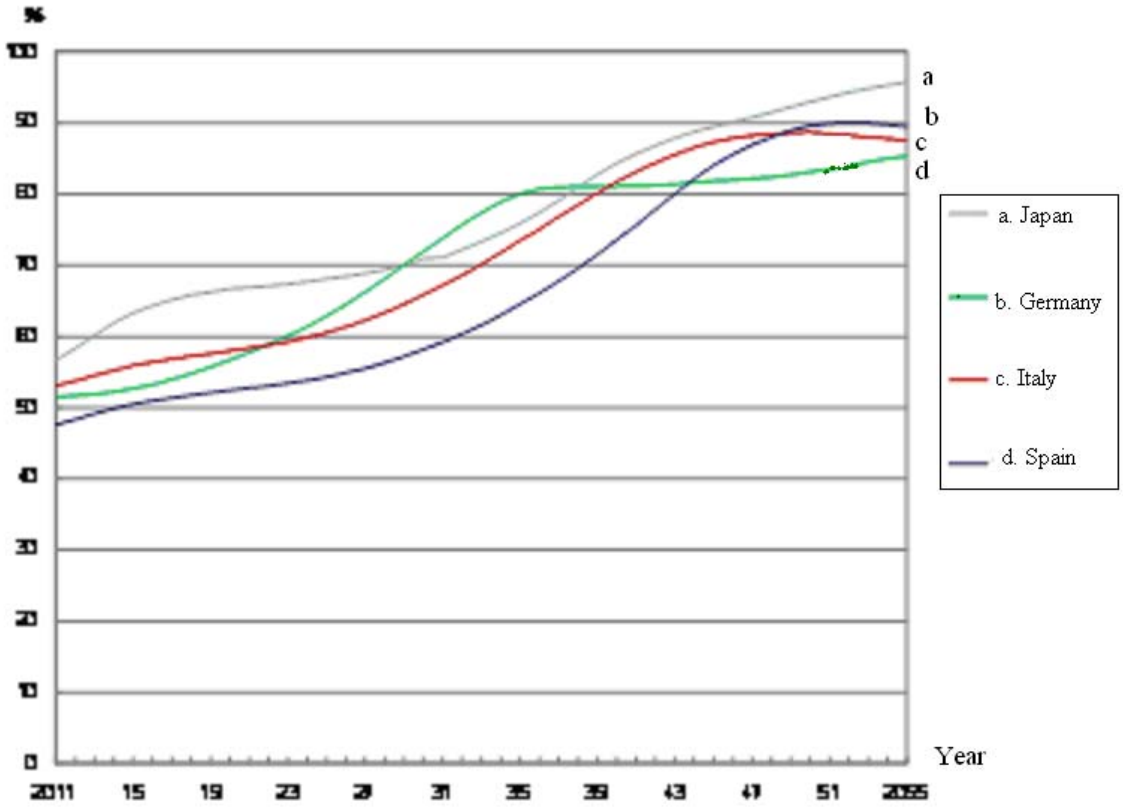


Figure 2 Future ratio of dependent population (2011 to 2055)
Group 1: High level Countries

(Source) The UN website

The second point is that the population in many Asian countries, in particular, will follow the exact same trend as the Japanese population in the near future. Looking at the populations in Asia for the next 50 years or so, the population changes will follow a "flying geese" pattern. In Asia, the industrial sectors became modernized and advanced one after another, first in Japan, and then in the newly industrializing economies (NIES), followed by the Association of Southeast Asian Nations (ASEAN),

and now in China. This has been termed the "flying geese pattern of economic development." In the near future, however, a population version of the flying geese pattern will develop as well (see Table 3 and Figure 3).

Again, Japan is in the lead here. In Japan, the population changes have occurred ahead of the other Asian countries, in the order of "advancement of falling birthrate," "shift to aged society," "decline of labor force population," and then "decline of total population." In the near future, the same changes will occur in the same order in the succeeding Asian countries as well.

In South Korea, Singapore, Thailand, China and other countries, birthrates have already started to decline, and the aging of these populations will set in rapidly in the future. The same trend will occur in the ASEAN countries (not including Thailand) and India, with a slight delay. In these countries, the birthrate will gradually decrease as income levels rise, and the aging of the populations will start to accelerate from 2025 to 2050.

Table 3 Development of population aspects in Asian countries

Time period	Period when total fertility rate drops below 2.1	Period when ratio of elderly population reaches 14% or higher	Period when working-age population starts to decline	Period when total population starts to decline
1950-1955				
1955-1960				
1960-1965	Japan			
1965-1970				
1970-1975				
1975-1980	Singapore			
1980-1985	Hong Kong			
1985-1990	South Korea			
1990-1995	China	Japan		
1995-2000	Thailand			
2000-2005			Japan	
2005-2010	Vietnam			Japan
2010-2015		Hong Kong		
2015-2020	Indonesia	South Korea, Singapore	China, Hong Kong	South Korea
2020-2025	Malaysia		South Korea, Singapore	
2025-2030		China, Thailand		China
2030-2035	India			
2035-2040	Philippines	Vietnam	Thailand, Vietnam	Singapore
2040-2045		Malaysia, Indonesia		Thailand, Vietnam
2045-2050				

(Note) The rate of change of total fertility rate and working-age population/total population was measured as 5-year average values. The ratio of the elderly population was measured in 5–year increments; for example, 1995 is classified in "1990-1995."
(Source) "Demographic Change and the Asian Economy" by the Japan Center for Economic Research (March 2007)

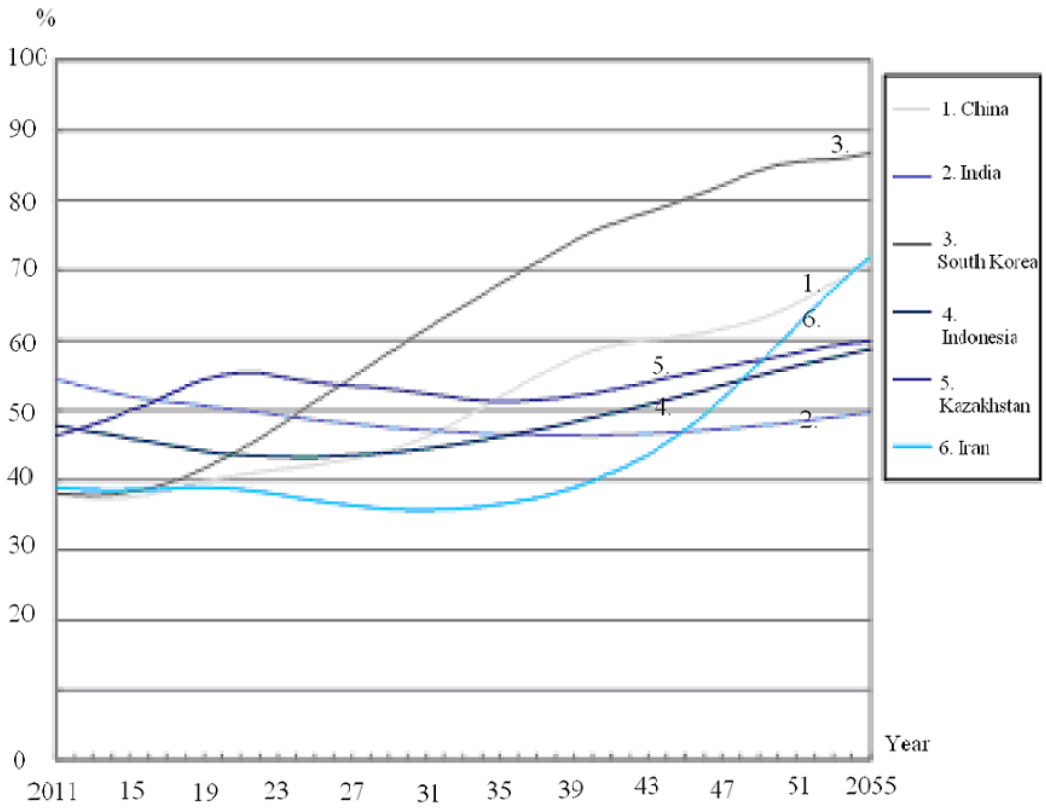


Figure 3 Future ratio of dependent population (2011 to 2055)
Group 3: Asia

(Source) The UN website

In other words, all of the Asian countries will eventually face their own periods of population onus, and the periods of population bonus that have supported their growth until then will disappear. The growth environment will become more severe, and they will face serious problems in securing a stable life for their growing elderly populations.

2. Various effects of population onus on the economy and society

The population onus has a number of different influences on the economy and society. Indeed, virtually all the problems faced by the economy and society related to population changes are basically brought about by "population onus" (the decline of the working population ratio to the entire population).

(1) Population onus and affluence in daily life

As mentioned at the beginning, the ultimate goal of any economy is the improvement of the welfare of its citizens and it is safe to say that we are "competing for affluence." Unfortunately, as will be shown below, population onus will invariably lead to a loss of affluence if all other conditions remain constant. Since the degree of population onus in Japan is the highest in the world, Japan will be unable to win in the competition for affluence if we leave the population onus to take its own course.

Let us assume that the national welfare is represented by income per capita, which is the per capita added value productivity. Even if the population increases, the per capita income is bound to decrease if the productivity declines. On the other hand, if the productivity rises, the income per capita increases even if the population decreases. That is, if the added value produced per person is the same (or increases), the income per person remains the same (or increases) regardless of whether the population increases or decreases.

Then, how about population bonus and population onus? Let us briefly review the determinants of income per capita once again.

Assuming that the national economic welfare is expressed by income per capita, national income per capita is by definition calculated by multiplying the ratio of the labor force population to the total population and the productivity per worker, as shown in the formula below.

$$Y / P = (L / P) \times (Y / L)$$

Y: gross national product, P: total population, L: labor force population

This formula means that the national income per capita is constant if the ratio of labor force population to the total population (labor force participation rate) is constant as long as the added value productivity per worker is kept constant. In a period of population bonus, however, the labor force participation rate rises, which means that the income per capita increases even if the added value productivity per worker remains the same. In Japan's era of high economic growth, the added value

productivity increased dramatically due to improvements in labor force education and quality, implementation of new technologies, and changes in industrial structures, among others. In addition, as the labor force participation rate was growing as well, the income level rose even further.

The opposite phenomena occur in a period of population onus. Even if the added value productivity per worker remains the same, the labor force participation rate drops, leading to a decline in income per capita. In this case, in order to heighten the level of national welfare, it is necessary not only to simply increase the added value productivity, but to do so to the extent that it compensates for the declining labor force participation rate.

Table 4 shows the results of evaluating the formula using actual figures. From 2010 and onward, the factors of population onus will drag down the growth of per capita GDP by around 0.5% per year.

Table 4 Factor analysis of per capita real GDP

Year	Rate of change of per capita GDP	Rate of change of working-age population	Rate of change of productivity
1950 to 1970	8.6%	0.8%	7.7%
1970 to 1990	3.3%	0.1%	3.3%
1990 to 2010	0.8%	-0.4%	1.2%
2010 to 2030		-0.4%	
2030 to 2050		-0.6%	

The population data is based on the Population Census; data from 2010 and onward is based on projections (medium-variant fertility and mortality assumptions) by the National Institute of Population and Social Security Research. GDP is expressed as percentage relative to 1990 (68SNA) for 1955 to 1970 and 1970 to 1990, and 2000 (93SNA) for 1990 to 2000. All the rates of change are annual average rates.

This point tends to be overlooked but is very important. Many claim that "because the labor force population decreases, it is necessary to raise the labor productivity even further than in the past in order to generate the same income (or to maintain the same economic growth rate)." However, correctly, it should be "because the ratio of the labor force population to the total population decreases, it is

necessary to raise the labor productivity even further than in the past in order to generate the same income per capita." Essentially, the idea is to overcome the negative force of population onus by pulling up the productivity. This is the basic direction to take in economic management in a period of population onus.

(2) The economy and society under population onus

During a period of population onus, the following difficult socio-economic challenges arise.

The first challenge is a general decline in growth potential. The long-term growth potential is determined by labor force population, savings (capital), and other productive factors. In a period of population onus, owing to a drop in the ratio of the labor force population to the total population, there tends to be a lack of available labor, which in turn restricts growth. In addition, as the ratio of workers to the total population drops and the ratio of retirees increases, fewer people increase savings while more people take out savings; thus, the ratio of savings in the overall economy drops, which in turn restricts new investment.

Secondly, it becomes difficult to maintain social security programs. In particular, serious issues occur if pay-as-you-go pension and health services are established in a period of population bonus, because the ratio of workers to the total population drops and the ratio of retirees increases, meaning that the population receiving insurance money increases while there are fewer and fewer people to pay premiums.

Thirdly, issues in terms of social decision making also occur. Changes in demographic structure affect political decision making through changes in the structure of the voting population. During a population onus period, the ratio of elderly voters increases, which makes it easier for candidates who publicize policies that cater to elderly and retired voters to win in election.

The distribution of voters in Japan is already considerably slanted toward the elderly at present, and the degree is expected to increase rapidly in the near future. This development will certainly affect the future directions of social decision making. The problem here is that the bias in political decision making that manifests itself in this manner is going to pull in the exact opposite direction of what is actually required during a population onus period. That is:

[1] In a period of population onus, it is necessary to raise per capita productivity more than ever and, for that purpose, it is necessary to strengthen supply capabilities. However, if importance is placed on

the retired generation, policies emphasizing the aspect of distribution, rather than supply capability, tend to be chosen first.

[2] Since the social security burden on the working population becomes increasingly heavier under a period of population onus, it becomes necessary to ask the retired generation to carry a part of the burden itself, but this becomes more difficult as a result of the voter distribution.

[3] During times of budget deficits, it is a significant fundamental problem in the current democracy that the future generations who will have to shoulder the burden later on cannot participate in the current decision making processes. Decision making centered on the retired generation makes this problem even more serious.

Thus, the skewed voter structure during the oncoming population onus period is bound to affect the various problems we are facing in such a way as to make the solution increasingly difficult.

(3) Population onus issues deeply involved in immediate problems

Population onus is not only related to the aspect of growth but also to certain immediate problems.

One of those issues is reconstruction following the recent earthquake disaster. Even before being struck by the great earthquake in 2011, the Tohoku region was already being heavily affected by population onus, as working people had steadily been migrating to urban regions causing the ratio of workers to the total population to drop significantly below the national average.

The earthquake disaster seems to have further reinforced this state of population onus. Looking at the population migration after the earthquake in the "Annual Report on the Internal Migration in Japan Derived from the Basic Resident Registers" by the Ministry of Internal Affairs and Communications, the population outflow from the Tohoku region exceeds that of previous year by a significant margin. Fukushima prefecture, in particular, experienced a considerably large population outflow (Figures 4 and 5). Looking at this phenomenon by age, the outflow of the working-age population is particularly noticeable; these people left their home prefecture to seek employment opportunities elsewhere or to protect their children from the effects of radiation.

This means that the already severe condition of the population became even more aggravated in the afflicted areas, which may make their reconstruction, already difficult task in itself, even harder. It is often said that getting afflicted areas back into shape should be a matter of *reconstruction* rather than just *restoration*. This is true, but one cannot help thinking that even *restoration* alone is going to be a considerable challenge considering the current population development.

In order to overcome this burden of population onus and to be able to achieve reconstruction, we must create employment opportunities through fairly strong policies. Acting decisively in this manner would have the added benefit that if the Tohoku region is able to recover, Japan will have a development model for dealing with the period of population onus the entire country will go through in the coming years.

Another issue is the controversial TPP issue, which has split public opinion in two. In fact, the necessity of joining the TPP becomes even higher under the condition of population onus.

There are two main advantages in promoting free trade initiatives such as the TPP. One is that domestic resource allocation can be made more efficient by allowing us to export products we excel in and import products we are not good at producing ourselves. Another advantage is that the domestic supply framework can be made more efficient by exposing domestic production that has been protected by existing barriers to global competition.

In a period of population onus, the labor force and other productive resources become more valuable, which means that making the supply structure more efficient through globalization becomes increasingly important. Listening to discussions on the TPP, it appears that people often assume that *increased exports are advantageous, while increased imports are disadvantageous*, but this is wrong. One of the significant advantages of free trade is that domestic resources are shifted toward more expansive fields due to increased imports, and this advantage only becomes greater under population onus conditions.

Figure 4 Migration of population by region after the Great East Japan Earthquake

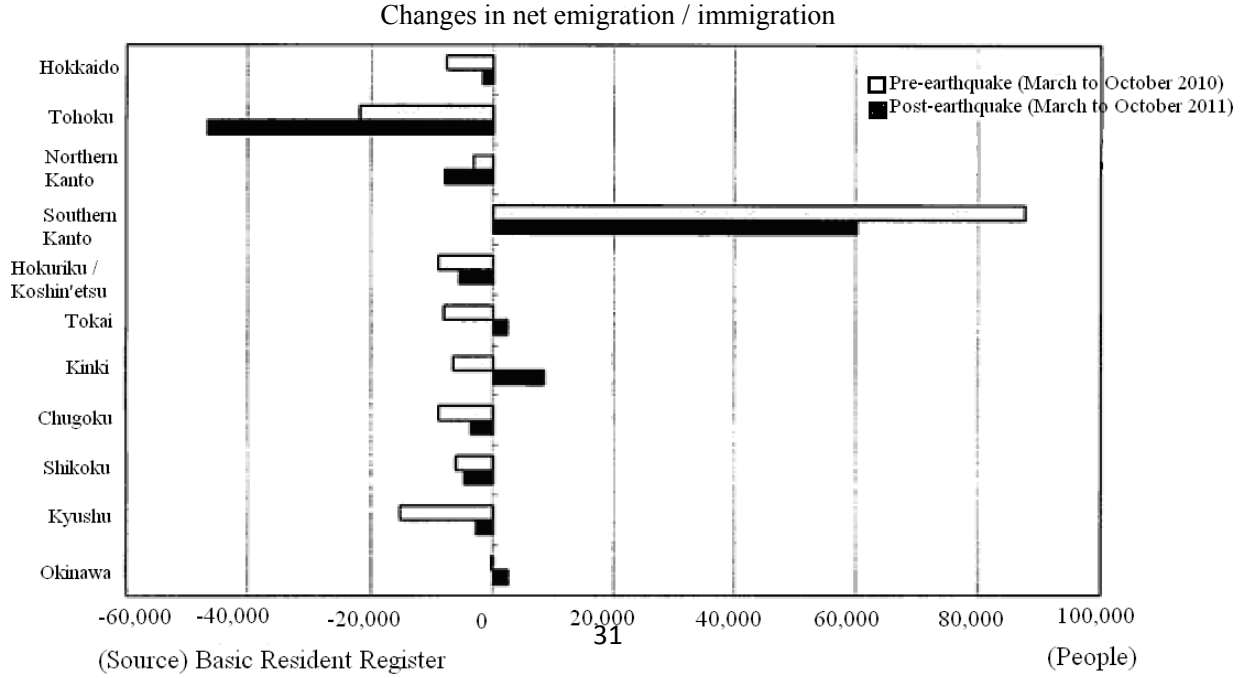
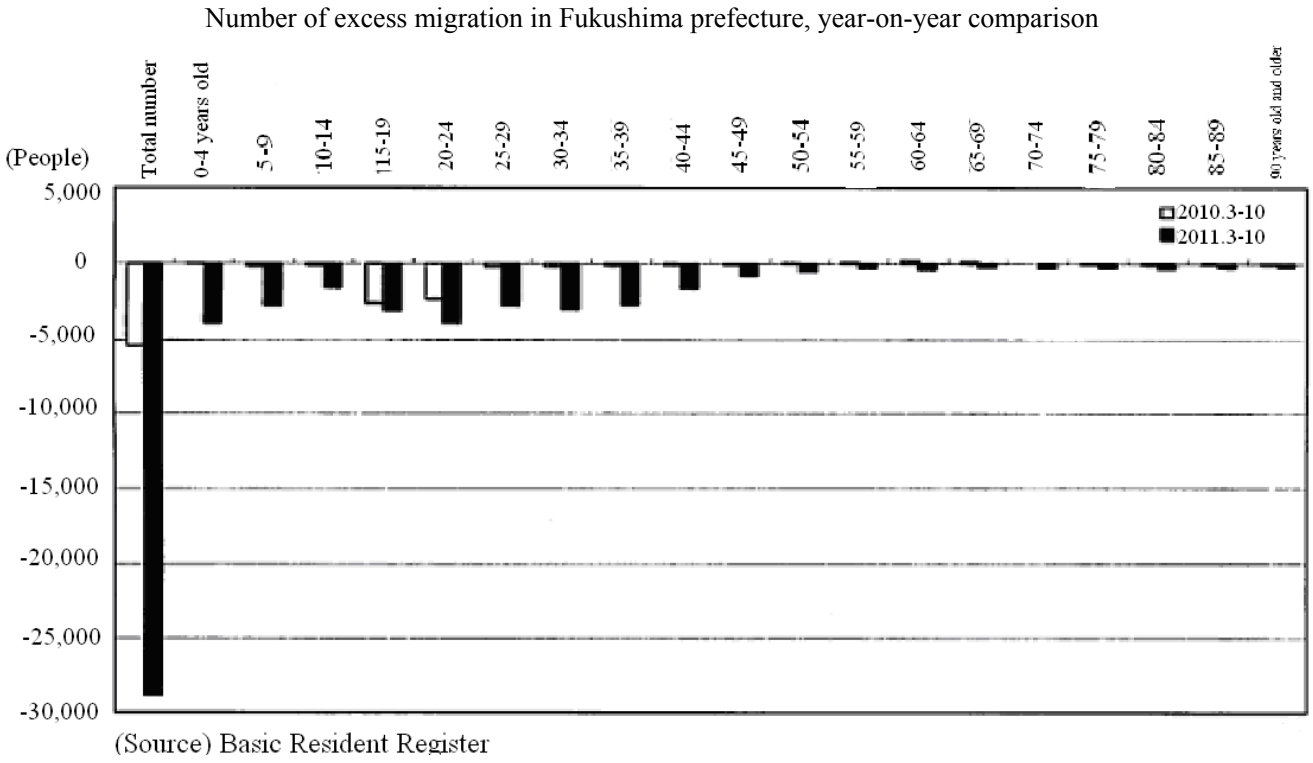


Figure 5 Migration of population in Fukushima Prefecture after the Great East Japan Earthquake



3. Employment issues under population onus conditions

Since population onus means that the ratio of labor force population to the total population declines, it is fairly obvious that a general lack of available labor force will restrict the growth under population onus conditions.

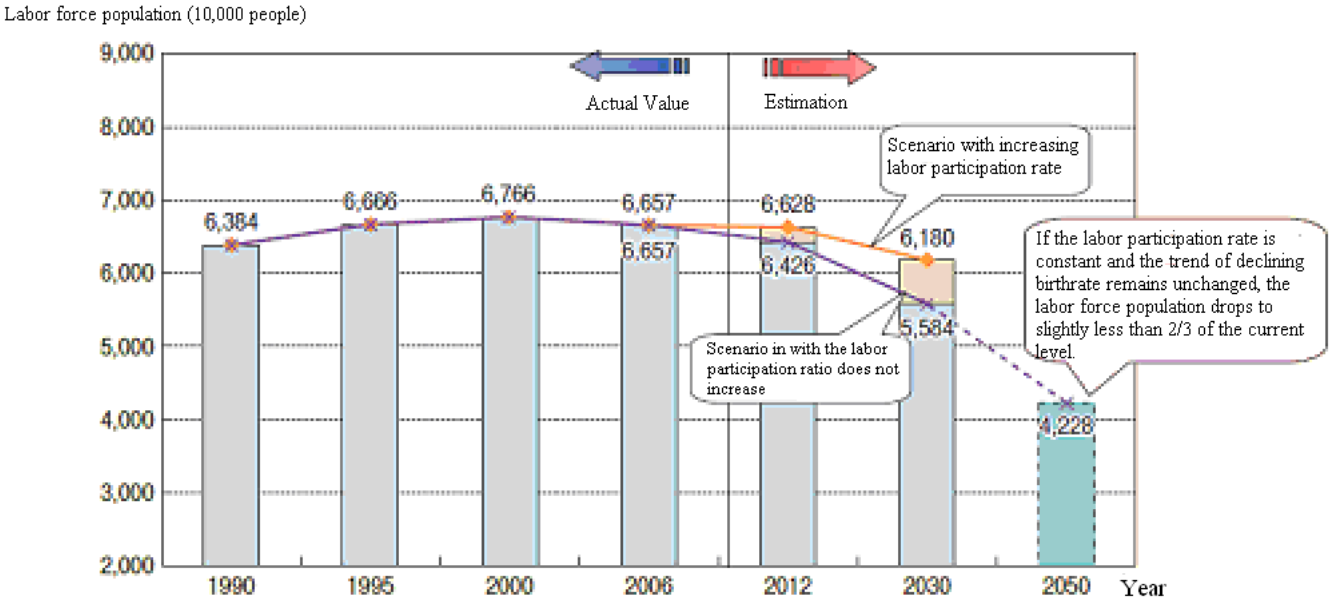
(1) Labor shortage under population onus and measures to be taken

Population onus has a significant impact on employment. Since the birthrate has already started falling in Japan, the working-age population is declining; the working-age population in 2010 was 81,730,000, but this will decrease consistently and is projected to drop to 67,400,000 in 2030 and 49,300,000 in 2050.

Degree of labor shortage

Then, how much of a reduction of the labor force population does a reduction in the working-age population bring about? It is not possible to provide an absolute answer to this question, because the labor force participation rate in each age group has different impacts on the overall issue. The Cabinet Office introduces the following estimate in its "White Paper on Birthrate-Declining Society" (2011) (Figure 6). Firstly, if we assume that the rate of participation in the labor market by gender and age remains at the current level, the labor force population is going to be dramatically reduced from 66.57 million people in 2006 to 55.84 million people in 2030, i.e., a reduction of approximately 10 million people in 25 years. On the other hand, it can be expected that an increasing number of the elderly and women will to be active in the labor market, and taking this effect into account, the labor force population in 2030 is estimated to be around 61.80 million people, meaning a reduction of only approximately 5 million people in the same period.

Figure 6 Development and prospect of labor force population



Materials: The actual values are based on the "Annual Report on the Labor Force Survey" by the Ministry of Internal Affairs and Communications. Estimations until 2030 are based on estimations by the Japan Institute for Labour Policy and Training ("Estimation of Labor

Force Supply-Demand 2007 – Result of Projections using Labor Force Supply-Demand Model" in February 2008). The labor force population in 2050 is estimated by the Office of Director for Social Security of the Ministry of Health, Labour and Welfare based on the medium-variant assumption of the "Population Projection for Japan (December 2006)," assuming that the labor force participation rate by gender and age group in 2030 and onward remains constant.

(Source) "White Paper on Birthrate-Declining Society 2011" by the Cabinet Office

In other words, by increasing the labor participation rate through policy efforts, it is possible to keep the reduction of labor force population in the coming 25 years at half the level of reduction that would bee seen if the rate were to remain at the current level. Nonetheless, a considerable decline in the labor force population cannot be avoided.

Basic measures against labor shortage

How should we cope with this foreseeable labor shortage? The following specific measures can be considered.

The first measure is to increase the labor participation rate of the elderly and women, which is explained in detail later. The second measure is to strengthen labor productivity, also known as an "inherent growth strategy."

First of all, it is necessary to cultivate the capabilities of each individual person. Specifically, this means maintaining high educational standards to increase the availability of human resources with acquired higher expertise. It is also necessary to assign human resources to fields with higher growth potential. Since the labor force will become more valuable from now on, wasting human resources must be avoided. The available labor force should be moved to developing fields where high productivity levels can be achieved and service fields that are truly needed by the citizens as much as possible. In order for this to happen, the labor force must be made mobile according to changes in the socio-economic environment, rather than remaining immobilized in specific fields.

Two measures against lack of capital can be considered. One is to establish a sounder public finance system. If savings become scant in the near future, wasting valuable savings to finance budget deficits is going to cause serious problems. We must reform the public finance system to separate savings from public finances in order to achieve long-term benefits. The other measure is the promotion of

investment from overseas. The U.S. is able to achieve a high level of domestic investment in spite of its low rate of savings because of a steady capital inflow from overseas investments. Eventually, Japan will also have no choice but to rely on a similar capital inflow. It is essential to establish an active investment climate within Japan so that capital may flow continuously in across the border.

In addition, it is necessary to boost total factor productivity by making our market frameworks more efficient and promoting technological development.

The importance of such policies is not limited to the era of depopulation. Regarding employment, for example, increasing the labor force participation rate, cultivating the capabilities of employees, and allocating resources flexibly will stimulate accelerated growth in times of population growth as well. The same thing can be said about the improvement of capital inflow and total factor productivity as well.

In other words, during this oncoming population onus, we should adopt *orthodox policies necessary in ordinary times as well* more seriously, rather than *special policies addressing extraordinary times*.

The third measure is borrowing help from foreigners. In Japan, there is a considerably strong social resistance against this, but we cannot afford to be so *haughty* considering the magnitude of the population onus we are facing.

The fourth measure is to have companies relocate production bases overseas. In Japan, this is considered as *hollowing out* our industrial base and therefore undesirable. However, taking into account that Japan is actually facing a deficit in labor force in the near future, we should consider it a necessity that companies branch out to overseas locations in order to ensure that we have sufficient human resources available within Japan as well.

(2) Raising the labor force participation rate

Since population onus means a lowered ratio of workers to the total population (i.e., country-wide employment rate), increasing the employment rate is the quickest and most efficient method to fighting against population onus. This subject thus deserves deeper investigation.

Effects of raising labor force participation rate

First, let us review how effective raising the labor force participation rate is in coping with the oncoming population onus.

Previously, for the sake of convenience, we used the ratio of the dependent population (ratio of the working-age population to the elderly and child population) as an index of population onus. In order to

discuss the labor force participation rate, however, it is more appropriate to consider the ratio of labor force population to other populations.

In order to calculate the ratio of the dependent population based on the labor force population, it is necessary to project the future ratio of the labor force by gender and age. This ratio is influenced by many factors such as school attendance rate, treatment by companies, views on marriage, retirement age, level of pension and pension eligibility age, as well as political initiatives. Here, we make the simplest possible estimations of the future labor force population by assuming the current employment rate by gender and age remains constant, and then we calculate the ratio of the dependent population (Figure 7). The result is 92.1 (one in 1.1 people) in 2005, 101.4 (one in 1.0 person) in 2025, and 120.6 (one in 0.8) in 2050.

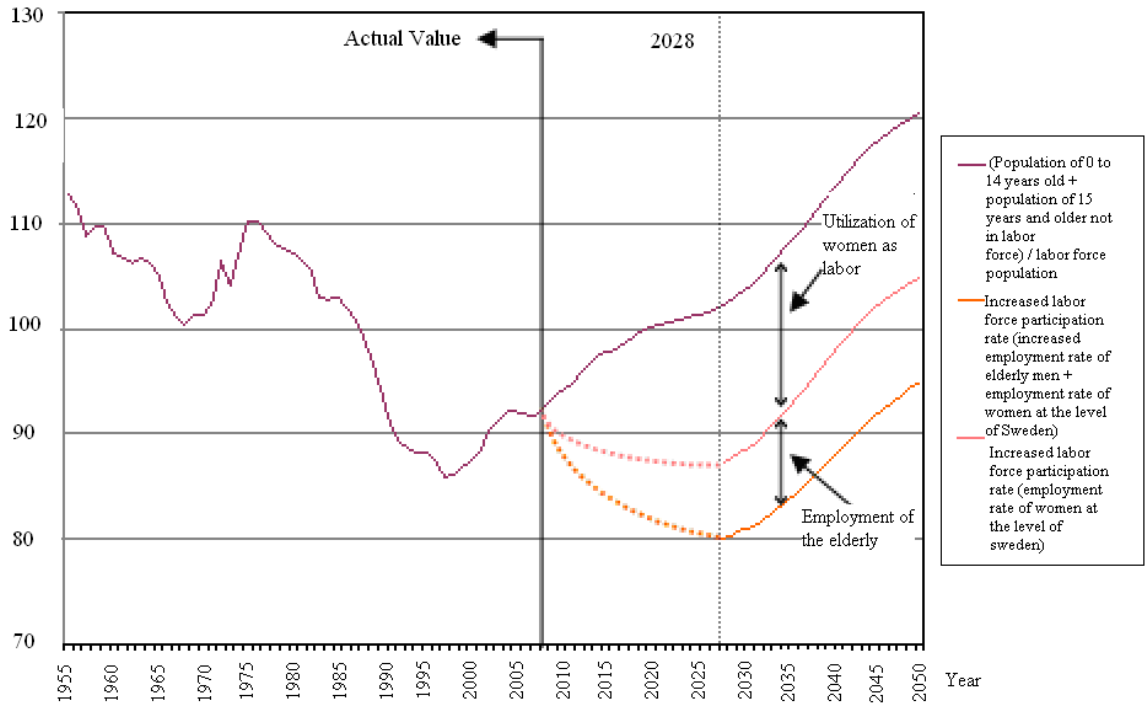
Now that the labor force population is an endogenous variable, it is possible to consider changes in employment rate of women and the elderly. It is assumed that the employment rate of elderly men will grow over the coming 20 years (2028), such that the employment rate of an elderly age group becomes equal to the current employment rate of men who are 5 years younger. For example, the current (2007) employment rate is 93.1% for men in the latter half of their 50s and 74.4% for men in the first half of their 60s. The aforementioned assumption thus implies that the rate increases to 93.1% for men in the first half of their 60s and 74.4% for men in the latter half of their 60s by 2028.

Next, we assume that the employment rate of women by age rises to the level of Sweden (2006). For example, in 2007, the employment rate of Japanese women was 64.0% for women in their early 30s and 64.3% for women in their late 30s, due to the so-called *M-shaped curve*. Here we assume that the respective ratios go up to the level of Sweden during the coming 20 years, reaching 85.5% and 86.5%, respectively.

Taking these two assumptions into consideration, the ratio of the dependent population is estimated to be 79.5 (one in 1.3 people) in 2025 and 95.0 (one in 1.1 people) in 2050, which are not that different from the level in 2005.

From the examination above, we can conclude: firstly, raising the labor force participation rate has a considerable effect in terms of fighting against population onus; secondly, it is important to change basic mechanisms within the entire society such that women and the elderly become more useful to the labor market; and thirdly, women have greater potential in this respect than the elderly.

Figure 7 Ratio of dependent population relative to labor force population



Population onus of labor force population version = (Population of 0 to 14 years old + population of 15 years and older not in labor force) / labor force population x 100

Unutilized potential among women

Let us examine the impact of increasing the labor force participation rate of women. It is clear from international comparisons with other developed nations that Japan has not fully utilized the potential of its female population.

First, the overall employment rate of women is low. As can be seen in Figure 8, the employment rate of Japanese women is ranked 22nd among the 30 countries in the figure, because the so-called M-shaped curve exhibits a significant *valley* where the employment rate drops. Figure 9 compares the employment rate of women by age with other countries. As is clear from the figure, the Japanese employment rate drops once from the latter half of the 20s to the first half of the 30s, and then increases again from the latter half of the 30s to the first half of the 40s, exhibiting a roughly M-shaped trend. The reason for this is that it is quite common for Japanese women to retire from work once around the

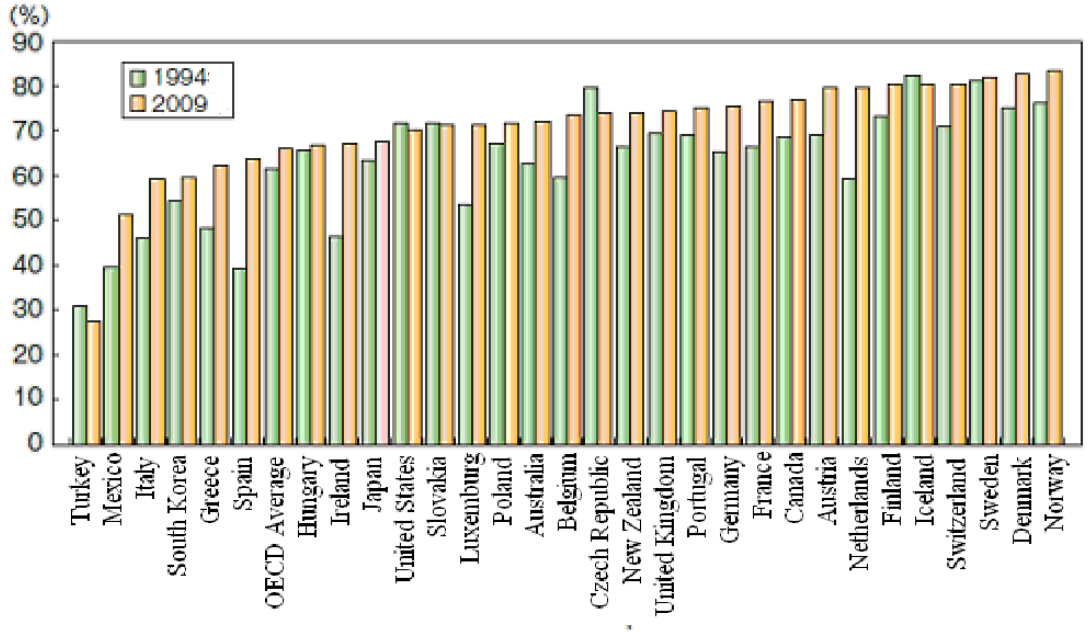
time they get married and raise children, and then start working again once the first stage of child rearing is completed.

In contrast, Sweden has a well-established gender-equal society and institutions in place that make it easier for women to handle child rearing while pursuing careers at the same time; thus, there is no *valley* part in the corresponding employment rate curve. In fact, the *valley* part of the M-shaped curve indicates how difficult it is for women to satisfy both career goals and child-rearing in Japan. This is clearly a key point when it comes to increasing the employment rate of women.

Moreover, Japan is characterized by the fact that the employment rate of highly-educated women is relatively low. Looking at the women's employment rate by educational background, the rate of junior high and high school graduates is 59.8% in Japan while the average level within the OECD countries is 66.6%, corresponding to a gap of 6.8 percentage points. Similarly, in the case of female graduates from universities and graduate schools, the rate is 68.4% in Japan, while the OECD average is 79.8%, corresponding to a gap of 11.4 percentage points (2006).

Considering that the length of academic background is a good indicator of labor quality, the participation ratio of the Japanese female labor force can be characterized as low in two aspects; in terms of overall numbers and in terms of highly educated women.

Figure 8 Employment rates of women in OECD countries

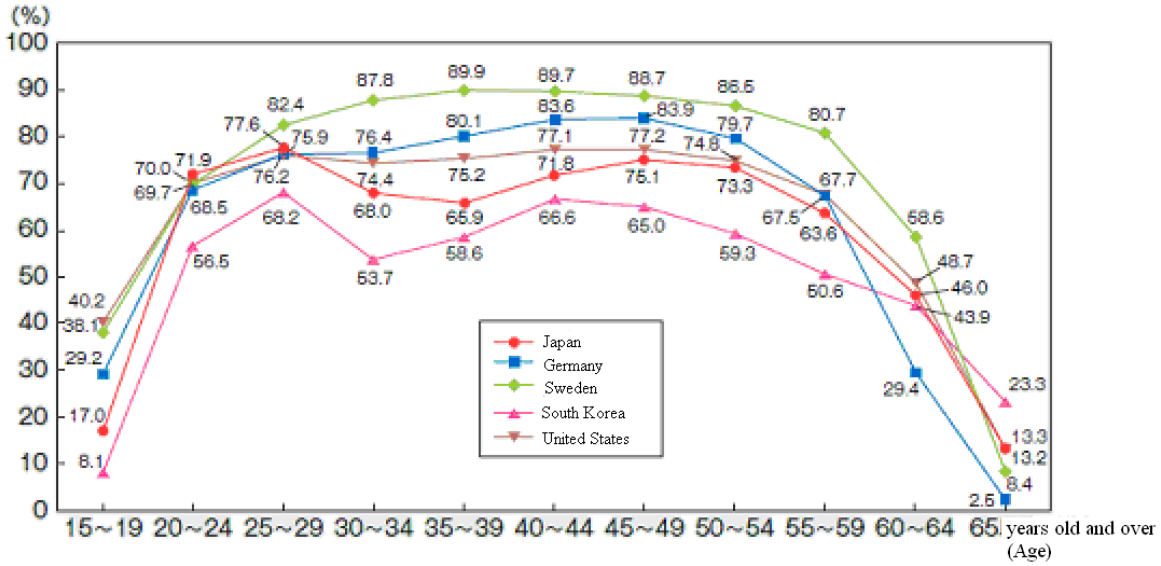


(Remarks) 1. Created based on OECD's "Employment Outlook 2010"

2. The employment rate is calculated as: number of employees / population.

(Source) "White Paper on Gender Equality 2011" by the Cabinet Office

Figure 9 International comparison of employment rates of women by age



(Remarks) 1. "Labor participation rate": Ratio of labor force population (employed workers + completely unemployed) to the population of 15 years old and over.

2. The data used for the "15 to 19 years old" age group for the U.S. is from the age group "16 to 19 years old."

3. The Japanese data is created based on the "Labor Force Survey (detailed statistics)" (2010) by the Ministry of Internal Affairs and Communications, and data of other countries is created based on ILO "LABORSTA."

4. The data for Japan are 2010 values, the data for South Korea are 2007 values, and the data for other countries are 2008 values.

(Source) "White Paper on Gender Equality 2011" by the Cabinet Office

Employment rate of the elderly and employment issues of young people

Next, let us examine issues related to the elderly population. Here, fortunately, a promising feature is revealed: *Japanese elderly are highly motivated to work*. Comparing the employment rate of the elderly with other countries, the employment rate of men of 65 to 69 years old is 45.6% in Japan, while the same rate is only 4.1% in France and 7.2% in Germany, for instance.

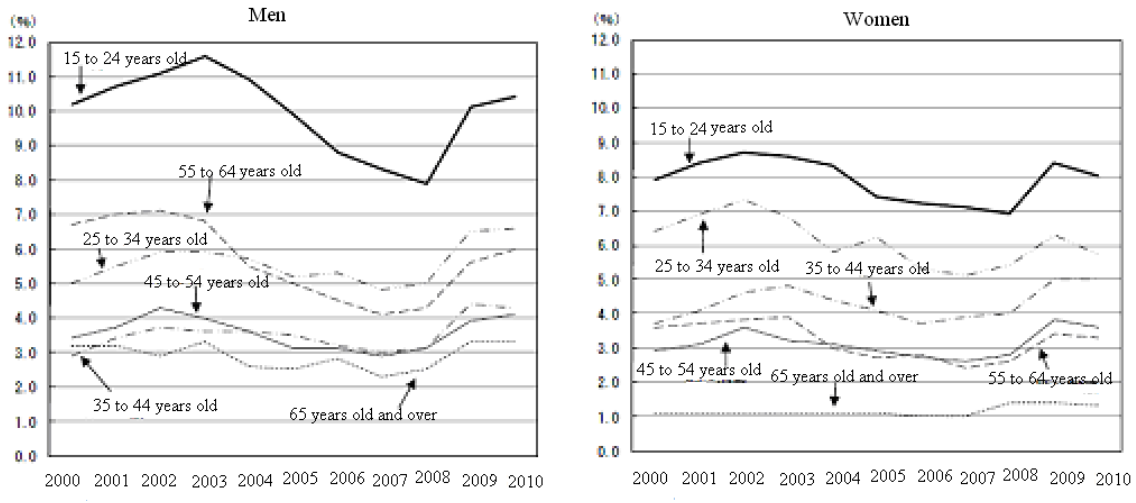
Raising the employment rate of the elderly is greatly significant for the following reasons: (1) the standard of life among the elderly themselves is improved, (2) the labor shortage is alleviated as the overall employment rate of the whole nation improves, and (3) the imbalance between the generations can be evened out by increasing the working population and reducing the retired population. In addition, since employment and health conditions are deeply related, increasing the employment rate may also have the effect of suppressing healthcare expenditures of the overall society due to health improvements among the elderly.

Thus, the improvement of the employment rate of the elderly has the effect of "killing *several* birds with one stone" during an era of population onus. However, it must be pointed out that even if the elderly have the will to work, there may not be jobs available that match their abilities; this is an area where there is room for much improvement.

Furthermore, it is noted that the idea of increasing the employment rate of the elderly does not seem to find much support among young people. I have witnessed this sentiment first-hand; when I asked my university students about their opinions on this point in my classes, many of them responded that they cannot agree with or they doubt the importance of raising the employment rate among the elderly. The reason is clear enough: they think that if the elderly stay in jobs forever, there will be less employment opportunities for the young people themselves.

This is a justifiable concern considering the recent employment circumstances surrounding young people; in fact, young people are sacrificed for the elderly in the aspect of employment adjustment to some extent. Figure 10 shows trends in the unemployment rate by age. From this figure, we can see that (1) the unemployment rate of young people is always higher than for other age groups, and (2) the unemployment rate of young people in particular tends to rise whenever companies are forced to make employment adjustments due to recession (for example, after the Lehman Crisis in 2008).

Figure 10 Development of unemployment rate by age



(Source) "Annual Report on the Labor Force Survey" by the Ministry of Internal Affairs and Communications

If companies are pressed to make employment adjustments, they tend to suppress new hiring at first because that is generally the easiest approach. However, if young people are unable to be employed after graduation and start working as part-time workers or the like as a result, many of them will lose their chance to get training and thus end up remaining stuck in unstable conditions. This gives rise to the notion that the lifelong fate of young people is determined by *the timing of when one was born*. Such unfairness among generations is caused by current employment practices such as long-term employment and simultaneous recruiting of new graduates.

Inevitably structural reform issues

The problems discussed above, such as the low labor force participation rate of women, the elderly being unable to find desirable employment opportunities, and young people being strained during difficult economic times are all deeply related to typical employment practices in Japan. In other words, it is essential to review our *way of working* in order to solve these problems.

Firstly, if long-term employment is dominant, companies will not be willing to invest in the education/training of women as core labor force, because there is a risk that they will retire early. This

attitude reflects upon the women as well; they feel that companies won't give them important jobs anyways and choose to take up homemaking instead when they get married and/or having children. In addition, under long-term employment, the degree of work required tends to be determined by work hours, rather than the number of workers. In this case, workers may be forced to work long hours in certain periods, which places women in a disadvantageous position because they are less flexible with respect to working hours.

Likewise, the practice of long-term employment inhibits the employment of the elderly in several ways. For example, if a company attempts to promote the employment of the elderly, it tends to extend retirement age in its policies to continue to employ the elderly it has already been employing; however, this does not guarantee that it can provide opportunities for jobs that are actually well suited to the elderly. If the elderly stick to their original company, they can often only get marginal assignments, which is a misfortune for both the company that keeps on employing the elderly and the elderly who are employed. We must improve the fluidity of the labor force and adjust the demand and supply of the elderly work force among a wider range of fields.

In addition, the suppression of employment of new graduates tends to be chosen as a means of employment adjustment in difficult economic times because it is difficult to adjust existing permanent employees under the practice of long-term employment as well.

Secondly, when seniority-based wages are predominant, the longer the length of service of workers, the more advantageous they become. Consequently, the wage gap between permanent employees and non-permanent employees, as well as full-time and part-time employees, becomes greater. However, it is also difficult to have a policy of equal pay for equal jobs in place as well. Women who completed childrearing by necessity aspire for shorter working hours, in which case their job options are restricted to relatively low-paying jobs.

Moreover, if a company has a strong policy of seniority-based wages in place, the wages will have to be higher for older employees, meaning that reemployment after leaving the first company once becomes difficult. Furthermore, in addition to suppressing ever-increasing wage costs, many companies have a system of compulsory retirement age. This system forces all employees to retire from their work places at a fixed age, without providing exceptions for human resources that the companies might actually benefit from maintaining longer.

Thirdly, in the traditional employment practices, the standard employment course starts with the hiring of new graduates and then proceeds with education/training via on-the-job training, which makes mid-career recruiting difficult. In cases in which workers join a company mid-career, the company

typically does not assign core jobs to them; they are mainly given peripheral and/or simple tasks. This practice also inhibits the re-entry of highly-educated women to the labor market after the completion of child rearing.

In addition, as long as on-the-job training aimed at new employees is the primary basis for the cultivation of human resources, new graduates that fail to be employed immediately after graduation also lose their chance to improve their value as human resources.

It is clearly necessary for Japanese businesses to review their employment practices in order to achieve a far more flexible employment environment, where equal jobs yield equal pay. The current situation demands changing old systems and practices, as well as promoting structural reforms of employment policies in such a way as to improve the labor force participation rate so that we may overcome the oncoming population onus.

4. Direction of required policies

Lastly, I would like to summarize the basic direction of policies on employment issues required under population onus conditions.

(1) Offering a model for the world by addressing population onus

Japan is becoming one of the world's most advanced nations in terms of population onus. At the very forefront of the "flying geese" pattern of industrial structure, Japan has been an example to the countries following it, showing a model of growth through high added value by continually improving trade and industrial structures. In the future, Japan may be able to serve as a new growth model for the 21st century if it can face up to the challenges of population onus and maintain its economic and social vitality.

However, to reach that goal we must work toward integrating active measures against the population onus in all of the following policies: falling birthrate, employment, and social security. In addition, in order for them to have the desired effects, such policies must remain stable and consistent for long periods of time. It may be necessary to formulate a framework based on cross-party agreements or propose a policy system based on deliberation among independent experts.

(2) Addressing declining birthrates

Eliminating the *population onus* itself by raising the birthrate will lay the groundwork for addressing population onus issues. This is not impossible, considering the fact that many developed countries have

indeed succeeded in raising their birthrates through policy efforts. However, it will take more than 20 years before the effect of such efforts start to appear, so this is not exactly a quick fix. Thus, we have to start taking measures as soon as possible.

As measures against falling birthrates, there are generally two types of approaches: policies appealing to the unmarried population and policies appealing to the married population who intend to have children (or already have children). Concerning the former, recent deteriorating employment conditions among younger generations has discouraged marriage among young people, which has been contributing to accelerating the decrease in the birthrate. From this viewpoint as well, it is necessary to improve the employment opportunities and human capacity of young people.

As for the latter, the important point is persuading parents to raise more than one child. It is necessary, for example, to heighten the incentive to have children through the payment of higher child allowances for second child and on, rather than providing a flat rate.

(3) Actively utilizing foreign manpower

Since one of the consequences of the population onus is the relative decline of the Japanese worker population, accepting more foreigners will prove an effective population onus countermeasure. In particular, Japan should openly accept highly-skilled human resources capable of contributing significantly to improved productivity, as well as human resources in the medical and nursing care fields, in which a future scarcity of personnel is presumed.

Note that there is still a deep-rooted resistance in the Japanese public against increasing the foreign labor force within Japan. Many are worried that it will their social stability and safety. In this respect, we should not attempt to choose between increasing the foreign labor force and social security. Rather, it is necessary to selectively accept foreigners, thereby utilizing the vitality of foreigners and maintaining social stability at the same time.

In particular, it is virtually inevitable that we must rely on a foreign labor force in the medical and nursing care fields where the demand is going to increase very significantly. Even now, we accept foreign caregivers from Indonesia, the Philippines, and so on based on economic partnership agreements, but they are not allowed to continue working unless they pass certification exams given in Japanese within 3 years. This is obviously a result of the attitude of *accepting foreigners for a short period of time only*. If we continue employing such a system, these human resources themselves will eventually stop coming from overseas. We need to establish new certifications for foreign nurses and

make other institutional improvements toward this aim (this point is based on the implications given by Mr. Takatoshi Itō in this symposium).

(4) Improving work-life balance

If we desperately attempt to increase the labor force participation rate of women without doing something about the other institutions currently surrounding women in society, the opportunity costs required by women to raise children will increase, leading to further falling birthrates, which would be the equivalent of strangling ourselves with our own hands. In order to avoid such a situation, we must raise the employment rate of women by first creating an environment that allows women to combine a career and childrearing.

As policies for allowing women to combine a career and childrearing, the utilization of childcare leave for both men and women, income security during childcare leave, and so on, can be mentioned. Previous studies[2] show that it is most effective to allow employees to switch to shorter working hours for a certain period of time while maintaining a permanent employment status.

(5) Reconsidering hiring systems and practices

As mentioned earlier, conventional business practices such as long-term employment, seniority-based wages, personnel training centered on new graduate hires, etc., hinder the employment of women and the elderly and generate disparities between younger generations. Japan's labor market must be made more flexible for the sake of both pursuing a growth strategy and addressing population onus.

Regarding this point, it is necessary to destroy the conventional line of thinking–in which workers are employed as new graduates and work at the same company until they reach the compulsory retirement age—from the design phases of various systems. For example, the government announced a policy to mandate an extension of the retirement age to companies, in connection with an increase of the pensionable age. In addition, employment adjustment subsidies were made use of as an employment security policy after the earthquake disaster. Such policies are exactly based on the assumption that everyone follows the long-term employment model. However, there is no guarantee that employment opportunities after the earthquake disaster can be provided by the companies the afflicted workers used to work at; we must therefore aim for more flexible policies that actively incorporate the transfer of employment as well.

(6) Implementing a new effective growth strategy

The tenet that a country becomes affluent if productivity is improved and the economy grows holds true regardless of the composition of the population, but in a period of population onus, this becomes an even more compelling issue. Leveraging the Japanese economy's inherent strength to the greatest effect possible and boosting its growth potential will cancel out the negative effects of population onus through improved productivity. Japan needs once again to implement a growth strategy by pursuing more efficient resource allocation and a free trade regime.

The bases of growth are labor force, capital, and technology. It is necessary to strengthen our labor force by raising the labor force participation rate and improving the value of individuals as human resources by making more efficient educational investments. In terms of capital, we must reduce budget deficits and invite direct capital investment from overseas. Finally, we must improve our technical prowess by expanding our investments in research and development.

- Notes -

1: Page 152 of the "White Paper on the Economy and Public Finance, 2011" by the Cabinet Office

2: For example, "Human Resources that Form the Future of Japan" (February, 2008) by the Japan Center for Economic Research investigated various questions assuming pseudo-change of systems via questionnaires and drew the conclusion that "allowing the choice of shorter working hours while maintaining regular employment status" is more effective than systems of childcare leave, wages during childcare leave, and payment of childrearing costs.

Chapter 2

Policy Responses to Youth Employment Issues

OHTA Souichi

1. Introduction

Many young people are presently having difficulty finding a place to work after graduating from university, with some of them compelled to give up hope for a regular full-time position and instead take work as a part-time employee. One's younger years are best suited for learning how to do a job, and with the majority of young people not being accorded sufficient educational/training opportunities during their early adult years, there is cause for concern that this will have a substantially adverse impact not only on the future of the individuals involved but also on the competitiveness of the country as a whole.

Naturally, the government has worked harder than ever to promote youth employment in addressing this issue. For example, one-stop centers for young people (job cafes) have been set up in every prefecture to provide carefully tailored job-hunting support. With the assistance of NPOs, self-support programs are also being established for NEETs. In addition, a job card system is being put in place to clearly specify the skills possessed by young participants in the program as an aid in their job-hunting efforts. In that sense, the youth employment measures being pursued at present are remarkably robust.

Despite this impressive lineup of meticulous measures, there remains the impression that the grand design for the future has become somewhat difficult to discern. Since the positioning of policies taken in the economic model so far has already been studied in Ohta (2010), this paper instead focuses on key issues requiring future deliberation.

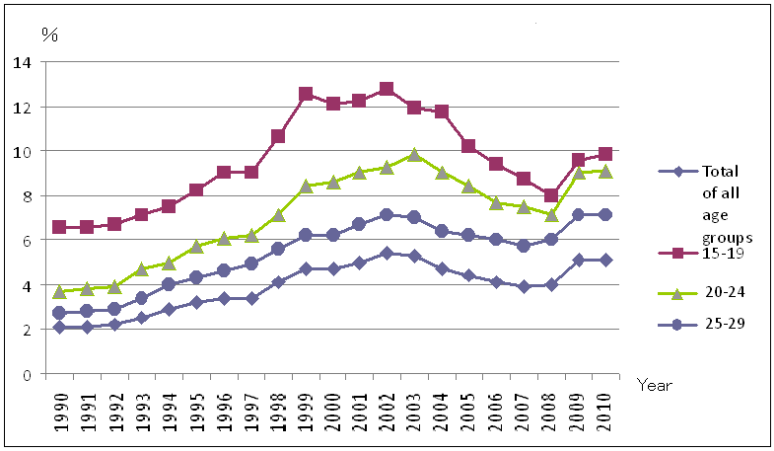
First of all, I would like to briefly touch on the youth employment issues in Japan. Following the burst of the economic bubble in the 1990s, the employment conditions surrounding young people deteriorated rapidly and a sense of crisis has been building up throughout Japanese society ever since. The worsening situation has been manifesting itself in several indices: firstly, rising unemployment and jobless rates; secondly, increased numbers of irregular employees such as part-time employees; and thirdly, declining rates of the employment of new graduates. I will only touch briefly on the former two points, but discuss the decline of the new graduate employment rate in detail.

To begin with, in the 1990s and onward, unemployment rates among young people increased rapidly, in the same way as for other generations (Figure 1). Normally, people searching for jobs are in the early part of their lives (except for people who have just reached the compulsory retirement age), and their unemployment rate tends to be at a higher level compared to other generations. During difficult economic times, that unemployment rate becomes even higher, highlighting the severity of youth unemployment issues.

One of the reasons why people lapse into a jobless situation is because they quit their job. Unlike unemployment among middle-aged and older generations, unemployment among young people is characterized by the fact that a high ratio of the young becomes jobless as a result of voluntarily quitting their jobs. If all jobless people aged 15 to 34 years of age in 2010 are classified using the "Labor Force Survey" by the Ministry of Internal Affairs and Communications according to reason, we find that 37.3% of these subjects "Quit their job voluntarily," while 26.1% "Quit their job involuntarily." The corresponding percentages among subjects aged 50 to 54 years of age were 30.8% and 50.0%, respectively; the ratio of people who "Quit their job involuntarily" is significantly higher than the ratio of people who "Quit their job voluntarily."

In addition, another characteristic of jobless young people is the frequency of "unemployed graduates", i.e., people who graduate from school but are unable to find jobs and face unemployment. Among unemployed people aged 15 to 34 years, the percentage of "unemployed graduates" is 10.5% and the ratio is as high as 21.2% if the subjects are limited to 15 to 24 years old.

Figure 1 Development of unemployment rate of young people (total of both genders)



Source: "Labor Force Survey" by the Statistics Bureau, Ministry of Internal Affairs and Communications

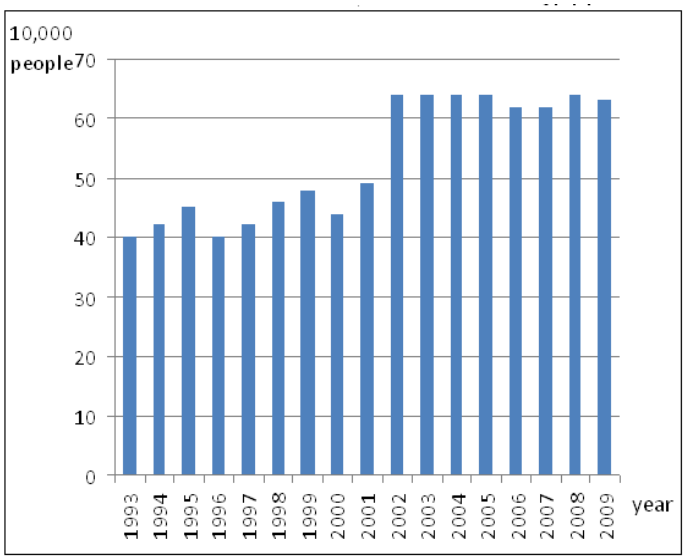
The fact that the tendency of young people to become jobless in these two ways became so strong was the main reason for the dramatic increase in the unemployment rate among young people in the 1990s. Here, it must be noted that this trend is not limited to young people; the same development can be observed in the unemployment rate of middle-aged and older people. That is, the unemployment rates of all working generations—middle-aged and older people, as well as young people—are affected greatly by business fluctuations. In the past, there was speculation that, unlike the middle-aged and older generations where unemployment was considered to be caused exclusively by business fluctuations, the increase in the percentage of jobless young people was for a large part caused by the changes in young people's attitudes toward work; however, this view is not necessarily correct.

Needless to say, jobless young people who are not in school are not necessarily unemployed. Looking at the development of the number of so-called NEETs, defined as "non-labor force population aged 15 to 34 years of age who are neither homemakers nor students," the number was 400,000 in 1993, but exceeded 600,000 in 2002 and has remained at that level ever since (Figure 2).

What is worth noting is that the number of NEETs increases during difficult economic times. It is highly likely that this increase reflects the number of people who actually want to work, but gave up searching for jobs and became NEETs, either because they searched for a job but could not find one easily or "there are no desirable jobs" because the employment environment is severe. Often, NEETs are regarded as "people who are not willing to work," but this can be said to be a rather one-sided view.

As discussed above, jobless young people are greatly affected by business fluctuations, but it is considered that the growth of a certain mismatch phenomena is an additional cause of aggravation of employment problems among jobless young people. In fact, Ohta (2010), upon studying the relationship between the effective job opening to applicant ratio and unemployment rate, estimated that approximately 40% of all jobless young people in 2006 (15 to 29 years old) suffered from such mismatch phenomena. However, it is not easy to confirm the details. The details of mismatch issues in the new university graduate market are examined later.

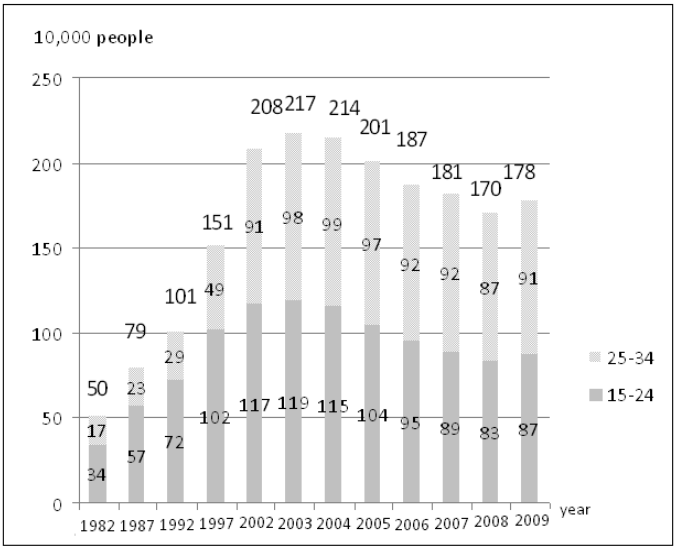
Figure 2 Development of the number of jobless young people (NEETs) (total of both genders)



Source: "White Paper on the Labour Economy" by the Ministry of Health, Labour and Welfare (2010)

Secondly, so-called freelance part-time workers increased in number (Figure 3). The term freelance part-time worker began to be used about 20 years ago to refer to young people who obtain their main income from irregular jobs and who actually desire such a working style. Looking at the development of the number of freelance part-time workers, there were 500,000 freelance part-time workers in 1982, but this number started to grow fast as business conditions weakened and reached 2,170,000 in 2003. Afterward, as business conditions recovered, the number of freelance part-time workers began to decrease and gradually dropped down to 1,700,000 people by 2008. This number increased again, however, in 2009. Note that during a period of economic recovery, the number of freelance part-time workers aged 15 to 24 years declines dramatically, but the number of freelance part-time workers aged 25 to 34 does not decrease much. This indicates that even if business recovers, the employment conditions of relatively older freelance part-time workers hardly take a favorable turn compared to younger freelance part-time workers.

Figure 3 Development of the number of freelance part-time workers (total of both genders)

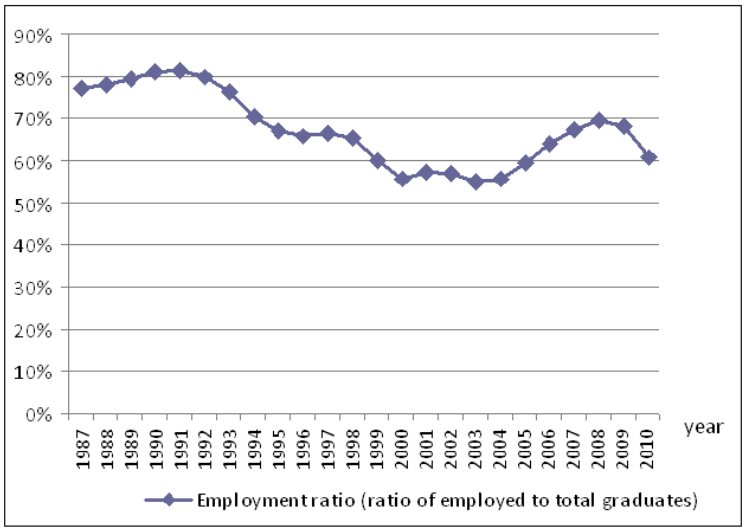


Note: The definition is different before and after 1997. Refer to Ohta (2010) for further details.

Source: "White Paper on the Labour Economy" in 2009 and 2010 by the Ministry of Health, Labour and Welfare

Lastly, I would like to briefly discuss the issue of the decreasing employment rate of new graduates, in particular, the downturn of the employment rate of university graduates and its background. Currently, the employment rate of university graduates remains quite low, around 70% (Figure 4).[1] The major reason for this is the lower job opening to applicant ratio for new university graduates, but mismatch between the needs of job seekers and conditions of job offers is considered to have a significant impact as well. For example, the job opening to applicant ratio of university graduates in 1993 and 2007 was approximately 1.9 in both years (survey by Works Institute of Recruit Co., Ltd.). However, according to the "School Basic Survey" (Ministry of Education, Culture, Sports, Science and Technology), the employment rate of university graduates (ratio of employees to graduates) was 76% in 1993 but only 68% in 2007 – a decrease of 8 percentage points. In other words, the job opening to applicant ratio fundamentally has a relatively greater importance, but the employment rate of university graduates is nonetheless on a downward trend even though the job opening to applicant ratio remains nearly the same.

Figure 4 Development of employment rate of university graduates (total of both genders)



Source: "School Basic Survey" by the Ministry of Education, Culture, Sports, Science and Technology

Several background factors may have an impact on the mismatch seen here, and they may be interacting in quite complicated manners. As the first factor, the careful recruitment behaviors of companies offering jobs can be considered. Many Japanese companies facing unfavorable conditions, such as the currency collapse in Europe and unprecedented strengthening of the yen, have not exactly softened their harsh stance regarding the future economic outlook. For this reason, there may be cases where companies tentatively announce job offers but leave the positions unfilled if they cannot obtain appropriate human resources. Leaving job openings unfilled clearly causes the employment rate to drop even further than the decline of job opening to applicant ratio.

Secondly, the company side places importance on the ranks of universities when they employ graduates. This is not very conspicuous when employing university graduates with science and engineering majors, but companies tend to attach a heavy value to university ranking and positive attitude and/or the cooperativeness of applicants when hiring graduates with majors in the humanities.[2] Even when employing university graduates, many companies prefer cultivating human resources to match their own corporate style by providing their own training, rather than making use of the expertise the graduates acquired at universities, etc. The important point here is the cost accrued for training. Graduates from universities at the high end of the curve are expected to learn very quickly.[3] Of course,

it is difficult to acquire the skills required by companies with the passive attitude students tend to have in junior high and high schools. Therefore, trainees must have a positive attitude and communication abilities as well. As long as the companies continue this ingrained tradition of fostering "in-house human resources," the ranking of the universities will continue to play a very important role when employing new graduates.

If the number of job offers decreases under such conditions, graduates from low-ranked universities will face stronger scarcity of employment than graduates from high-ranked universities. Rising university graduation rates in particular means increasing numbers of young people not reaching the recruitment standards for university graduates, leading to further escalation of the mismatch problem.[4]

The third factor is the tendency among students and their parents to stick to certain types of occupations and particular companies (scale and name recognition). In Japan, the labor market is not formed based on jobs and occupation types and the frequency of career switching is significantly lower than in the U.S. and other countries. Instead, the company side tends to have a strong impact on the career formation of employees. In this case, "which company to choose" becomes an extremely important factor. The fact that there are huge variations in terms of wages and benefit packages depending on company size in Japan just adds extra weight to this factor. As a result, university students and/or their parents make desperate efforts to find employment in larger and more famous companies, especially right after graduation. As a consequence, small- to medium-sized companies with less brand value suffer from being unable to recruit high-level human resources.

In addition, university students with majors in the humanities tend to desire desk jobs, but recently the balance between the number of desk job offers and the number of job seekers has become skewed as well. This is largely caused by a fixed idea among university students and/or their parents that "desk jobs are the only careers for university graduates." Unfortunately, correcting such fixed ideas takes a long time, which can be another contributing factor in the mismatch.

The fourth factor is that universities do not provide sufficient job-hunting support. This point will be explained in more detail in Part 4. Weak job-hunting support from universities is likely to have an adverse effect on the matching.

The fifth factor is the possibility that job hunting efforts using the internet and similar methods actually aggravate the problem. Since it is possible to send applications to as many companies as one

wishes through the internet, there are situations where many students apply to major companies and are eliminated at the entry screening stage. Companies receiving numerous applications are pressed to conduct preliminary screenings to some extent, taking school names, etc. into consideration. As a consequence, it is likely that there are an increasing number of students who apply to many companies but are not employed by any of them, and eventually get depressed from the constant rejection. In this sense, it can—rather paradoxically—be said that the fact that information and communication technologies have become so advanced nowadays is what is making it more difficult for students to find employment adequate to their level.

So far, we have a glance at youth employment issues. In the following section, I would like to state my opinions on how we should address these problems. For the sake of convenience, I will organize the discussion around the following main points: (1) policies to increase company job offers to younger workers, (2) policies to improve the skills of younger workers, and (3) policies to enhance the functions of the employment market, but these are needless to say mutually interdependent. That is, upgrading the skills of young people leads to companies offering more jobs to young people, and reinforcement of the labor market for young people of course yields the same result. Still, we will follow the aforementioned rough classification as it is convenient for moving the discussion forward.

2. Policies to increase company job offers to younger workers

Regarding increasing job offers from companies, it should be pointed that there are, in fact, sufficiently many jobs available even today, if irregular jobs such as side jobs and part-time jobs are counted as well. However, often, there are fixed contract terms for such irregular jobs, and the employees are not expected to exhibit advanced skills. For this reason, the prospects for rising in wage level are not good, even if one manages to build up experience. The problem lies in the fact that the number of offers of highly stable jobs where workers can expect improvement of skills and wages, i.e., regular employment, decreased sharply during the long-term business depression during the 1990s and onward. To make things worse, in addition to the purely economic factors, the same period witnessed a strong intensification of competition against other Asian countries as well as the onset of the IT revolution, which replaced many conventional job functions that would normally be carried out by regular employees by computers and automated machinery. All these factors conspired to create a dramatic decline in the incentive of companies to hire young regular employees.

For Japanese companies, hiring new graduates as regular employees is an "investment" of great significance. Since ordinary new graduates have no work experience, companies must request that they acquire skills, which accrues various costs accordingly, for example: (1) cost of constructing/maintaining training facilities, etc., (2) cost of covering damages due to mistakes made in the process of learning job functions, (3) wage costs of people in charge of training/education, (4) opportunity costs involved in time spent by experienced workers to cultivate fresh recruits, and (5) costs for providing wage levels above actual productivity. Thus, companies only employ young people when they believe that they can get a return on their investment in the form of experienced workers that can support the backbone of the company someday.

However, if such investment opportunities deteriorate, the companies are naturally disinclined to employ young people. In fact, as Ohta (2010) clarified in the positive analysis outlined in Chapter 4, companies tend to only hire young regular employees if future corporate performance can be expected. If such arguments are correct, policies that provide companies with better long-term prospects are important for the employment of young people. For example, high corporate tax rates compared to international standards have served as a negative factor for domestic employment in recent years, as the globalization of corporate activities has been accelerating rapidly. In addition, allocating government expenditures fearlessly to future growth sectors to support basic research and development in these sectors is considered to promote the long-term growth of Japanese companies and contribute to the improvement of the employment environment of young people, albeit indirectly. Furthermore, implementing appropriate macro stabilization policies and promoting regulatory reforms will brighten the long-term outlook of companies.

Moreover, young people upgrading their qualifications will stimulate the companies' willingness to employ young people. This point is examined in the next part. What must be discussed continuously in this part is the association with the employment system and employment laws. In particular, the major issues are the impact brought about by the promotion of the continuous employment of the elderly and employment security for regular employees. Recently, it has been suggested to require companies to ensure employment up to 65 years old for all workers who wish to continue working. Some even point out that we should eliminate the compulsory retirement age altogether and aim for an "ageless society." As the declining birthrate and aging of the population advance, it is necessary to make use of the skills of the elderly in order to maintain the vigor of the Japanese economy. On the other hand, this means

that we run the risk of limiting the employment opportunities of young people while promoting the employment of elderly people.

In economic theory, the impact of the promotion of continuous employment of the elderly on the employment rate of young people comes down to the relationship of labor services provided by young people and the elderly in terms of productivity, respectively. If the labor services provided by young people are independent of those provided by the elderly in terms of productivity, there would be hardly any impact. On the other hand, if young and elderly people are substitutable, the promotion of continuous employment will suppress the employment of young people. Conversely, if they provide complementary services, the employment of young people will in fact be enhanced. In other words, it is safe to say that in cases where young and elderly employees are interchangeable, companies would consider that there would be no need to employ many young people because it already has skilled elderly workers, while in cases where young and elderly employees complement each other, companies would be more likely to consider employing young people actively, because cooperation between the elderly and the young is beneficial. In the end, the question boils down to "what are the actual relations between the two groups?" According to previous studies, there have so far not been any results that strongly indicate complementary relationships between young people and the elderly, whereas several studies have found substitutable relationships (Mitani 2001, Genda 2001).

If continuous employment of the elderly is facilitated in the future by an extension of the retirement age or similar methods, its impact on the employment of young regular employees is likely to become greater. The reasons for this are that, firstly, when more elderly become regular employees, elderly workers and young workers are highly likely to have substitutable relations, and secondly, the cost of employing regular employees increases unless significant wage structure reform is carried out.

Even if national promotion of continuous employment is inevitable, we must make sure to consider the impact on young generations very carefully before doing so. In addition, policies to heighten complementary relations between elderly and young people must be implemented. Politically supporting a mechanism where young people learn the skills of elderly workers and elderly workers are used to guide young workers can also be a countermeasure.

Another issue related to the employment system is how we should consider strong employment security for regular employees. The stance of securing the employment of regular employees even during difficult economic times has fulfilled a certain role of stabilizing the status of people who are

already regular employees. However, if companies place too much importance on employment security for regular employees, they run the risk of having to bear large costs when hiring regular employees and are thus inclined to make use of irregular employee as a buffer for employment adjustment. In fact, analysis has shown that the ratio of short-term employment is high among companies where regulations on dismissal of regular employees are strict (OECD, 2004). Moreover, once people become irregular employees, they virtually never get the chance to be promoted to regular employment even if they wish to do so, and they run a significant risk of remaining stuck in positions of weak employment security and markedly lower wage levels than regular employees. This "polarization" of regular employees and irregular employees has been advancing in recent years, likely due to the strong employment security practices and legislation that protect regular employees.

Such problems can be addressed via two major options. The first option is to reform the employment security policy protecting regular employees so as to narrow the gap with irregular employees. In other words, companies would be able to create regular positions with slightly relaxed employment security and absorb irregular employees in those positions, thereby eliminating the gap. One of the possible specific measures to achieve this goal is allowing a certain degree of discretion on the company side when it becomes "necessary to downsize surplus manpower" while at the same time removing requirements to "fire/dismiss irregular employees" before regular employees. The gap between regular and irregular employees would shrink further if dismissal is only approved as valid after confirming that the "selection of dismissed workers is fair," "adequate procedures have been followed" and prescribed "efforts to avoid dismissal" have been made.

The second option is to create new forms of employment contracts in order to solve the problems by way of "diversification." This approach attempts to build "stepping stones" in the large gap between regular employees and irregular employees. In this category, one could consider an "employee system limited to service areas," for example; employment contracts are cancelled for workers working in limited areas if business offices in the service areas are closed down. In this case, the level of employment security is substantially lowered in the sense that companies are not required to maintain employment through personnel relocation, as in the case of current regular employees. Instead, the companies can offer contracts to continue employment as far as pre-determined positions are available. Once these more diverse human resource management methods become more widespread, the barrier between irregular employee and regular employees will be lowered, and the transfer of human resources from the former to the latter category is likely to be able to progress more smoothly than

today. Such a direction should be welcomed by regular employees who feel the current working conditions to be excessively constraining as well.

Whichever option a company may take, the overall level of employment security will eventually become weaker. Under such conditions, it cannot be denied that there are advantages in terms of job creation, while at the same time there will be a risk of unreasonable and/or excessive dismissals by today's social standards. One of the relaxation measures to remedy this is to implement a risk-related premium system in the unemployment insurance system to make companies to pay a social cost of dismissals "internally" (Cahuc and Zylberberg, 2006). From the point of view of the payment of employment insurance benefits as well, it would be beneficial to promote policies to improve the chances of escaping unemployment and job-less conditions through measures such as strengthening job-hunting incentives and imposing penalties for not trying to actively seek employment.

Consensus has not necessarily been reached in academic circles as to what degree the Japanese legal system actually suppresses new employment, but it is necessary to explore methods of improvement and discuss such issues openly without regarding them as taboo.

3. Policies to improve the skills of younger workers

The possible policies to induce young people themselves to increase their ability to find employment can largely be classified into the following two categories: (1) aiming to improve their "employment awareness" through career education, thereby making them better able to find matching jobs, and (2) making young people more attractive human resources for companies through education and training. We shall discuss these policies in order.

Recently, there have been more and more cases of prospective new graduates receiving informal job offers only to have their informal appointments cancelled (according to interviews with individuals related to New Graduate Support Hello Work by the author). In many of these cases, the companies cancelled the appointments as they doubted the adjustability of the prospective employees to them as a result of track records in probationary employment and so on. This is considered to be the result of excessive optimism among young people regarding "working in society." In order to avoid such problems, it is important to raise their awareness about "working in society" from the earliest possible stage. In this respect, so-called career education plays an important role. Career education is presently

being promoted at schools, but the actual efforts put into this differ considerably from university to university.

Universities (or high schools) should start working on career education as early as possible after the admission of students. In addition to lectures in classrooms, it is important to make use of individual interviews to induce students to think about what it means to have a job and their career options. Moreover, inviting older graduates working in actual jobs to schools to get in touch with students in order to increase contacts with post-graduation society, as well as giving credits for internships in order to strongly promote such activities, will be effective in improving the students' ability to find employment.[5]

A issue regarding career education at universities in particular is the face that there are in fact quite a significant number of cases where such efforts are left to certain organizations rather than organizing university-wide efforts. It is of course natural that the careers of individual graduates vary greatly by their major field of study and thus education in departments and career education should be provided in a relevant manner, but there are many cases here and there where sufficient career education is not provided because the faculty organizations are hesitant about collaborating with career centers and similar organizations. Therefore, the *education of teachers* also becomes necessary in order to promote career education.

It is not only career education that is important, but also what is taught in schools. It goes without saying that the improvement of basic skills such as one's capability to comprehend and write sentences, perform calculations, think logically, and understand society and nature in junior high and high schools is important. Such basic skills play a very important role when students acquire knowledge required in the business world. If a company employs young people as regular employees, it must provide training such that they learn how to do their jobs. At this point, the higher the basic abilities of young people, the smoother it will be to foster them into valuable human assets. Therefore, if companies start to evaluate the abilities of young people more highly, we can expect them to employ young people more actively. In order for this to happen, the aforementioned basic academic abilities are indispensable.

In addition, there are many occupations that require national qualifications. If students suffer from low basic academic abilities, efforts to acquire such qualifications tend to be painful for them. Moreover, increasing emphasis on "problem-solving skills" is believed to be increasing the importance of basic academic abilities even further. For example, "problem-solving skills" in the manufacturing

industry refers to skills to rapidly and accurately find and solve causes of the occurrence of problems in products, as well as the production processes that produce those products. In order to acquire such skills, it is necessary for workers to have knowledge and experience about products and their production processes, as well as the abilities necessary to make use of them to logically narrow down the correct causes of the problems given the evidence at hand. Some might claim that the skills of workers are becoming obsolete due to recent advancements in IT innovation and networking, but at the same time it is likely that the ability to solve previously unseen problems is going to become far more important, as more and more known problems are meticulously organized in databases. Furthermore, this tendency is only strengthened by the continued complication, advancement, and miniaturization of products and technologies to produce them. In order to deal with such situations, it is critical that we reform our school education and further improve the levels of the various basic academic abilities we teach our students (Ohta, 2010).

In addition, we are reaching a point in time where it is necessary to review the contents of the specialized education in universities and similar institutions. Traditionally, the relationship between universities and companies has been far from close—some might even call it estranged —especially with respect to students with majors in the humanities. In fact, the majority of companies have not had any expectations from education in universities (at least for majors in the humanities). First, the conventional general view was that the education provided in universities had no direct link to the job descriptions found in companies. In addition, partly because the evaluation of learning results in universities is generally considered imprecise, very few companies take students' grades in universities seriously as a criterion at employment. The backdrop for this is that it seems that most Japanese companies are confident in their own education of their employees and believe that only education after joining companies is useful. The main determinants of hiring are the school name and "personality" that can be observed directly during job interviews, etc. (positive attitude, communication abilities, etc.), whereas expertise cultivated during the university studies are seldom considered.

Currently, it seems that many companies are changing their conventional employment policies and narrowing their focus to human resources that match their corporate climate precisely. They may be frustrated that human resource cultivation by conventional in-house education so far appears to be insufficient to win in the competition in the global market. However, since the conventional view of what constitutes good human resource cultivation is prevailing, the companies seem to be unable to make their wishes for desired human resources known. As a consequence, the students are at a loss as

to what to learn while in school and therefore focus more on going to schools for the purpose of acquiring qualifications and cultivate "job hunting techniques," rather than concentrating on their studies.

There are major issues at the university level as well. There is a glaring tendency for faculties to teach what they want to teach, because they are not expected to teach any particular subjects by companies. This is considered to be greatly influenced by the universities' public stance that "universities are seats of learning, not employment preparatory schools." For this reason, the universities have gotten caught up in a vicious circle where they are completely unable to guarantee the "quality" of their graduates, which in turn leads to more critical views among the companies of the professional education taught at the universities. In summation, at this moment, both the "mismatch between companies and students", and the "mismatch between companies and universities" are significant, unresolved problems.

Given these conditions, what is required from now on will be as follows. Firstly, now that it has become so common to pursue higher education, it is difficult to refer to all universities collectively as "universities." The gap in the academic ability level of students between high-ranked universities and low-ranked universities has become greater than before, and the role of graduates demanded by hiring companies greatly differs depending on the university. Thus, it is necessary for each university to enter into active exchanges with companies accepting graduates in order to accurately understand what capacities of students society expects the universities to cultivate, and provide education accordingly.

Secondly, it is time to review the curricula of the universities as well, which is also related to the previous point. The universities are trying to project the image of being independent institutions that strive toward higher learning as the "forefront of wisdom" without compromising themselves by appealing to society, but it is in fact a bit unlikely that most universities actually live up to this image. For example, many low-ranked universities offer junior high and high school curriculum brush-up courses. The education of students at that level is forced to have strong overtones of practical study in everyday life.

Specialized vocational high schools provide a good case example in relation to this point. Specialized vocational high schools are higher education facilities founded in 1962 or later in order to cultivate the capacities required for particular careers. The main fields include industry, merchant shipping, art and design, and they currently educate approximately 60,000 regular and major-pursuing

students. They are characterized by a 5-year continuous specialized education curriculum starting immediately after graduation from junior high school along with adequate practical education through skills practice and apprenticeship. The number of job openings is 10 to 20 times as high as the number of applicants at any given time, and the employment rate of these graduates is close to 100%. Such successes of specialized vocational high schools are achieved thanks to educational contents reflecting the actual needs of the industrial world. Such practical education is expected to further spread in Japan. If some universities are able to provide functional capabilities similar to these specialized vocational high schools, a large part of the problem with graduates having difficulties finding employment could be alleviated.

Efforts to offer career graduate schools are underway at several high-ranked universities as well, and some of them are already successful. Thus, it appears that things are moving in the right direction, and similar initiatives should be continued in the future as well; however, the education offered by university faculties still requires further review. Loose evaluation in granting credits in particular undermines the trust among companies in the expertise university graduates should have acquired. Only the universities themselves can improve upon this situation.

Thirdly, it becomes important to make more efficient use of the so-called gap term in the future. Influential universities are examining a mechanism to grant qualification for admission to university in the spring, but only start full-scale courses during the fall. The universities do so in order to accommodate globalization, and this initiative is likely to play a potent role in the attraction of foreign students. However, it then becomes a very interesting question how Japanese students should spend the gap term, which lasts at least half a year. According to human capital theory, concentrating school education in younger ages provides the advantage that students can learn most efficiently in their early life, and the improvement of productivity achieved by early learning is an investment that one can benefit for the rest of one's life. That is, it can be said that learning in early life is the optimum strategy to maximize lifetime income. In this sense, the gap term is in fact counterproductive to maximizing one's lifetime income. If the gap term cannot be spent effectively, we run the risk of incurring considerable losses in the lifetime income of university graduates.

However, one can think of several patterns for utilization of the gap term. In the case of high-ranked universities, it might be a good idea to allow those admitted to the universities to go abroad and obtain experience overseas. On the other hand, it is not possible to cultivate the "global human resources"

sought by companies through just half a year of overseas experience; we should not pin all our expectations on this idea. In addition, it cannot be ignored that whether students can spend the gap term efficiently depends strongly on the monetary capacity of households, etc., which should be avoided.

Fourthly, educational systems responding quickly to globalization are sought after now. On June 14, 2011, Keidanren, the Japan Business Federation, announced a number of "Proposals toward Cultivation of Global Human Resources." As such initiatives indicate, the business world is crying out for human resources who can play active roles on the global stage. In fact, many companies are increasing the employment of foreigners (including foreign students) for that exact reason. University education must be improved such that Japanese students can adapt to these trends as well. Since the ability to take advantage of foreign languages is particularly important, efforts to offer professional education in English currently being advanced by several universities should be further promoted.

In sum, increasing the frequency of contact between companies and universities to promote mutual understanding is likely to be a potential policy for resolving the mismatch.

4. Policies to enhance the functions of the employment market

Here, I would like to mention some policies for enhancing the functions of the entire young labor market. In the following, I will discuss (1) the strengthening of universities' job-hunting support services, (2) increasing the transparency of employment-related information, and (3) the enhancement of inter-regional matching functions.

First of all, the job-hunting support offered by many universities is often handled by placement departments and the agencies of each department or career center, etc., but it is considered that the number of job offers and the amount of information of individual companies that they are able to provide are not always sufficient. For this reason, their abilities to connect job seekers and companies offering jobs are, on average, weaker than specialized employment placement agencies (public/private).

It is thus possible to strengthen the job-hunting support services offered by universities by pursuing deeper collaboration between universities and specialized employment placement agencies. Currently, one such public agency, New Graduate Support Hello Work, accumulates specialized skills for matching and conducts operations to introduce jobs to new graduates. On the other hand, the university

side has various types of information on students, including their academic work. Indeed, the universities often provide the main living quarters of the students. Thus, we can expect better matching performance in the new graduate phase if both sides are able to collaborate smoothly.

Note that Professor Yuji Genda of the University of Tokyo made a very interesting proposal: proactively commission employment assistance that can be provided by universities to employment agents with sufficient expertise and track records in career switching/reemployment support. Specifically, a university enters a consignment contract with employment agencies stating that "the university pays a fee and, in return, wants employment support services including fee-based employment placement for students specified by the university," and students have interviews with counselors dispatched from such agencies to decide on relevant places of employment. From the viewpoint of the improvement of matching job seekers and job providers, such mechanisms appear highly worthy of consideration.

The following arguments can be given for the second point, "increasing transparency of employment-related information." First, the most essential problem in terms of youth employment issues is the fact that jobs cannot be easily found. At the same time, one of the reasons why unemployment among young people remains high seems to be that young workers often leave jobs that they had such trouble finding. It is true that finding employment during a business depression may often result in disappointing employment, which the employee eventually wants to leave, but it cannot be denied that job seeking under conditions of insufficient information is an additional cause of problems as well.

According to a large-scale survey conducted in 2007 by the Japan Institute for Labour Policy and Training ("Survey on the Reasons Young People Leave Their Jobs and How They Could Be Made to Stay in Their Jobs"), many young workers tend to want to switch careers in cases where new recruits joined companies without obtaining sufficient information, cases where they judge the initial training provided by the companies to be insufficient, cases where they have no one to go to for advice, and cases where the job requires a great deal of sacrifice from the employee, such as frequently having to work during holidays (and overtime).

As a consequence, any efforts to narrow down the gap between the job descriptions and workplace atmosphere imagined by young people before being hired and the actual reality they face after being hired are surely going to act in the direction of decreasing the mismatch due to lack of information

available before joining companies. Specific examples include clearly explaining the type of job and job description before employment and conducting detailed company visits as well as introductory probation work periods. In addition, implementing mentor systems and follow-up meetings with superiors, so that young people can talk to someone about their problems, etc. will also serve as important measures preventing labor turnover. Frequent overtime work and work during holidays easily lead to the desire to switch careers because young people must significantly sacrifice their private lives and thus tend to accumulate frustration. In this sense, appropriate labor hours and holiday management can also help in preventing young people from leaving their jobs.

In addition, the disclosure of employment information of educational institutes should be promoted as well. University websites, etc., often contain employment rates, but this value is simply the ratio of employed people to job seekers, and it is not clear how high the percentages of graduates with particular career options are out of the total in many cases. Nonetheless, such information is essential in order to grasp the employment conditions of each university from the outside. Each university is obliged to report the number of graduates and breakdown data including "number of employed graduates," "those who found temporary jobs," and "those who proceeded to higher education" to the Ministry of Education, Culture, Sports, Science and Technology, and the aggregated results are published in the "School Basic Survey." It is necessary to make it obligatory to publish this data on websites, etc. as well, so that the employment information of universities becomes easily available to the public.

As a matter of fact, this has several advantages. Firstly, it provides incentives for each university to assert itself properly in terms of job-hunting support. If it is prohibited to exclude students who gave up on being employed as they could not get an employment guarantee from job providers, in order to raise the nominal employment rate, universities have no choice but to put efforts into securing places of employment for students in order to survive. Secondly, it provides extremely important information about the quality of each university to high school graduates and their parents who intend to "purchase" the educational services of the universities. Some universities may face problems in securing enrollment as a result of disclosing information, but at least it is possible to alleviate the tragedy where graduating students having difficulties in job placement must face the reality of their universities for the first time at their graduation.

Lastly, I would like to mention the idea of securing places of employment via wide-area matching. Young people in rural areas have few excellent job opportunities compared to young people in urban areas. For this reason, moving from rural to urban areas to find employment outside one's prefecture plays a role in limiting unemployment among young people (Ohta, 2010). As a means of supporting youth employment, recruiting activities by companies across regions and wide area job-seeking activities by job seekers will be supported in terms of information and cost. Moreover, guiding young people who move across regions through policies such that they get used to the new work environment is considered to have an effect on suppressing increases in the rate of unemployment caused by U-turns as it encourages them to stay in their current positions. At the same time, it would be necessary to examine how we can support young people who were unable to find jobs in their home towns and had no other choice than making their way outside their prefectures.

In this aspect, the government should formulate and implement youth employment measures that cover wider areas, for example by urging companies to announce job offers to new graduates in wider areas, which in turn may help alleviate employment issues. Moreover, assisting young people such that they can seek jobs across wider areas can also be a measure to ease the inter-regional mismatch in employment. It will be necessary to combine meticulous job-hunting support at the regional level and the enhancement of services to match job seekers with job offers in wide areas.

References

Hideo Akabayashi, Hiroko Araki, Souichi Ohta, Michio Naoi (2012) "Analysis of National High School Survey: Actual Employment Records," unfinished manuscript.

Hiroko Araki, Hiroki Yasuda (2011) "Economic Analysis on Requirements of Informal Regular Job Offers to Universities," KEIO/KYOTO Global COE Discussion Paper Series, DP2011 – 015.

Souichi Ohta (2010) "Economics of Youth Employment," Nikkei Publishing Inc.

Souichi Ohta (2012) "The Falling Employment Rate of New University Graduates in Japan: On the Effect of the Rising University Enrollment Rate," "The Japanese Journal of Labour Studies," No.619, 29-44.

Yuji Genda (2001) "A Nagging Sense of Job Insecurity: The New Reality Facing Japanese Youth," Chuokoron-Shinsha, Inc.

Naoki Mitani (2001b) "Employment Policies for Older Workers and Labor Demand in Japan," Edited by Takenori Inoki and Fumio Ohtake "An Economic Analysis of Employment Policies in Japan," Chapter 11, University of Tokyo Press

Cahuc, P. and A.Zylberberg (2006) *The Natural Survival of Work*, MIT Press.

OECD (2004) *Employment Outlook*, OECD, OECD Publishing, Paris.

Spence, M. (1973) "Job Market Signaling," *The Quarterly Journal of Economics*, vol. 87, issue 3, p.355—374.

Notes:

[1] Numerical values based on the "School Basic Survey." The number of job-finders does not include "people who found temporary jobs."

[2] Many positive studies indicate that graduating from a university on the high end of the curve has a favorable impact on the average success in finding jobs. A recent analysis supporting this includes Araki and Yasuda (2011).

[3] This is the signaling theory by Spence (1973). The original formulation states that there is an inverse correlation between the height of productivity not observed by companies and the cost of acquiring educational status. Similar logic can be used assuming that there is a positive correlation between the cost of training after joining companies and the cost of acquiring educational status.

[4] Ohta (2012) analyzed time-series data of the employment rate of university graduates and obtained the conclusion that increased numbers of people pursuing university education actually caused a drop in the employment rate of university graduates.

[5] Akabayashi, Araki, Ohta, and Naoi (2012) used data from high schools to clarify that the possibility of internship involving credit recognition improves the employment rate.

PART 2
—LIBERALIZING TRADE AND EXPANDING DOMESTIC INVESTMENT—

Chapter 3
Liberalizing Trade and Investment and Ensuring Japan's Competitiveness

ABE Kazutomo

This paper examines external policies, particularly the strengthening of competitiveness by liberalizing trade and investment. The overall theme concerns the two policy issues of trade liberalization and the expansion of direct investment. Of the latter, securing an influx of direct investment will be examined in detail in the paper by Professor Urata in this report. This paper mainly examines the use of liberalizing trade and foreign direct investment. This paper will also include the foreign expansion by Japanese companies in examining direct investment, in addition to an influx of investment into Japan, since this is also an effective political tool in terms of securing national income.

1. Basic approach

The key to strengthening competitiveness can be summarized into two factors: an increase in the productivity of domestic industries and a reduction in the (real) exchange rate. The paper will not discuss the latter directly as it is an issue of macro economic and monetary adjustment policy. The former is directly an issue of domestic industrial policy, such as the easing of regulations, and financial and taxation policies; however, the degree of liberalizing trade and investment is also closely related to the productivity of domestic industries. In addition, liberalizing trade and investment also affects competitiveness from a variety of directions. This section will organize, somewhat theoretically, the economic effect of liberalizing trade and investment, with some added empirical surveys.

(1) Effect of trade liberalization: Promotion of economic growth

Concrete policies for trade liberalization include the lowering or the abolition of border controls, such as a reduction of import duties and the abolition of quantitative restrictions on imports, as well as easing restrictions such as standards and certification systems and food hygiene regulations, and trade facilitation measures implemented mainly by streamlining customs clearance. Export control measures such as the abolition of quantitative restrictions on exports and export duties as well as export subsidies may also be analyzed as subjects for liberalization. Increasing interest in the theory of economic growth has led to the accumulation of research that attempts to explain economic growth empirically using a variety of factors (economic growth functions).[1] Explanatory variables

include income level per person at the time based on the convergence hypothesis, as well as a wide variety of policy variables and environmental variables either directly or as a cross term. Some include protection rate in terms of trade ratio (compared to GDP) and customs duties. It is not easy to deal with these trade-related variables due to the issue of simultaneous decision; however, the general trend is to conclude that the more liberalized trade is, the higher the rate of economic growth. Estimates of growth functions only examine the correlation of the results, thus the process requires presumption and explanation. Research examples list the effect of the promotion of macro technology advancement and the effect of the promotion of domestic investment as a result of trade (import) liberalization. It is considered that the effects of technology advancement include the effect of triggering efficient production and technological development as a result of increased competition following trade liberalization, the macro effect of the promotion of industrial structure change as a result of trade liberalization, and the effect of promoting technological advancement as a result of being able to import inexpensively made parts, intermediate goods, and facilities that embody new technology. Some explain that trade liberalization draws direct investment from abroad, which directly results in increased productivity and technological advancement as a result of industrial structure change. This explanation leads to the conclusion that preparing the environment for an influx of direct investment is important for realizing the effect of trade liberalization policies.

Trade (import) liberalization results in increased domestic investment as a result of the improved expected rate of return, rather than macro technological advancement, in terms of the effect of promoting domestic investment. This explanation suggests that the investment environment (the taxation system and the easing of regulations) for domestic investment is also important to realize the effect of trade liberalization on economic growth. The above argument holds not only for the liberalization of trade in goods but also for the liberalization of trade in services. This research focuses interest on the fact that the bigger the trade ratio or the degree of openness, the more significant the contribution that is made to economic growth, and does not pay much attention to the size itself. As for the approximate figure of the effect, the increase of APEC trade liberalization (export/GDP) shows the accumulated effect of economic growth over 20 years is much the same order as the estimated figure of the static effect by general equilibrium model. (APEC countries' accumulated GDP in 20 years is pushed up by 0.5 - 0.6%. APEC Economic Committee "Assessing APEC Trade Liberalization and Facilitation – 1999 Update" (1999).)

Among the many research results noted above, I would like to point out the following in the

context of this research. Growth functions take the long-term economic growth of many countries including developing countries as samples; therefore, Japan is only one of these samples and factors specific to Japan are ignored unless they are controlled. In other words, the positive effects of trade liberalization on economic growth, which are commonly pointed out, are valid, but other effects, spillover channels and the strength of the effects need to be examined taking into consideration the economic and policy environment that is specific to Japan.

In considering the improvement in productivity in Japan as a result of trade liberalization, the following points would be significant. Japan's trade protection places disproportionate weight on certain industries (agriculture, forestry, fishery and foodstuff for goods trading, and finance, transportation, communication and business services for service trading), and protection is low for other industries (manufacturing, etc.). Domestic investment is not active, but rather, companies are considering foreign investment (outflow of companies). This must also be influenced by the tight regulation of industry and land use, and the high operating cost such as the taxation system. On the other hand, the influx of direct investment in companies including manufacturers is very small. This may be influenced by the poor condition of Japan's investment environment, as well as visible and invisible regulations. Under such a policy environment, the effect of trade liberalization (reduction of custom duties) on triggering domestic investment and direct investment within the industry sector would be limited in goods trading other than agriculture, forestry and fisheries products. On the other hand, the effects of liberalizing manufacturing products, which embody technology, would not be expected to be much higher because manufacturing products are almost fully liberalized.

Therefore, in the situation of Japan, the import liberalization of goods and services, which combines the liberalization and relaxation of regulations for agriculture, forestry and fisheries products, foodstuff and services (in the area of service trade such as finance, communication and transport) would be effective in improving productivity. The promotion of an inflow of new domestic investment and direct investment, as well as improvement in productivity, can be expected in these sectors in combination with the relaxation of regulations.

(2) Effect of trade liberalization: Static profit, dynamic profit and promotion of exports

Import liberalization improves the economic welfare of the nation statically as discussed in classical economics. Such profit is created by lowering trade barriers such as customs duties, which increases cheaper imports and increases the economic welfare of the consumers who use

such imported products directly. It also reduces production in the protected industry sectors in the country, which then leads to withdrawal of productive resources from these sectors and a shift to more productive sectors. Those domestic industries that would benefit are industries with comparative advantage, which is usually the export industry. The profit is not limited to the lower prices of imported goods that reach the export industry via price pass-through, but also includes lower factor prices as a result of cheaper imports. In other words, improvement in the competitiveness of the export industry is expected as a result of trade liberalization. As is often said, import restriction measures such as customs duties are a penalty on exports. As well, as discussed in the next section, the message that imports need to be increased in order to strengthen competitiveness and therefore increase exports is also vital in the discussion on long-term macro economy framework and real exchange rate.

The static effect is the improved earning basis, and in terms of improvement in productivity, the effect is the increased average productivity across the overall domestic economy as a result of more industry sectors becoming more effective. The effect is the permanent improvement of the income level, but not a permanent increase in the rate of economic growth. The rise in the economic growth rate is a one-off. In addition to these purely static effects, some expect dynamic effects (profit). As for the dynamic effects, the possibility of economy of scale and economy of scope due to accumulations when global specialization and the division of industries progress as a result of trade liberalization is pointed out. Furthermore, there is also the effect of global location in expectation of the above (companies move globally to the location with the best production conditions and accumulate, improving the productivity significantly). In addition to these effects, there is also the variety effect where consumers have access to products of many more brands as a result of the liberalization of bi-directional trade. These dynamic effects improve the level of economic welfare of the nation, not the economic growth rate. Some explain the rise in growth rate in terms of the accelerated accumulation of capital as a result of such dynamic effects.[2]

Checking against the context of this research to strengthen competitiveness, it is self-explanatory that import liberalization such as a reduction in customs duties by trade partners leads to export promotion in Japan and thus strengthening competitiveness in effect. In addition, supporting the export industry by way of import liberalization is the basic route to improve Japan's productivity. For example, when import liberalization progresses in the agriculture, forestry, fishery and food industries, resulting in lower prices, consumer prices (as relative prices) stabilize and wage stabilization is expected. However, this effect arises significantly in other industry sectors, thus it is

difficult to see the benefit, and hence it is necessary to provide sufficient explanation to policy makers. In addition, when trade restrictions in other countries are lowered in the industries where Japan has a comparative advantage (currently in high technology-intensive manufacturing industries), improvement in competitiveness can be expected if progress is made in terms of accumulating domestic export industry and new investment.

From the viewpoint of trade negotiations, the reality is that import liberalization in the partner country where there will be direct effects will not be achieved unless the lowering of customs duties in Japan is offered in return. In other words, the two basic policies above (import liberalization in the partner country and import liberalization in Japan) are policies that can be achieved at the same time. It is the rounds of negotiations of the World Trade Organization (WTO) that is aiming to achieve this. However, this method requires multilateral negotiations involving many countries including developing nations and therefore the speed of policy progress is very slow. For this reason, a free trade agreement, which removes customs duties covering effectively all items between two countries or within a region, is the preferred method in recent years.

As for the economic effect of a free trade agreement, which is included in the Baldwin survey above, the economic benefit of NAFTA on the U.S., for the static and dynamic effect using a computable general equilibrium model, is estimated to be within 1% of the GDP for the static effect only, or about 2% including the dynamic effect taking into consideration economies of scale, etc. The percentage is bigger for Canada and Mexico, but still within a single-digit figure (less than 10%). However, there are some demonstration results that estimate the effect to be more than three times bigger, if the effect of promoting competition, etc., is taken into consideration.

A free trade agreement is the main policy measure for trade liberalization that has been adopted by countries around the world for the past decade or so. Against this backdrop, the conclusion of free trade agreements between overseas countries is likely to cause economic disadvantages for Japan. In theory, this phenomenon is known as the trade diversion effect. This is a phenomenon where existing exports from Japan to countries become relatively disadvantaged and decrease when the overseas countries concerned conclude a free trade agreement and abolish or lower customs duties between the two countries. What is important in this case is the economic inefficiency and loss as a result of not being able to continue exporting because of discrimination in terms of customs duties, even when exporting from Japan under normal conditions is more efficient and the Japanese industry is more competitive. Neighboring countries such as South Korea and China are

gathering pace in concluding free trade agreements, and it is also believed that the U.S. and the EU are actively expanding free trade agreements in the future; therefore it is becoming increasingly urgent for Japan to expand its partner countries for free trade agreements to prevent such trade diversion effects.

(3) Promotion of inflow of direct investment

Although not directly examined in this paper, the strengthening of competitiveness by improving productivity is also expected by the relocation of foreign and global companies into Japan (inflow of direct investment). In this case, technological advancement and increases in production capital as a result of foreign companies' technology (including management expertise) and capital (investment in Japan) leads to a rise in the economic growth rate. In addition, competition between domestic companies intensifies, which facilitates efficiency and improved productivity.

(4) Effective utilization of foreign investment

Currently, there are growing concerns that the external transfer of the production processes of companies may lead to a hollowing-out of domestic industries. However, this process may be rational as a measure to secure national income for the long term if the companies are owned by Japanese citizens. Particularly for the type of industries and companies that cannot survive by any means for the reason of comparative advantage, it is far more advantageous if these companies move to locations where they can be competitive (for example in developing countries) and earn income by making use of Japanese management resources and technology, rather than simply closing.

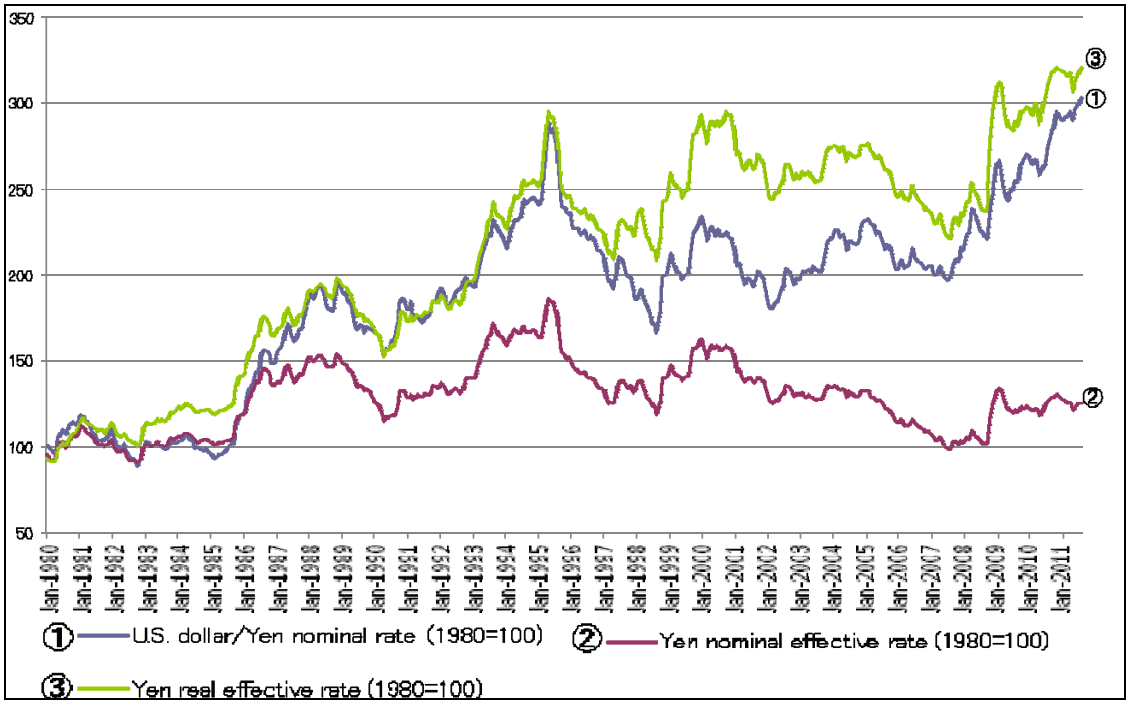
However, as will be summarized in a later section, it is hard to proceed with policies that promote external transfer without reservation if the policy aim of strengthening competitiveness is to secure domestic employment. If the policy results in the deterioration of the companies' operating environment, which then leads to hollowing-out in the region and a hiring slowdown as an unintended side-effect, then the policy should be given careful consideration. For example, leaving the corporation tax as it is, which is at a high rate internationally, promotes the external transfer of companies, but this is a trade-off with the decline of employment within the country.

2. Japan's trade investment and competitiveness: Current situation

This section examines the macro-economic environment which Japan's industries and companies are faced with.

First, Figure 1 shows the changes in indices of the Japanese yen exchange rate.

Figure 1: Japanese exchange rate indices (nominal and real)



Source: Bank of Japan

The U.S. dollar/yen nominal rate as of February 2012 (line) is around 76 yen, which is indexed at around 300, taking 1980 = 100. This is at a historically high level. Looking at the exchange rate of the yen, not just against U.S. dollars, but also against other currencies, the nominal effective exchange rate which is weighted by trade weight (line) shows the yen even stronger. Taking 1980 = 100, it is at a level exceeding 300. This may be reflecting the fact that Asian currencies are not just dollar-pegged but have depreciated further. However, the appreciation of the yen is not so strong in terms of real effective exchange rate, which is achieved by deflating the nominal

exchange rate by the difference of the price escalation rate between two countries. It is at a level around 120.

This real effective exchange rate is an estimate by BIS based on the consumer price index, and is therefore not suitable for looking at the competitiveness of the traded goods industry, although it does give a clue. In other words, improved productivity and lower factor prices denominated in international currency are both factors for strengthening the competitiveness of Japanese industries. In the framework of the long-term macro economy, improved productivity lowers export prices and increases exports unless the savings-investment balance changes significantly (i.e., as long as the current account is stable to an extent). However, this leads to a tendency for a strong yen in the long term and increases imports, therefore maintaining the balance of current account at a certain level. The real effective rate provides an index that indicates competitiveness based on the long-term macro movements. However, the published indices noted above are consumer prices, not export and import prices, and due to data constraints are therefore limited. (They are used, knowing the limitations, based on the view that price decrease as a result of improved productivity usually extends over export goods as well as consumer goods, thus real effective exchange rate deflated by consumer prices shows competitiveness to some extent.) Japan's export prices tend to have a smaller increase (or tend to decrease) compared to consumer prices, hence it is unlikely that the real effective exchange rate significantly exceeds 100. In other words, in terms of the phenomenon, companies have managed the tendency of a strong yen by improving productivity. In a macro perspective, however, it is more accurate to say that the improved productivity has created a corresponding increase in the strength of the yen. It is important to understand the long-term relationship in which improved productivity in Japan's export industry has led to long-term real term strength in the currency, as a result of which the nation can purchase cheaper imported goods, enabling the nation to enjoy a more abundant lifestyle.

It can be said from Figure 1 that Japan's traded commodity industry has made considerable long-term effort to improve productivity compared to trading partner countries. However, there is no guarantee that the long-term equilibrium will always hold. Export companies' earnings will be disproportionately squeezed if the monetary policy is conducted with a leaning toward deflation, leading to oversupply in a macro perspective, and the yen is nominally appreciated somewhat speculatively as of lately regardless of the competitiveness of the Japanese economy. Should this situation continue for more than a certain period, even those companies which are competitive and

able to operate in the country may end up closing operations or moving abroad. This point requires further discussion from the viewpoint of macroeconomic policy.

Let us move on to look at Japan's balance of international payments in the longer term (Table 1).

Table 1: Japan's balance of international payments

		Current account balance						Capital account balance	Errors and omissions	Overall balance
	5 year average		Balance of trade			Other Current account balance				
				Exports	Imports					
Previous statistics (100 million USD)	61-65	-3	4	59	55	-7		-1	0	-1
	66-70	12	27	135	93	-15		1	1	9
	71-75	14	54	394	340	-40		-49	-4	-14
	76-80	23	112	938	826	-88		-71	1	-17
	81-85	233	339	1,550	1,210	-106		-396	30	-59
	Year	Current account balance						Capital account balance	Foreign currency reserve	Errors and omissions
			Balance of trade			Income balance	Other Current account balance			
				Exports	Imports					
New statistics (10 billion yen)	1985	1,197	1,295	4,157	2,862	160	-259	-1,301	6	98
	1990	647	1,005	4,069	3,064	329	-687	-487	137	-298
	1995	1,039	1,234	4,026	2,792	416	-612	-628	-542	131
	2000	1,288	1,237	4,953	3,715	651	-600	-942	-526	181
	2005	1,826	1,033	6,263	5,230	1,138	-346	-1,401	-246	-180
	2009	1,329	404	5,086	4,682	1,233	-308	-1,264	-253	188
	2010	1,717	798	6,392	5,594	1,170	-251	-1,200	-379	-138

Source: Bank of Japan

Looking at the movements since around 1980, the trade balance has been in surplus, current balance has been in surplus and capital balance has been in deficit. It can be said that Japan has had typically trade-led growth. As seen in Figure 1, improved productivity strengthened competitiveness, which has led this growth in exports. At the same time, imports also increased. This is a matter of course when the savings-investment balance (in surplus) is at a certain percentage of GDP. The current account surplus as a percentage of GDP is about 3%, thus Japan is a country with a large trade surplus.

I would like to draw attention to two points concerning the tendency in the balance of international payments. First of all, the gross level of exports and imports as a percentage of GDP is 8-12% for exports and 5-11% for imports. The level is on the increase year after year, but the total of exports and imports has not reached 24%. Amongst the OECD countries, however, it is only the U.S. for which this index is lower than Japan (according to OECD statistics). In other

words, Japan has maintained sizable surpluses in trade and current balances, but the amount of trade itself is small. The gravity model, which is often used to determine the amount of trade (between two countries), presupposes that a country's amount of trade (including domestic buying and selling as well as international trading) is proportionate to nominal GDP, which provides a good explanation. The ratio of international trade and domestic buying and selling (trade) is said to be determined by the relative transaction cost, and the transaction cost depends on the distance between the seller and the buyer. In countries such as European nations, which are in close proximity with each other and small in size, the ratio of trade as a percentage of domestic transactions is high. It is the opposite in the U.S. In the case of Japan, the ratio of trade should be relatively high, but the ratio is very low in reality. This is probably because Japan is still characterized by a somewhat closed economic structure and a high cost of international trade. Particularly, the low ratio of imports may be due to non-tariff barriers as well as customs duties.

Next, there is the increasing income balance surplus as a recent trend. This reflects the accumulation of foreign assets and flow back of investment returns, which has become more apparent in recent years as a result of a return of capital surplus for the longer term. On the other hand, the household savings rate has decreased due to Japan's aging population, and the budget deficit is growing. As a result, the current account surplus has started to show a downward trend in terms of savings-investment balance. When a decrease in current account surplus and increase in income balance surplus occur simultaneously, the trade balance surplus decreases inevitably (or turns into a deficit). When the policy purpose is to strengthen competitiveness in order to increase exports (and thus increase employment), these external conditions become strong constraints. That is, if the tendency for trade surplus decrease is to continue, restricting imports will result in downward pressure on exports (by way of increase in the real exchange rate). Therefore, in order to achieve an increase in exports, it is necessary to achieve an increase in imports at the same time. Attempting to increase exports while keeping the import market closed will not achieve a sustainable increase. Export industries, in general, are growth industries with comparative advantage in the country, and therefore the inability for these industries to grow will have an adverse effect on the nation's affluence and employment, which has important political implications.

3. Policy deliberation

(1) What is the policy purpose?

Increasing competitiveness will have the following advantages on the economy. Listing in order of intuitive acceptability, the main advantages are as follows: (1) increase in exports and profit for the company and industry concerned, increase in domestic employment for the industry concerned, and expansion of growth industries; (2) as a ripple effect of (1), increase in production for other domestic industries, and increase in employment; and (3) increase in demand and real income as a result of the decrease in the price of products of the industry concerned. On the other hand, achieving these advantages on a long term basis almost always requires industrial adjustment and employment adjustment (drawing in capital and labor from other industries). However, advantages (1) to (3) can also arise in the short term for reasons such as increased operating rate; therefore, such industrial adjustment appears to be latent for the parties concerned. If a reduction in a trading partner country's tariffs and the continuation of Japan's tariffs can be successfully negotiated through agreements such as a free trade agreement, an increase in exports can be achieved with a limited amount of explicit impact, resulting in the least amount of opposition from the parties concerned in the country. This is the same as the export industry succeeding in technological development and thus improving the productivity and competitiveness of industry. In a macro perspective, however, exchange rate adjustment and import increase will occur in the case of technological development by export companies, though it may be in a less visible form. That is, relatively disadvantaged industries will be impacted by it. The increase in real effective exchange rate in the case of Japan occurred in this way, too. Similarly, even when a reduction in the trading partner country's tariffs is advantageous for exports by domestic industries, an increase in real exchange rate will arise for the long term.

In addition, the policy of liberalizing the trade of the partner country (by negotiation) is often preferred because it does not cause a sense of resistance in the parties concerned and implementation is relatively easy. However, such a trade and investment policy involves a partner country and it is not achieved easily in negotiations. In comparison, trade liberalization gives rise to advantages as well as impact at the same time (or ahead of the advantage). Therefore, political persuasion is often needed. For example, tariff reduction for protected sectors in Japan will have a relatively large static advantage. Many general equilibrium models also estimate that a similar or

greater effect than the tariff reduction in the partner country will emerge as a result of import liberalization at home. In this case, however, protected sectors will be impacted at the same time as profit as a result of price decreases. Profit from larger adjustments of industry only arises after the adjustments and furthermore, profit arises in other industries and hence cannot be seen clearly. Therefore, policy authorities need to convince the parties concerned and the nation of these merits as much as possible when pursuing these policies. In some cases, it may be necessary to emphasize the mutually beneficial aspect of trade negotiations (liberalization on the side of Japan is also needed in order to achieve liberalization on the side of the partner country).

It is likely that the liberalization of investment (influx of direct investment) will not result in economic impact except for companies concerned and competitor companies which are purchased in measures such as M&A. In that sense, it is relatively easy to accept the policy. However, restrictions on foreign ownership of capital are often insisted on for reasons of "security." In addition, emotional aversion against foreign capital is commonly observed throughout the world.

The liberalization of foreign direct investment (in the host country) and investment protection (utilization of foreign investment), in contrast, becomes an issue in terms of employment in the country. The hollowing out of industry is the main concern, and regional employment, along with the downdraft of the manufacturing and construction industries, is becoming a major issue. Under the current policy, however, the Japanese government is accelerating the conclusion of investment agreements in order to protect companies that have moved into host countries. In addition, it is difficult to ban the external transfer of companies, and there is no advantage or reason for such a measure. Companies will not locate themselves from the outset if a ban may be placed on free location. If the hollowing is due to imbalanced policy factors, measures are needed to address such factors. At present, it may be necessary to review issues such as the out-of-equilibrium exchange rate, a tax rate that is at an internationally high level, the social security burden and location restrictions.

Concrete policies are reviewed below, in the order of tariff reduction in foreign countries, the liberalization of trade (imports), and the utilization of foreign direct investment. In doing so, the political difficulties of implementation and the adjustment policies needed, as examined above, will also be discussed.

(2) Achieving import liberalization in the partner countries/regions

Tariff reduction and the lowering of trade restrictions in the partner countries of Japan's exports effectively result in the same effect as strengthening Japan's competitiveness. As discussed in the previous section, this policy causes virtually no resistance in the country. Therefore, trade negotiation departments and agencies in any country aim for the trade liberalization of partner countries first of all. The attempt to achieve such a policy multilaterally is the rounds of negotiations of the World Trade Organization. In addition, it is also Japan's strategy to conclude free trade agreements and economic partnership agreements bilaterally or with other regions.

At present (as of March 2012), Japan holds FTAs with 12 countries and 1 region which are in effect or signed, 3 countries and 1 region which are in the process of negotiation, and 4 regions and 3 countries which are in the process of research or discussion (Table 2). Although not included in the table, the Japanese Prime Minister commented that Japan will commence discussions regarding the Trans-Pacific Partnership (TPP; 4 member countries and 8 countries in negotiation as of February 2012) with relevant countries.

Table 2: Japan's Economic Partnership Agreements

Phase	Partner country/region
In effect/signed	Singapore, Mexico, Malaysia, Chile, Thailand, Indonesia, Brunei, ASEAN, the Philippines, Switzerland, Vietnam, India, Peru
In negotiation	South Korea, Gulf Cooperation Council, Australia
In research/discussion	ASEAN+6, ASEAN+3, Japan-China-Korea, EU, Canada, Mongolia, Colombia

Source: Ministry of Foreign Affairs of Japan

As shown in Table 2, many of Japan's FTAs are with countries in Southeast Asia. While many Japanese companies have moved into Southeast Asia, the Association of Southeast Asian Nations

(ASEAN) has strengthened its political support both in and outside the region by concluding free trade agreements, etc. If the formation of an "FTA network" progresses as a result of such efforts, Japanese companies that have expanded into these countries will have effective intra-company division of labor in a larger area combining Southeast Asia and Japan, as well as secure intra-regional markets. If Australia, South Korea, or China join in, although progress is limited at present, the economic effect will be far more significant. The concept of ASEAN+3 and ASEAN+6 is based on such an idea.

However, Japan has not concluded FTAs until now with countries with large economies, such as the U.S., China and South Korea, with which Japan has high trade shares and close trade relationships. In that sense, Japan has not built a sufficient policy support system through FTAs yet. The U.S. has traditionally been the ultimate recipient of goods produced by the East Asian countries. In addition, China and South Korea are in an extremely close trade relationship with Japan, as well as closely involved in the formation of manufacturing networks in East Asia.

These FTAs and EPAs require partners. In other words, it is not feasible for partner countries to unilaterally reduce tariffs. Liberalization measures such as simultaneous tariff reduction on the side of Japan is needed as a condition.

Moreover, as discussed in the previous section, FTAs have become a major policy measure adopted by countries around the world for trade liberalization. Therefore, FTAs will be concluded between many countries in the future, but FTAs between foreign countries may result in an adverse trade diversion effect to Japan. This concern is particularly grave with South Korea, which has a similar industrial structure to Japan. Furthermore, the "disadvantage of not being part of an FTA" may occur politically and administratively beyond economic disadvantage, for example, the U.S. and Mexico limit participation in government procurement to FTA partners. This disadvantage may become very significant in terms of the TPP, in which Japan is currently considering participating.

Let us review the benefits of trade liberalization of partner countries (disadvantages caused by the partner countries not liberalizing trade) by estimating the tariffs Japanese companies are charged for export. The GTAP Data Base, a computable global general equilibrium model provided by Purdue University, includes the amount of tariffs on exports from Japan, albeit estimated. According to the GTAP 7 Data Base (reference year: 2004), the amount of tariffs on exports from Japan was 30.8 billion dollars, which is 2.5 trillion yen using the exchange rate of 1 dollar/80 yen.

More accurate statistics show that the amount of tariffs collected on exports from Japan to the U.S. was 2.1 billion dollars in 2011, which is 170 billion yen at the rate of 1 dollar/80 yen. Assuming that other countries applied the same tariff rate as the U.S., exports to the U.S. accounted for approximately 15% of the total in 2011, therefore the amount of tariffs paid by Japan's export companies can be estimated at about 1.5 trillion yen. However, U.S. tariffs are on a lower level compared to other countries, thus this figure would be an underestimate. It would be reasonable to estimate that the amount of tariffs paid by Japanese exporting companies exceeded 2 trillion yen. This amount is equivalent to 0.4% of GDP and just under 3% of the export amount.

(3) Liberalization of Japan's trade (imports)

a. Liberalization of Japan's imports

In the rounds of negotiations of the WTO and EPA negotiations, the reduction of Japan's tariffs and other liberalization measures are always requested. Even in the case of bilateral tariff reduction, the static advantage (increase in economic welfare) brought by tariff reduction in one's own country is larger than by tariff reduction in the partner country. In an extreme argument, unilateral tariff cuts in one's own country, instead of tariff cuts by negotiation, still result in the effect of improving economic welfare. This situation is similar to the case of relaxing regulations in one's own country. Furthermore, as discussed in the previous section, the liberalization of imports at home also has the effect of improving the competitiveness of the export sector.

Such tariff reduction results in an increase in real income (increase in economic welfare) to the entire nation; however, it requires industrial adjustment, and therefore causes labor movement (usually accompanied by a loss of jobs) and industrial adjustment (usually accompanied by bankruptcies and the liquidation of companies) in the protected sectors. The usual policy judgment is that such disadvantages as a result of such adjustments are too large compared to the benefits in terms of income. That is why trade liberalization policy does not progress easily.

The characteristics of Japan's tariff structure are that the ratio of taxable imported items (trade weighted as of 2009, with around 18% for non-agricultural items but 55% for agricultural items) is small, while tariff rates on taxable imported items are high. In other words, a wide range of items are imported free of taxes, while the remaining taxable items are sensitive items with high tariffs. According to information from the WTO, the effective tariff rate for non-agricultural items (simple

average) is 2.5%, while it is 17.3% for agricultural items. Representative examples of sensitive items are agricultural items. It is extremely difficult to obtain data on protection rates such as tariffs, but Japan's service trade is thought to be heavily protected by various regulations. Considered by item, the future of FTAs and EPAs depends on the handling of the agricultural sector. This point will be discussed separately in a later section.

b. Effect of trade liberalization: Model analysis, example of Japan-China-Korea FTA

Let us examine the effect of removing or lowering tariffs in Japan's FTAs using a computable general equilibrium model in order to look at the aforementioned points more empirically. The major FTAs concerning Japan at present are the TPP and the FTA with China and South Korea. However, the TPP aims for systemic adjustment and harmonization over 21 areas and liberalization including domestic markets, rather than the removal of tariffs. Therefore the effect of tariff removal alone would be limited; as such, this discussion will focus on an estimate of the Japan-China-Korea FTA. What is presented here is the effect of these three countries removing tariffs.

In order to show the effect of trade liberalization and the point at issue simply, let us suppose a case where the tariffs of these countries are zero. As shown in Table 3, the benefit of economic welfare will arise, first of all, only for the three countries of Japan, China and South Korea. Other countries, on the other hand, will have an obvious trade diversion effect, where both exports and imports decrease, and a loss in economic welfare occurs. In this way, FTAs between foreign countries can cause economic loss to other countries which are not part of the agreement.

Table 3: Economic effects of Japan-China-Korea FTA

	Economic welfare (million USD)	GDP (Real term %)	Exports (Real term %)	Imports (Real term %)
Japan	9.6	0.1	2.9	4.5
China	8.7	0.8	5.2	6.3
South Korea	11.6	2.0	6.4	8.5
Australia, New Zealand	−1.0	−0.1	−0.1	−0.4
ASEAN	−3.6	−0.4	−0.6	−0.8
NAFTA	−6.4	−0.1	−0.1	−0.3
EU15	−10.0	−0.1	−0.1	−0.2
Other	−10.9	−0.2	−0.3	−0.4

Source: Estimates by the author based on GTAP version 7

We need to pay attention to the increase in exports and imports of the three countries of Japan, China and South Korea. This is due to the bi-directional increase in exports and imports amongst the three countries as a result of the mutual removal of tariffs, but in fact, exports to other areas of the world have also increased. This is because, as discussed above, cheaper imports strengthen the competitiveness of the export industry of the three countries, resulting in the increase in exports not only amongst the three countries, but also to other countries. In addition, imports from other countries have also increased due to increase in the GDP (income).

As for production by sector, as shown in Table 4, production decreases for relatively disadvantaged industries in each of the three countries. This is because imports from countries in the region replace domestic production. It shows clearly that items which can be purchased more cheaply are not produced domestically.

Table 4: Effect of Japan-China-Korea FTA on production

	China (Real term %)	Japan (Real term %)	South Korea (Real term %)
Grains	6.5	−2.7	−1.0
Agricultural products	1.7	−0.7	−9.4
Livestock products	1.7	−1.7	5.6
Forestry	0.3	−0.4	−0.7
Fishery	0.8	−0.2	0.7
Mining	−0.2	−1.4	−2.3
Processed food products	3.2	−0.4	6.1
Fibers and textiles	1.0	6.6	14.9
Clothing	5.6	−5.8	4.3
Chemistry	−0.8	1.5	5.4
Metals	−0.5	0.7	0.3
Transport machinery	−2.9	0.2	−0.1
Electric machinery	3.0	−1.2	2.0
General machinery	−1.1	2.2	1.9
Other manufacturing industries	0.1	−0.1	0.8
Services	0.8	0.1	1.6

Source: Estimates by the author based on GTAP version 7

As shown above, trade liberalization results in the contraction of industries with comparative disadvantage, but this is one side of the coin. It also results in efficient use of domestic resources to raise the living standards of the nation. However, this is due to the static effect over the long term,

and the result will differ if the productivity is improved by policies or the comparative advantage structure is altered by industrial structure adjustment. According to the estimates, the scale of contraction, although the industry is at a relative disadvantage, is less than a few percent. Moreover, this is the industrial average; therefore, it should be noted that companies which survive the product differentiation will have export opportunities despite being in a contracting sector.

c. Liberalization of agriculture[3]

As discussed above, the agricultural sector is an important sector to consider in proceeding with Japan's trade liberalization. First of all, there is a question of whether a complete removal of agricultural tariffs will have a devastating impact on Japanese agriculture. For example, let us assume the case of liberalizing rice trading for TPP member countries that include the highest number of partner countries. In this case, it is argued that the rice produced in the U.S. is 57 yen per kilogram and that rice production in Japan will be destroyed except for Koshihikari from the Niigata region, resulting in a 90% reduction in production. In this trial calculation, however, over 7 million ton of rice are required for import, which will certainly send the international rice price through the roof on the international rice market, which has a size of only about 25 million ton. In addition, this is only the monetary amount of domestic rice which will not be sold if the tariff is suddenly removed (and it is not an instantaneous removal). Under the TPP as well, adjustments will be made over a grace period (typically 10 years), and hence there will be structural changes.

Furthermore, large-scale full-time farmers are considerably price competitive even now. For example, the rice production cost for farmers with more than 15 hectares of land is about 9,000 yen per 60 kilograms (150 yen per kilogram). In other words, liberalization will have an impact for part-time and aging farmers without price competitiveness (and agricultural organizations based on them) and these farmers may not be able to survive, but it is possible for full-time farmers to reinvent themselves by improving their price competitiveness and survive. Considering the quality and safety of Japanese rice, exports could even be a possibility. In addition, the future modality of overall agriculture as an industry needs to be discussed before engaging in any discussion of liberalization.

In order to deal with the impact as a result of liberalization, income compensation is typically provided. Income compensation that more than covers the detriment in the protected sector will give room for the parties involved to accept the policy. It is reasonable to regard direct income

compensation that is often used for the agricultural sectors across the world (in a form decoupled from the market price) as complementary policy to trade liberalization, rather than social policy. It would be a reasonable package in agricultural policy to combine income compensation with productivity improvement through the integration of farmland and conversion to joint-stock companies, assuming the liberalization of the product. If agricultural organizations resist, considering compensation measures in terms of income for them will not impair the effectiveness. (If such compensation is too large a scale, it would pose an issue from the viewpoint of fairness.)

As noted above, on the premise of the progress of EPAs or the WTO rounds, the main road of trade liberalization will be to pair up Japan's liberalization and partner country's liberalization, and to negotiate step-by-step but as swiftly as possible to conclude negotiations. The major challenges at present—the TPP, the Japan-China-Korea FTA and the Comprehensive Economic Partnership for East Asia (CEPEA)—are the three large FTAs/EPAs between regions, with the first two just about to start negotiations. From the viewpoint of improving Japan's competitiveness, it is most desirable and realistic to join these agreements, including as much liberalization as possible.

In addition to the above, it is important to facilitate trading in a broad sense including areas other than tariff procedures. Japan's customs duties are very low except for agriculture, forestry and fishery products and food. However, there are other costs of trading (imports) than customs duties, and these costs are considered relatively high in Japan (according to sources such as World Bank's non-tariff trade barrier database, OTARI). These trading costs seem to occur not just at the border, but also because of regulations after customs clearance. However, these non-tariff barriers are often hidden by a broad array of individual regulations and common practice, which are only faced by parties involved in each transaction. Therefore, it is desirable to define structures for discussion and conveying requests involving private businesses in EPAs and FTAs to bring requests to lower individual non-tariff barriers to the negotiation table. These non-tariff barriers include items that span international regions such as specifications, standards and transport, many of which are adjustable within the framework of economic cooperation. These can be discussed through the EPAs in the region.

(4) Utilization of overseas expansion by companies

Many Japanese companies are already located in Asian countries, particularly in China and the ASEAN countries. The protection of these companies and investment liberalization is a major issue

of trade policies. Agreements are being concluded with major countries at present, and the investment agreement between Japan, China and South Korea is also progressing toward the completion of negotiations. As discussed in the previous section, there is a concern over the hollowing out of industry; however, it is appropriate to correct the factors that are forcing the external transfer of companies that are not in equilibrium, rather than not proceeding with investment liberalization and protection.

The current negotiation and strengthening of investment protection should be promoted further. From the viewpoint of improving competitiveness, the advancement of the division of labor, where headquarters functions and R&D functions remain in Japan while establishing production networks in Asia, etc., would be desirable in reality. In this case, simple employment in the country will be lost accordingly. However, when employment adjustment progresses smoothly, income levels will rise, which then leads to employment for the service industry in the country to compensate for the loss.

4. Desirable policy: Recommendations

Trade liberalization

- Continue forward with the free trade agreements (including economic partnership agreements and the TPP) currently in force and expand as far as possible the scope of goods subject to no or reduced tariffs; adopt effective approaches to pursue liberalization in areas other than tariffs
- Review the existing EPAs, expand the scope of liberalization, etc.
- Utilize EPAs to reduce real trade costs and non-tariff barriers
- Consider active income support allowances for any protected sectors that constitute an obstacle in trade agreement negotiations
- Have policy authorities explain in detail the economic benefits and policy consequences of trade liberalization to garner public understanding

Investment liberalization (corporate expansion overseas)

- Proceed with the bilateral (regional) investment agreements already in force; improve as far as possible the level of protection and the scope of liberalization

- Endeavor as necessary to eliminate or rectify any imbalanced policy circumstances that would hollow out local economies in Japan

― Notes ―

[1] "Knowledge Diffusion and Economic Growth" by Yasuyuki Todo (2008, Keiso Shobo) is a research example of a good survey.

[2] "Regional Economic Integration," Handbook of International Economics (vol.3) Chapter 31 by Baldwin, E. and Venables is an example of a survey of trade liberalization's effect on economic welfare in free trade agreements.

[3] This section owes much to the presentations at the research group by Professor Masayoshi Honma of the University of Tokyo.

Chapter 4
Toward Expanding Sluggish Inward Foreign Direct Investment in Japan

URATA Shujirō

Introduction

Foreign direct investment around the world has rapidly expanded since the 1990s. In the 20 years between 1990 and 2010, the global flow of foreign direct investment increased six-fold from 207.4 billion dollars to 1,243.7 billion dollars. The main reasons for the rapid growth in global direct investment include the liberalization of direct investment policies and the privatization of publicly-owned corporations in countries around the world. These policies provided companies with an environment in which it is easy to implement direct investments.

The liberalization of foreign direct investment, in the case of many developing countries, has been carried out as a condition of receiving support from the International Monetary Fund or the World Bank when confronted with balance of payment problems; however, there has also been an aspect of expecting economic development as a result of receiving foreign direct investment. In developed countries, too, the liberalization of foreign direct investment has been an important motive to achieve economic growth. In fact, many countries around the world have preferential policies in terms of taxation and funds to attract foreign direct investment, and as a result, competition to attract foreign direct investment is intense between countries. On the other hand, many countries also have regulatory policies to limit entry by foreign companies for reasons such as security.

The acceptance of foreign direct investment promotes economic growth through an increase in capital investment, production, employment, exports, and other areas. The advantages of accepting foreign direct investment include not only these quantitative improvements but also include qualitative improvement such as improved productivity through the transfer of better technology and management expertise. In the medium to long term, the latter advantage becomes extremely important in achieving economic growth.

In the case of the Japanese economy, where labor input and the rate of saving are decreasing rapidly due to the reduction and aging of the population, should the current situation continue into the future, economic growth will not be possible and the standard of living will be pushed down. In order to break out of such a situation, improvement in productivity is essential. Furthermore, the inflow of funds from abroad promotes economic growth by enabling investment. Recognizing this

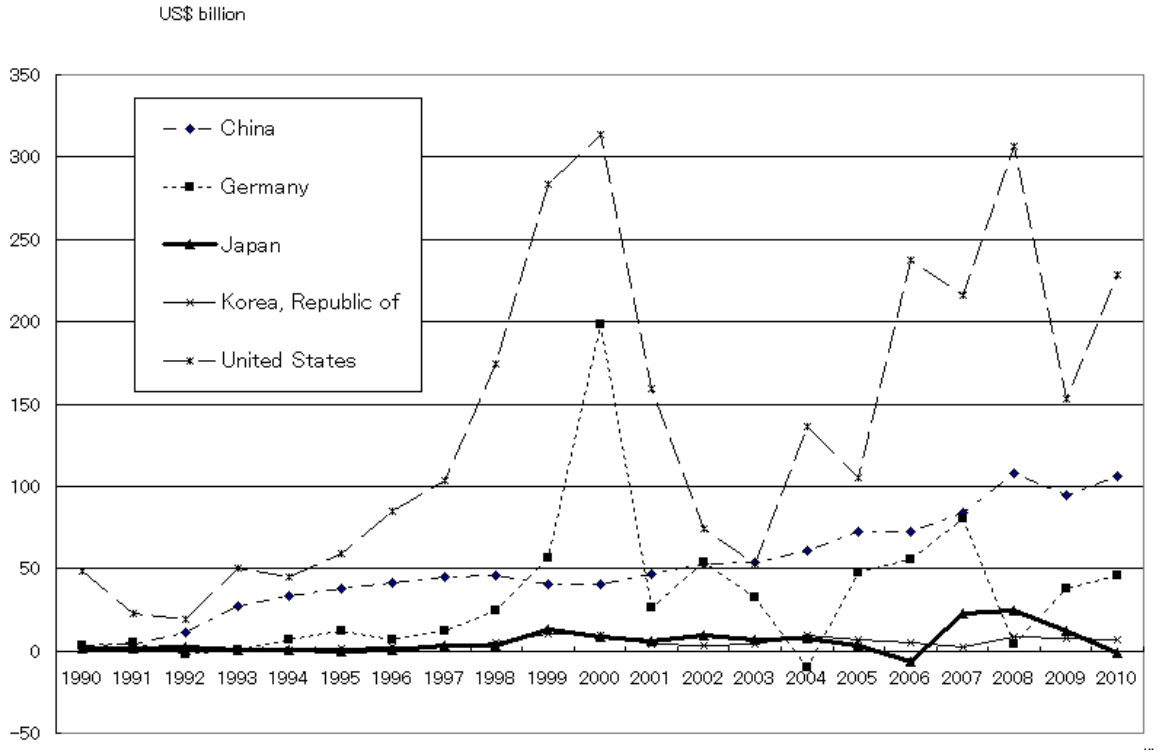
point, accepting foreign direct investment from abroad will enable economic growth through improved productivity and increased investment funds, and an improvement in our standard of living will also be achieved.

The Japanese government also strongly recognizes the advantages of accepting foreign direct investment and sets the expansion of inward foreign direct investment as an important policy target; however, as shown below, such target has not been achieved. The purpose of this paper is to review measures to facilitate inward foreign direct investment in Japan. Section 1 reviews the current situation of foreign direct investment in Japan. Section 2 examines the significance of foreign direct investment for the Japanese economy. Section 3 sheds light on the impediments to foreign direct investment into Japan, and Section 4 reviews Japan's policy for inward foreign direct investment, which has a major impact on foreign direct investment in Japan. Finally, Section 5 examines measures to expand inward foreign direct investment.

1. Inward foreign direct investment in Japan is at a low level

Inward foreign direct investment in Japan has been on an upward trend, with some fluctuations, since the 1990s (Figure 1). In the 1990s, investment remained around 1 billion dollars every year before the Asian currency crisis in 1997, and then began to increase in 1999 in response to the economic recovery after the crisis. Entering the 21st century, inward foreign direct investment into Japan was supported by the steady growth of the global economy and remained above the previous level. However, it started to decrease in 2005, and in 2006 recorded a negative inflow (the amount of withdrawals exceeded the amount of new investment). The trend reversed to rapid growth in 2007 when it exceeded 20 billion dollars. This level was maintained throughout 2008, but it turned to a downward trend from 2009, and in 2010 saw a negative flow. One of the causes was the change of reinvestment income from positive to negative, reflecting the decline in corporate profits since the financial crisis.[1] Significant fluctuations year to year are characteristic with foreign direct investment partly because of the scale of each foreign direct investment; however, the level of foreign direct investment in Japan is low compared to other developed countries and China. In fact, looking at the amount of inward foreign direct investment, the ratio Japan accounted for globally as of 2010 was 1.13%, which is extremely low compared to the ratio of GDP which is 8.64%.[2]

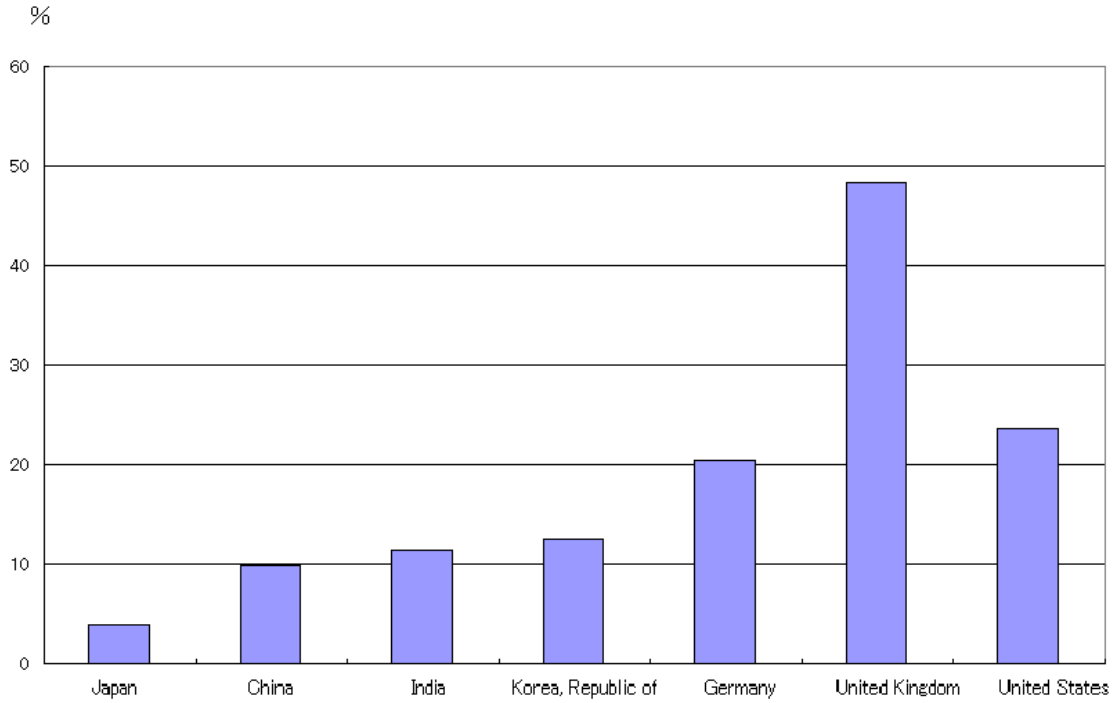
Figure 1 Inward foreign direct investment flows



Source: UNCTAD, UNCTADstat online

In order to see the significance of inward foreign direct investment to the economy, the ratio of inward foreign direct investment amount to GDP is calculated as of the end of 2010 (Figure 2). Japan's ratio of inward foreign direct investment to GDP is 3.9%, which is the lowest among the countries in the figure. The ratio for the U.K. is 48.4%, more than 10 times higher. The ratio of other major developed countries, such as the U.S. and Germany, is around 5 to 6 times higher than Japan. Compared to China, India and South Korea, as well, Japan's ratio is materially low, at about one third of their ratio. China actively accepted foreign capital through preferential policies for foreign capital since the reform and door-opening policies in 1979 until recently, and thus it is expected that the inward foreign direct investment to GDP ratio is considerably higher than Japan. South Korea and India, on the other hand, adopted more hesitant policies toward inward foreign direct investment compared to China until recently, and as a result it is unexpected to see their ratios at a considerably higher level than Japan, indicating the low level of foreign direct investment in Japan.

Figure 2 Ratio of inward foreign direct investment to GDP: 2010



Source: Calculated from UNCTAD, UNCTADstat online and World Bank, World Development Indicators online

Foreign direct investment comes in two forms: green field investments to establish new companies and M&As to purchase existing companies. The trend is that expansion into developed countries tends to be more through M&As, while expansion into developing countries tends to be more through green field investments. In such a context, M&As in inward foreign direct investment in Japan are at a low level compared to other developed countries. For example in 2010, Japan accounted for only 1.1% of the acquired companies in M&As worldwide, which is considerably lower than the U.S. (18.6%), the U.K. (14.8%), Germany (4.0%), etc.[3]

Let us look at the investing countries and the recipient sectors of the foreign direct investment in Japan (Table 1). As for the investing countries by region, Europe and North America accounted for a large proportion, with 43% and 34%, respectively. Asia accounted for 11%. By country, the ratio of the U.S. was overwhelmingly high at 34%, followed by the Netherlands (17%) and France (9%). Within Asia, Singapore was sizable at 6.5% of the total. The notable increase in investment in Japan from Asia is a feature in recent years. Although the amount of foreign direct investment fluctuates significantly year to year, as mentioned earlier, the amount of foreign direct investment

from Asia increased about three fold between 2009 and 2010.[4]

Table 1 Foreign direct investment in Japan (Balance as of the end of 2010)

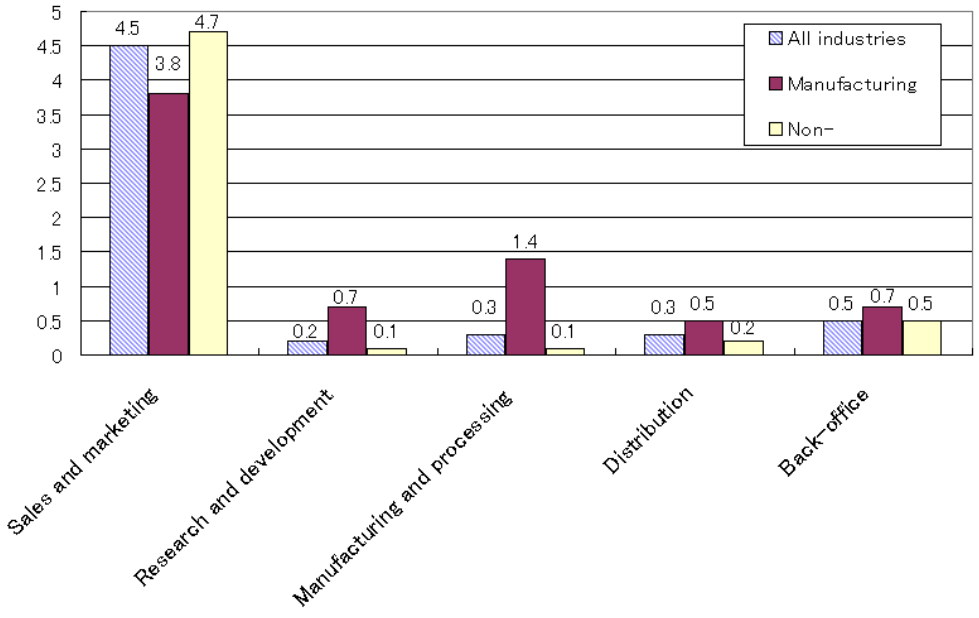
	By investing country			By industry	
	Amount (100 million yen)	Share (%)		Amount (100 million yen)	Share (%)
Worldwide	175,020	100.00	Total	175,020	100.00
Asia	18,975	10.84	Manufacturing	62,123	35.49
People's Republic of China	325	0.19	Food	2,706	1.55
Hong Kong	3,297	1.88	Fibers and textiles	557	0.32
Taiwan	1,838	1.05	Timber and pulp	113	0.06
Republic of Korea	1,576	0.90	Chemical and pharmaceutical	13,427	7.67
Singapore	11,331	6.47	Petroleum	2,162	1.24
Thailand	82	0.05	Rubber and leather	154	0.09
Indonesia	49	0.03	Glass, soil and stone	1,659	0.95
Malaysia	375	0.21	Iron, non-ferrous metal and metal	1,012	0.58
Philippines	55	0.03	General machinery and apparatus	2,931	1.67
Vietnam	0	0.00	Electric machinery and apparatus	20,531	11.73
India	33	0.02	Transport machinery and apparatus	15,843	9.05
North America	60,236	34.42	Precision machinery and apparatus	525	0.30
United States of America	59,092	33.76	Non-manufacturing	112,897	64.51
Canada	1,144	0.65	Agriculture and forestry	118	0.07
Central and South America	19,231	10.99	Fishery and marine products	13	0.01
Mexico	213	0.12	Mining	55	0.03
Brazil	31	0.02	Construction	157	0.09
Cayman Islands	15,311	8.75	Transport	981	0.56
Oceania	1,015	0.58	Communications	3,185	1.82
Australia	801	0.46	Wholesale and retail	13,118	7.49
New Zealand	202	0.12	Finance and insurance	76,889	43.93
Europe	75,155	42.94	Real estate	3,794	2.17
Germany	8,158	4.66	Service	4,809	2.75
United Kingdom	7,650	4.37			
France	15,644	8.94			
Netherlands	30,069	17.18			
Italy	741	0.42			
Belgium	77	0.04			
Luxembourg	3,947	2.26			
Switzerland	4,296	2.45			
Sweden	674	0.38			
Spain	182	0.10			
Russia	55	0.03			
Middle East	48	0.03			
Saudi Arabia	12	0.01			
United Arab Emirates	2	0.00			
Iran	- 1	0.00			
Africa	315	0.18			
South Africa	0	0.00			
(Reference)		0.00			
OECD countries	134,383	76.78			
ASEAN	11,897	6.80			
EU	67,031	38.30			
Eastern Europe, Russia, etc	63	0.04			

Source: Bank of Japan "Direct Investment Position by Region and Industry"

As for the sectors that received investment, non-manufacturing industries accounted for 65% and manufacturing industries 35%. Within the non-manufacturing industries, the finance and insurance industries accounted for an overwhelmingly large portion, which was 44% of all the sectors and 68% of the non-manufacturing sector. In the non-manufacturing sector, the finance and insurance industries are followed by the wholesale and retail industries, which accounted for 7.5% of all the sectors. In the manufacturing sector, a large share is formed by electric machinery and apparatus, transport machinery and apparatus, chemical and pharmaceutical industries, each accounting for 11.7%, 9.1% and 7.7% of all sectors, respectively.

Let us examine the aim of foreign companies in investing in Japan by looking at the function of the business they established in Japan. In Figure 3, the functions of business set up by foreign companies are grouped into 5 categories: sales and marketing, research and development, manufacturing and processing, distribution, and back-office; and the number of business establishments by function per foreign company is shown. The figure shows that an overwhelming number of business establishments are carrying out marketing and sales, both in manufacturing industries and non-manufacturing industries. This observation confirms that foreign companies are coming into Japan in order to expand sales in the Japanese market. As for other functions, manufacturing companies have a relatively large number of business establishments with manufacturing and processing functions, as one would expect. Compared to non-manufacturing industries, more companies have business establishments with research and development functions in manufacturing industries.

Figure 3 Number of Offices of Foreign Affiliates in Japan by Function (Average per Company)



Source: The 44th Survey of Trends in Business Activities of Foreign Affiliates, by the Ministry of Economy, Trade and Industry, FY2009 results

From the perspective of foreign-affiliated companies, Japan is becoming less attractive as a base for various functions in conducting business in Asia. Table 2 shows the results of surveys in 2007 and 2009 where European and American companies evaluated the attractiveness of countries in East Asia by function. In the survey results in 2007, Japan was the most attractive country as a base overseeing business in Asia and for R&D, while China was most attractive for manufacturing, back office and as a distribution base. In the 2009 survey, however, China was evaluated as the most attractive country for all functions, while Japan only made it to No. 2 for R&D, and not even to 3rd for the other functions. In order to increase inward foreign direct investment, Japan needs to improve its attractiveness as an investment destination (as a location to establish a business base).

Table 2 Level of attractiveness from the perspective of foreign-affiliated companies by location in 5 main countries and areas in East Asia

	Japan		China		India		Singapore		South Korea		Hong Kong	
	2007	2009	2007	2009	2007	2009	2007	2009	2007	2009	2007	2009
Central headquarters for Asia region		10	18	42	8	10	16	16	4	2	20	13
Manufacturing base	3	1	62	64	12	14	2	2	5	2	5	2
R&D base	30	21	25	33	16	20	9	8	4	4	6	2
Back-office	15	8	24	39	15	19	12	15	5	2	15	9
Distribution base	11	3	41	63	8	8	9	11	7	2	13	6
Financial base	–	10	–	30	–	9	–	21	–	4	–	23
Sales base	–	7	–	50	–	7	–	11	–	4	–	13

Note: Each responding company selected a country/region for each base.

Note: 209 companies responded for the 2007 survey, and 180 for 2009.

Source: "White Paper on International Economy and Trade 2011" by the Ministry of Economy, Trade and Industry

2. Significance of inward foreign direct investment for the Japanese economy

Before examining the significance of foreign-affiliated companies for the Japanese economy, let me summarize the impact of inward foreign direct investment on investment recipient countries, as warranted by existing research on inward foreign direct investment.

With the funds transferred by foreign direct investment, subsidiaries are established, through which employment, manufacturing, capital investment, imports and exports are provided, thus contributing to the economic growth of the recipient country. Such an effect of promoting

economic growth has a spillover effect on other companies and industries through the "input-output relationship" where the subsidiary procures raw materials such as parts from other companies and the goods produced by the subsidiary are used as input goods in production by other companies, thereby amplifying the effects of the promotion of economic growth. The level of impact by overseas subsidiaries on imports and exports depends significantly on the purpose of establishing the overseas subsidiaries. Overseas subsidiaries as export bases will have a significant effect on export expansion, but those established for sales in the host market will not have an impact on export expansion. Many of China's foreign direct investments were to establish bases for export, and therefore the ratio of export by overseas subsidiaries of foreign-affiliated companies reached a high level of about 50%.

The aim of foreign direct investment is to operate a company overseas, thus foreign direct investment transfers not just investment funds but also management expertise that is essential to management, and technology is also transferred abroad. These transfers occur in two stages. The first stage is a transfer from the parent company that makes foreign direct investment to the subsidiary that is established overseas, and the second stage is from the overseas subsidiary to other local companies. The transfer of management expertise and technology in this form is called a spillover, which works out in more concrete terms by local workers utilizing skills gained by working for the overseas subsidiary in other local companies they then moved to or in their own companies they establish.

Management expertise and technology are transferred via foreign direct investment, but the transfer is not automatic and the existence or non-existence of such a transfer or its degree depends on the intention and ability of both investors and the recipients of investment. According to existing research, with regards to the transfer of management expertise and technology from parent companies to overseas subsidiaries, the degree of transfer is higher the higher the ratio of investment by the parent company into the subsidiary is. Management expertise and technology are a source of competitive power for companies, and therefore they seek to avoid them becoming known by other companies. As a result, when the overseas subsidiary is 100% wholly-owned by the parent company, the chances are high for management expertise and technology to be transferred. On the other hand, the chance of management expertise and technology to be transferred is low when the overseas subsidiary is a joint venture with another company. The degree of transfer of management expertise and technology also depends significantly on the recipient. Even when a foreign company wants to transfer management expertise and technology to an overseas subsidiary,

the transfer does not take place if the personnel employed by the overseas subsidiary are less able. Similarly, the spillover of technology from overseas subsidiaries to local companies takes place when the workers at local companies are able, but the transfer does not progress if their ability is low.

There is also a high possibility that the establishment of overseas subsidiaries by foreign companies intensifies competition in the host market, which acts as a stimulus to improve the efficiency of local companies. More specifically, the manufacturing efficiency increases for the overall economy as a result of cutting out the unnecessary use of production factors such as labor and capital to face competition, or tackling the development of new products and new technology in a more proactive manner.

So far, the effect of promoting economic growth in the countries that receive foreign direct investment has been examined; however, it is also possible that the entrance of more competitive foreign companies will drive away domestic companies, leading to the formation of monopolistic situations by foreign companies and damage as a result of monopolization. Such damage may occur in developing countries with small markets, but such a possibility is small for a country like Japan where economic development is advanced and the market is large. In light of these points, let us examine the effect of foreign direct investment on the countries that receive investment.

On the basis of the above discussion, let us examine the significance and the role of inward foreign direct investment for the Japanese economy. First of all, let us examine the ratio of foreign-affiliated companies in major economic activities such as employment, capital investment, imports and exports, and research and development. Table 3 shows the number of permanent employees working for foreign-affiliated companies in 2009 by industry. The number for all industries was 510,000 employees. Since the total number of permanent employees in Japan in the same year was 38.9 million,[5] the number of permanent employees working for foreign-affiliated companies accounted for only 1.3% of all permanent employees. However, the definition of foreign-affiliated companies in the Survey of Trends in Business Activities of Foreign Affiliates by the Ministry of Economy, Trade and Industry was a company of which one third or more of the shares are owned by a foreign company. If the 10 % ownership, which is the definition of foreign direct investment for balance of payments statistics by the International Monetary Fund (IMF), is applied, the number and ratio of foreign-affiliated companies in terms of the number of companies and the number of permanent employees will be larger. I would also like to point out that the number of permanent employees has significantly increased compared to the past. More specifically, the number of

permanent employees in 2002 was 290,000.

Table 3 Number of people employed by foreign-affiliated companies

	Permanent employees		Of which, number of permanent foreign employees		Regular employees and staff	
	Number of companies	Number of people	Number of companies	Number of people	Number of companies	Number of people
All industries	2,675	513,479	1,099	9,922	2,621	375,266
All industries (excluding finance, insurance and real estate)	2,537	461,733	1,032	8,521	2,488	326,901
Manufacturing industries	461	184,313	180	1,449	453	175,055
Food	14	2,215	5	14	14	1,588
Fibers and textiles	8	732	3	45	7	637
Timber, paper and pulp	5	256	2	x	5	242
Chemicals	72	11,374	22	66	71	10,310
Pharmaceutical goods	26	26,923	12	99	26	26,164
Petroleum	10	5,356	5	27	10	5,261
Ceramics, soil and stone	13	2,507	5	16	13	2,387
Steel	4	994	2	x	4	971
Non-ferrous metal	17	2,381	5	19	17	2,314
Metal products	15	1,053	2	x	15	839
General machinery	29	8,354	16	57	29	7,966
Production machinery	37	6,682	16	133	37	6,121
Business machinery	29	2,361	10	14	27	2,120
Electric machinery	33	7,906	14	120	33	7,521
Information and communication equipment	46	33,692	20	304	43	33,194
Transport machinery	55	65,588	29	464	54	62,071
Other manufacturing industry	48	5,939	12	49	48	5,349
Non-manufacturing industries	2,214	329,166	919	8,473	2,168	200,211
Non-manufacturing industries (excluding finance, insurance and real estate)	2,076	277,420	852	7,072	2,035	151,846
Information and communication	289	39,844	148	2,225	286	22,628
Transport	95	9,005	45	197	95	8,539
Wholesale	1,154	64,615	432	1,842	1,128	57,065
Retail	119	45,567	44	224	116	18,611
Service	342	48,440	146	871	334	28,614
Finance and insurance	121	50,553	61	1,382	117	47,476
Real estate	17	1,193	6	19	16	889
Other non-manufacturing industry	77	69,949	37	1,713	76	16,389

Source: The 44th Survey of Trends in Business Activities of Foreign Affiliates, by the Ministry of Economy, Trade and Industry, FY2009 results

By industry, 329,000 people are employed by foreign-affiliated companies in non-manufacturing industries and 184,000 in manufacturing industries, which account for 65% and 35% of all industries, the same ratio of the investment amount examined in the previous sector. By industry, wholesale, finance and insurance, services, retail and information and communication are the sectors that create a lot of jobs in non-manufacturing industries. In manufacturing industries, many jobs are created in transport machinery, information and communication equipment, pharmaceutical goods and chemicals.

In terms of capital investment, foreign-affiliated companies invested 575 billion yen (in FY2009), while the figure for all incorporated businesses was 33.09 trillion yen, hence the foreign-affiliated companies ratio to all incorporated businesses was 1.7%. This ratio is high compared to the ratio of foreign-affiliated companies in terms of permanent employees, indicating that foreign-affiliated companies are carrying out more capital intensive activities compared to Japanese companies.

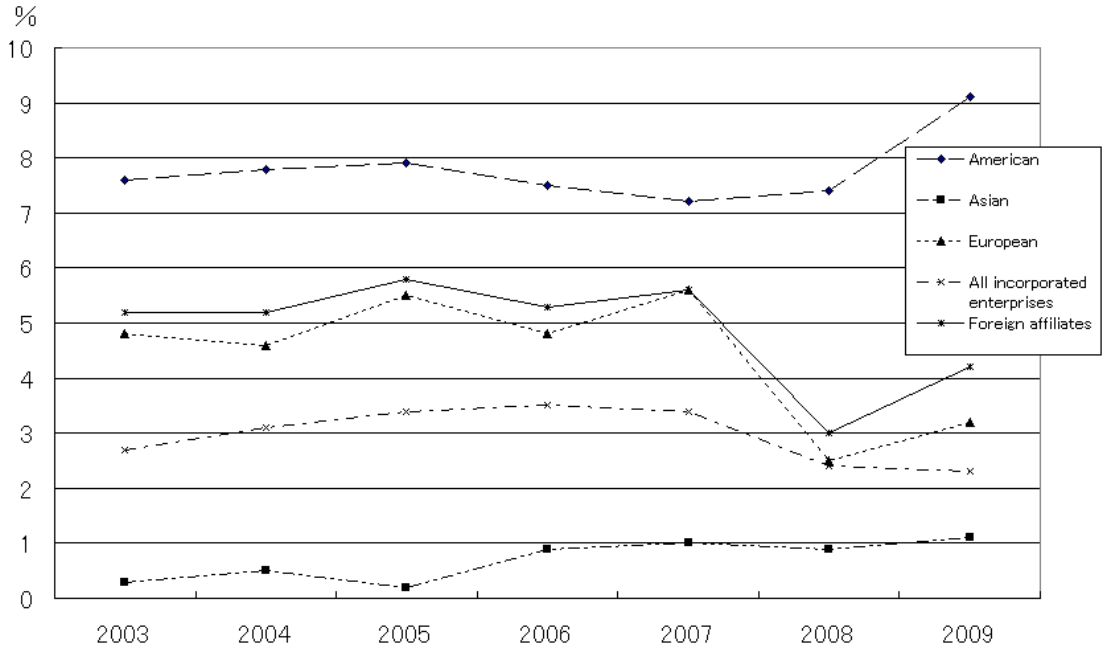
As for trade by foreign-affiliated companies, imports exceeded exports in FY2009, with exports at 4.8111 trillion yen and imports 6.756 trillion yen. The total exports and imports in Japan for the same year was 59.0078 trillion yen and 53.82 trillion yen, respectively; therefore, foreign-affiliated companies' trade accounted for 8.2% and 12.6% of the total exports and imports, respectively. The foreign-affiliated companies' ratio in Japan's trade is higher than the ratio in terms of employment and capital investment, indicating that they are more trade-oriented than Japanese companies. However, in this Survey of Trends in Business Activities of Foreign Affiliates, the trade amounts reported by foreign-affiliated companies are likely to be duplicated; therefore, the trade amount in this survey is likely to exceed the real trade amount. The reason for this problem is because, when trade from a manufacturing company goes through a trading company, the same trade amount is likely to be reported by both the manufacturing company and the trading company. However, even allowing for this issue of overestimation, accepting inward foreign direct investment contributes to the expansion of Japan's trade. Since the position of trade in the Japanese economy is relatively low compared to other countries the expansion of foreign direct investment into Japan contributes to not only foreign direct investment but also the globalization of the Japanese economy through trading.

Let us compare foreign-affiliated companies' performance in Japan compared to Japanese companies. The rate of return and productivity are used as indices that indicate the level of performance. These generally show a correlative relationship, i.e., more productive companies have a higher rate of return if the other conditions are the same. However, a higher rate of return does not always mean the productivity is also high. For example, if a company holds market power due to

protection by the government, etc., its rate of return will be high but not necessarily its productivity. With this in mind, let us proceed with the examination.

Figure 4 shows the ratio of ordinary profit to sales (profit margin) of foreign-affiliated companies and all business corporations. Foreign-affiliated companies are grouped into American, European and Asian. The figure shows that the profit margin of foreign-affiliated companies exceeded that of all business corporations (mostly Japanese companies) throughout the analysis period. Among foreign-affiliated companies, the profit margin of American companies is especially high. On the other hand, the profit margin of Asian companies is considerably lower than that of all business corporations. However, these profit margins are the average rate and do not include any consideration of the areas of activities and the scale of the companies; as such, it is suggested that American and European companies have been achieving high performance, although the analysis is not strict. This analysis result is consistent with Fukao and Amano's (2004) analysis of Total Factor Productivity. Fukao and Amano compared the various economic activities of foreign-affiliated companies and Japanese companies in all manufacturing industries between 1994 and 1998 using data at the corporate level. Their analysis demonstrated that foreign-affiliated companies are at a higher level than Japanese companies with statistical significance in terms of TFP and the ratio of ordinary profit to sales. This analysis result shows that foreign-affiliated companies are achieving high profit margins because they are more efficient than Japanese companies. Their analysis also shows that foreign-affiliated companies have higher levels of wages and R&D intensity than Japanese companies. The above observation indicates that foreign-affiliated companies are successfully transferring management expertise and technology from parent companies to subsidiaries in Japan; however, it is difficult to comment on the spillover from their Japanese subsidiaries to other Japanese companies, as such an analysis was not made. Analysis of technology spillover is a challenge for the future. This analysis of foreign-affiliated companies in Japan indicates that foreign-affiliated companies have a favorable effect on the Japanese economy by bringing in efficient management expertise and technology, although foreign-affiliated companies occupy only a small position in the Japanese economy.

Figure 4 Changes in Ordinary Profit to Sales Ratio



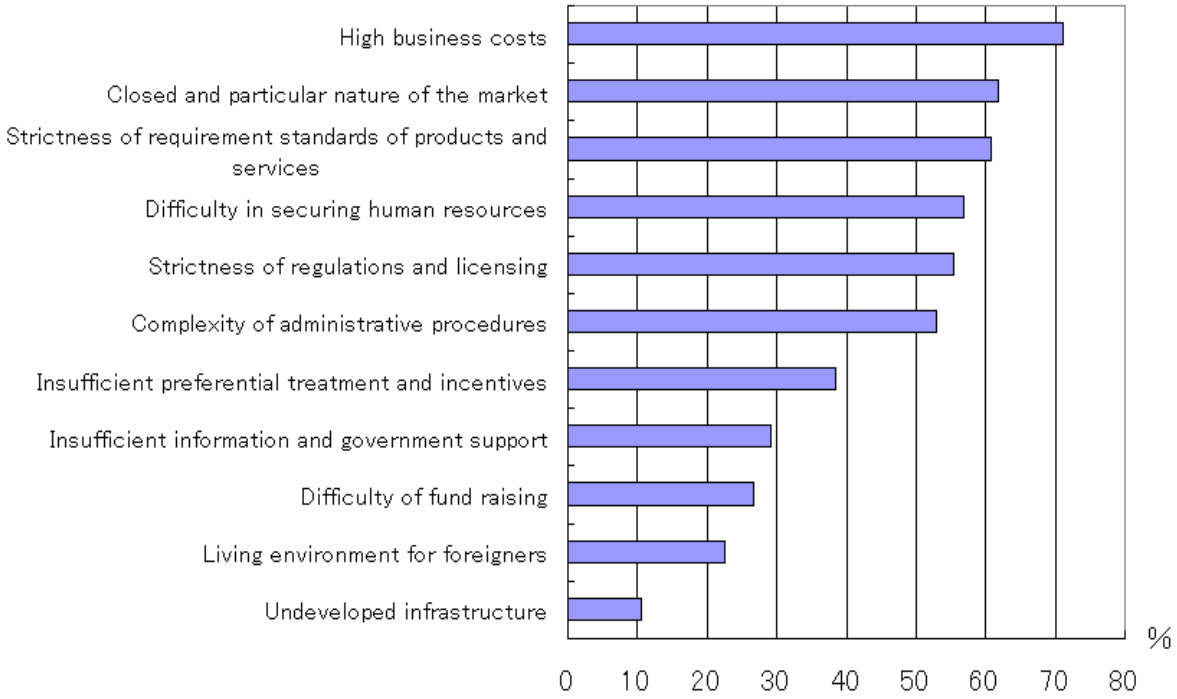
Source: The 44th Survey of Trends in Business Activities of Foreign Affiliates, by the Ministry of Economy, Trade and Industry, FY2009 results

3. Impediments to foreign companies entering the Japanese market

Section 1 showed that inward foreign direct investment by foreign-affiliated companies in Japan is extremely low compared to other countries. Section 2 found that foreign-affiliated companies that are subsidiaries established in Japan by inward foreign direct investment have a favorable impact on the Japanese economy, such as promoting growth and improving efficiency. These observation results show that promotion of inward foreign direct investment is an effective measure in achieving the growth of the Japanese economy. Therefore, this section will clarify the factors that are obstructing foreign direct investment in Japan.

Figure 5 shows the issues about Japan's location environment which foreign-affiliated companies pointed out in the awareness survey of foreign-affiliated companies conducted by the Ministry of Economy, Trade and Industry. The issue pointed out by the largest number of companies is the high business costs, followed by the closed and particular nature of the market, strictness of the requirement standards of products and services, difficulty in securing human resources, strict regulations and licensing, complexity of administrative procedures, and insufficient preferential treatment and incentives.

Figure 5 Perceived problems concerning location in Japan from the viewpoint of foreign firms



Source: Reprint of Figure 5-3-2-5 by the Ministry of Economy, Trade and Industry (White Paper, 2011)

Business costs are mainly comprised of real estate related costs such as office rent and personnel costs. According to Cushman & Wakefield, a major real estate consultant in the U.S., office rent in Hong Kong was the highest in the world in 2012, followed by London and Tokyo.[6] For reference, the annual rent per square meter was 2,633 U.S. dollars in Hong Kong, 2,579 U.S. dollars in London and 2,126 U.S. dollars in Tokyo. Tokyo is followed by Moscow and Beijing, which came fourth and fifth, respectively. These figures demonstrate that business development in Tokyo is certainly costly.

An international comparison of personnel costs in strict terms is not easy because it is difficult to take into account the difference in the type of jobs and ability of the person. For example, JETRO's survey in 2010 found that the monthly salary of a general worker in the manufacturing industry was 3,098.9 U.S. dollars in Yokohama, which was lower than the 3,690 U.S. dollars in Sydney but similar to the 3,135 U.S. dollars in New York and the 3,025 U.S. dollars in London, and much higher than the 1,252 U.S. dollars in Singapore and the 294 U.S. dollars in New Delhi.[7] On the other hand, wages for middle management in Yokohama were on a much lower level compared to

cities in other developed countries. More specifically, it was 4,489.5 U.S. dollars in Yokohama, 5,404 U.S. dollars in Sydney, 6,617 U.S. dollars in New York and 5,189 U.S. dollars in London. Wages for middle management are relatively high in developing countries compared to general workers, reflecting the tendency of their shortage in the area. It was 3,710 U.S. dollars in Singapore and 2,343 U.S. dollars in New Delhi. These statistics show that wages differ significantly between countries depending on the type of job, thus it is difficult to compare wages across borders.

In addition, the cost of tax in Japan in carrying out business such as the corporate tax rate is high compared to other countries, which is also thought to be a hindrance to foreign direct investment into Japan. The corporate tax rate in Japan in 2011 was 39.5%, which is the highest rate among the 34 member countries of the Organization for Economic Co-operation and Development (OECD), followed by 39.2% for the U.S. For comparison, the average of the OECD is 25.5%, South Korea is 24.2% and Germany 30.2%.[8]

The closed and particular nature of the market is sometimes due to the closed and particular practice among private companies, but other times it is due to strict regulations and licensing systems and cumbersome administrative procedures. As for the closed and particular customs among private-sector companies, cross-shareholding among group companies is a leading example. Cross-shareholding was introduced after the Second World War mainly for the purpose of achieving stable management; however, as the Japanese market has become more open to other countries, it has been used more as a measure to prevent acquisition by foreign companies. A memorable case from 1989 is an acquisition attempt against Koito Manufacturing Co., Ltd. that was prevented by cross-shareholding.

Regulation of inward foreign direct investment relies on the Foreign Exchange and Foreign Trade Law (Foreign Exchange Law) and some other laws for individual industries.[9, 10] The Foreign Exchange Law requires prior notifications or after-the-fact reporting when a foreign investor purchases shares in an unlisted company or when a foreign investor's investment ratio in a listed company becomes 10% or more as a result of a share purchase. Under the Foreign Exchange Law, deregulation of inward foreign direct investment continued from 1967, and in 1980, it was liberalized in principle, shifting from an approval system to a notification system. In 1998, the prior authorization and notification was abolished in principle. After-the-fact reporting is sufficient for most industry sectors, but prior notification is required for reserved industries which include security related industries, agriculture, forestry and fishery industries, and the mining, petroleum, leather and leather products industries.

The "Code of Liberalisation of Capital Movements," determined by the OECD, allows OECD countries to introduce investment controls in security-related industry sectors including weapons, aircraft, nuclear power, space development, electronic appliances, gas, heat supply, communication, broadcasting, and railways. In the case of regulating other industry sectors for the circumstances particular to the country concerned, notification is required to the OECD of the industry sector as a reserved sector. In September 2007, the Japanese government amended the cabinet and ministerial order and announcements concerning the Foreign Exchange Law and tightened the control of foreign capital for the first time in 16 years by adding the manufacturing of some products, which can be diverted for military use, such as carbon fiber, titanium alloy and optical lenses, to the security related industry sector which is subject to restrictions.[11] In the background, there was a movement to tighten regulations out of concern in many countries over the impact of foreign direct investment amidst the rapid expansion of foreign direct investment by sovereign wealth funds. In addition, mergers and acquisitions by foreign capital are restricted for reasons such as national security,[12] despite the strong tendency for such M&As to improve the performance of the purchased companies.

Under the Companies Act, which stipulates rules concerning M&As, preparations have been made to create a merger-friendly environment by making amendments to the Companies Act, and therefore, in terms of the system, obstacles for foreign companies to merge with Japanese companies are being reduced. A specific example is the lifting of the ban on triangular mergers in 2007. A triangular merger is a merger where shareholders of a defunct company (merged company) are given the parent company's shares as compensation instead of the surviving company. It was expected that this amendment would make M&As of Japanese companies easier. However, in practice, triangular mergers did not increase. It has been pointed out that obstacles such as taxation remain for M&As.[13] The M&A environment in Japan is viewed by foreign investors as extremely closed compared to other countries. According to the World Competitiveness Yearbook 2011, published by the IMD, Japan's openness for M&As was ranked at 44th out of the 59 countries surveyed. Incidentally, number one was Ireland, the U.S. was 20th and Korea was 37th.

The closed nature of the market due to customary practices of private-sector companies and government regulations is inhibiting inward foreign direct investment, as recognized by existing research. The Cabinet Office (2008) created an investment index by aggregating nine indices concerning inward foreign direct investment, such as constraints on obtaining a controlling interest in a domestic company and proper operation of the law. It then analyzed the relationship between

this index and inward foreign direct investment (as a percentage of GDP) for 28 OECD countries for the period between 1996 and 2005, which showed the closed nature of the market is inhibiting inward foreign direct investment. Japan's investment index was 50.7, lower than the OECD average of 54.1, indicating Japan was more closed than the OECD average.[14]

Difficulty in securing human resources is pointed out as an issue for foreign-affiliated companies in locating themselves in Japan. Knowledge and ability of foreign languages such as English is required for the staff working for foreign-affiliated companies in order to communicate with staff at the parent companies; however, there is an issue of a shortage of personnel with such ability in Japan. However, there is also an opinion that there is a shortage of professional engineers and managers in Japan. According to the Cabinet Office (2006), the average ratio of professional engineers and management was 17.3% of all employed persons between 2001 and 2005, which was ranked 20th out of 36 countries centering on the OECD. The country which scored the highest for this index was the U.S., which was more than 15 points higher than Japan. The Cabinet Office (2010) analysis indicates that the shortage of human resources is one of the factors inhibiting inward foreign direct investment in Japan. The statistical analysis by the Cabinet Office (2010) of the OECD high-income countries indicates the increase in the ratio of professional engineers and management personnel is related to the promotion of inward foreign direct investment.

Foreign-affiliated companies pointed out that insufficient preferential treatment and incentives are an issue in locating themselves in Japan (Figure 5). Preferential policy for foreign-affiliated companies can be justified in expectation of external effects such as spillover of technology by accepting foreign direct investment; however, when competition for preferential treatment arises with other countries to achieve foreign direct investment, an excessive level of preferential treatment may cause damage to both parties involved. Preferential treatment in such cases cannot be justified. Theoretically, it can be explained as above; however, in reality, many countries and regional governments offer preferential treatment to attract foreign investment. The World Competitiveness Yearbook by the IMD lists the results of the survey of incentives for inward foreign direct investment offered in countries around the world, in which Japan was ranked low at 50th out of the 59 countries surveyed in the 2011 version.

4. Response by the Japanese government to increase inward foreign direct investment in Japan

Japan's inward foreign direct investment promotion policies can be grouped by those at the

national level by the central government and those at the regional level by regional governments. As for the proportion, there has been a shift in inward foreign direct investment promotion policies from the central level to the regional level in response to issues such as the investment disparity between large cities and provincial cities.

The Japanese government's measures to support inward foreign direct investment started in 1984 with the low-interest loan system by the Japan Development Bank. It was introduced at the time as one of the measures to achieve market liberalization and import promotion, which was a major issue, rather than an attempt to actively accept foreign direct investment. The measures supporting inward foreign direct investment included preferential taxation, debt guarantee and the provision of information as well as the low-interest loan system mentioned above.

The central government adopted policies to increase inward investment itself since 1994 when the Japan Investment Council, chaired by the Prime Minister, was established.[15] In the background of actively implementing investment promotion policies was the recognition that an increase in inward foreign direct investment was needed as a measure to reinvigorate the Japanese economy, which had been flagging since the collapse of the bubble economy, and to respond to the hollowing-out of the Japanese economy as a result of the increase in outward foreign direct investment due to the sharp appreciation of the yen since the second half of the 1980s. The "Statement of the Japan Investment Council Toward the Promotion of Foreign Direct Investment in Japan," which was adopted by the Japan Investment Council in 1995, resolved to actively proceed with various initiatives to increase investment, including deregulation, preferential treatment in terms of taxation and finance, the handling of claims from foreign-affiliated companies and the provision of support services by the Foreign Investment in Japan Development Corporation (FIND). In addition, the "Statement of the Japan Investment Council on M&A" was adopted in 1996, which expressed the basic policy concerning the expansion in M&A investment.

In January 2003, (then) Prime Minister Koizumi set the target to double the inward foreign direct investment balance from 6.6 trillion yen in 2001 to 13.2 trillion yen in 5 years before the end of 2006. In order to achieve this target, the Japan Investment Council produced in March 2003 the "Inward Investment Promotion Program," which they decided to promote. This program consists of 5 priority areas and 74 items, including, more specifically, speeding up mergers and acquisitions, promoting participation by foreign companies in the corporate revival process, corporate tax liability relief, strengthening corporate governance, simplifying administrative procedures, providing information to foreign media organizations and diplomatic establishments abroad, and

promoting understanding among the Japanese public of the advantages of inward foreign direct investment. Under the Inward Investment Promotion Program, relevant offices and ministries commenced a one-stop information service ("Invest Japan"), which helps foreign investors to obtain information, and various kinds of information concerning investment have been made available through the Japan External Trade Organization (JETRO). In response to the Inward Investment Promotion Program, the Ministry of Economy, Trade and Industry implemented the "Forward-thinking Projects to Promote Inward Foreign Direct Investment" in 2003 and 2004, and "Projects to Support Enterprise Zones to Attract Foreign Companies" since 2005.

The Democratic Party of Japan came to power in 2009, and in June 2010, "New Growth Strategy: Blueprint for Revitalizing Japan" was adopted at a Cabinet meeting, under which doubling inward foreign direct investment was positioned as one of the important aims in order to revitalize Japan as a business base in Asia.[16] In 2010, there was concern about the decrease in Japan's location competitiveness due to the sharp appreciation of the yen, and, in an effort to encourage investment from both inside and outside of Japan, the "Round Table on the Promotion of Inward Investment" was established in September of the same year to discuss increasing investment. In November of the same year, the Round Table meeting laid down the "Inward Investment Promotion Program."

In November 2011, the Conference to Promote Japan as an Asian Business Center and Direct Investment into Japan was established within the Cabinet Office, which produced the Program for Promoting Japan as an Asian Business Center and Direct Investment into Japan in December. The program set targets to be achieved by 2020, which are increasing high value-added sites, doubling the number of employees of foreign-affiliated companies and doubling foreign direct investment into Japan. Individual measures to achieve these targets are grouped under five central initiatives, which are initiatives (1) to boost profitability, (2) to utilize a special zone system, (3) to improve the investment environment and create a structure for investment support, (4) to improve the living environment and (5) to enrich the dissemination of information welcoming investment. Specific measures under each initiative include (1) strengthening incentives such as corporate tax reduction and subsidies, (2) utilizing a special zone system in organic cooperation with local governments, (3) reviewing regulations, transparent administrative procedures concerning investment, convenient access to information and public administration in English, (4) preparing an environment for foreign nationals such as education and health care, and (5) PR activity by the government on the appeal of the location environment. However, this program has not been implemented at this time.

As an inward foreign direct investment promotion policy at the regional level, the same subsidy as for Japanese companies is provided to foreign-affiliated companies such as a reduction or exemption of local tax and grants. Some local governments have also sent their staff, including governors, abroad to attract foreign-affiliated companies to the region. There are examples where top-level sales pitches by governors have led to successfully attracting foreign-affiliated companies in prefectures such as Miyagi, Mie and Kumamoto. Local government-led investment promotion can be fine-tuned to suit the conditions in the region and implemented swiftly, which is a strength.

5. Toward expanding foreign direct investment in Japan

Foreign direct investment into Japan plays an important role in revitalizing the Japanese economy, which is in difficult circumstances, but inward foreign direct investment is at an extremely low level. This section considers measures to promote inward foreign direct investment.

Section 3 examined the factors hindering inward foreign direct investment. According to foreign-affiliated companies that have established a presence in Japan, high business costs, the closed and particular nature of the market, strictness of requirement standards of products and services, difficulty in securing human resources, strictness of regulations and licensing, complexity of administrative procedures, insufficient preferential treatment and incentives and insufficient information and government support are the barriers to entering Japan. Some of these may be a hindrance for foreign-affiliated companies but lack legitimacy in making changes, for example, the strictness of requirement standards of products and services, while others are difficult to change, such as high business costs. Excluding these issues, specific measures are suggested below for issues to which it is possible for the Japanese government to respond.

The first suggestion is that the Japanese government (Prime Minister) should explain to the public persuasively the importance of increasing inward foreign direct investment for the future of the Japanese economy, as well as expressing to other countries that Japan welcomes foreign-affiliated companies' expansion into Japan. In 2003, (then) Prime Minister Koizumi promoted foreign direct investment in Japan abroad as part of the Inward Investment Promotion Program, which was assessed as successfully increasing investment into Japan. A message from the country's leader has a strong impact.

The second suggestion is to relax the regulations concerning inward foreign direct investment. There is no room to doubt the legitimacy of restricting inward foreign direct investments which may have an adverse effect on the national security and safety of the nation; however, there is a

view that the definition of national security tends to be stretched. More specifically, acquisitions by foreign-affiliated companies were restricted in some cases for reasons of national security although it was a threat to the company but not to national security. For example, when an investment fund in the Macquarie Group from Australia tried to increase its shares in Haneda Airport Buildings in 2007, the Ministry of Land, Infrastructure and Transport put a stop to it for reasons of national security. In order to restrain the over-interpretation of national security, there should be a clear definition of national security and the screening for authorization must be carried out in a strict manner while firmly maintaining transparency and consistency. At present, when prior notification or screening is required for inward foreign direct investment by foreign companies, the Finance Minister and the Minister having jurisdiction over the business review the case in the first phase, then if any issue is found, the opinion of the Council on Customs, Tariff, Foreign Exchange and other Transactions is sought in the second phase before a final decision is made. The whole process can take up to five months. This review period can be shortened by skipping the first phase and carrying out only the second phase of the review. It would be efficient in that case to form an investment committee comprising mainly specialists, as in many other countries, and the review to be carried out by the committee. The Japanese government's approach toward controlling inward foreign direct investment is for assessment before the foreign companies enter Japan, and not for dealing with issues that arise after their entrance. Foreign-affiliated companies' expansion into Japan can also be promoted by speeding up the prior review combined with monitoring their activities after their entrance. Some claim that monitoring the activities of foreign-affiliated companies after they enter the Japanese market costs a great deal; however, monitoring the activities of companies should be carried out regardless of whether the company is foreign or domestic, and hence the additional cost should not be significant.

As for individual regulations, there are said to be issues concerning regulations relating to M&A by foreign-affiliated companies and taxation. Preparing an M&A-friendly environment, compared to other developed countries, would help increasing inward foreign direct investment. With regards to taxation, the corporate tax rate should be reduced to be on par with other developed countries.

The third suggestion is to establish a system that will support economic activities that will forge the future of the Japanese economy, and operate it effectively. In particular, research and development is essential in improving the competitiveness of industries and companies, and its significance is extremely high in an economy such as Japan's, where a declining birthrate and aging population is rapidly advancing. Therefore, in order to promote research and development, an

environment should be provided which is easy for research and development, not only for domestic companies but also for foreign-affiliated companies. In fact, when domestic companies that are competitive in research and development emerge, that would encourage foreign-affiliated companies to expand into Japan in the hope of collaborative research with those domestic companies. When an environment for research and development is provided, that will attract talented personnel, which will then attract companies after those people. Given this perspective, the importance of establishing a structure for the smooth flow of people, money and information necessary for research and development becomes clear. In connection with this, the cultivation of human resources in Japan is an urgent issue because the existence of excellent human resources is a prerequisite for attracting personnel from abroad.

The fourth suggestion is to evaluate the effect of existing policies to attract foreign investment, utilize the lessons from the experiences, and make use of them in establishing policies to attract foreign investment from now on. As discussed in Section 4, the Japanese government has implemented a number of policies to attract foreign investment; however, these do not seem to have been evaluated thoroughly. Without such an evaluation, it is difficult to establish desirable policies. Additionally, it would also be beneficial to examine the policies, systems and their effects in other countries.

Finally, it is of the utmost importance in attracting inward foreign direct investment to create an economic environment that is full of energy and has potential for the future. Such an environment will attract foreign direct investment, and as a result, economic growth will be promoted. The achievement of economic growth will attract further investment. In order to create such a positive growth cycle, policies such as those discussed in this section should be implemented to increase inward foreign direct investment.

References

Japanese

AMANO Tomofumi (2009) "Changes in foreign direct investment into Japan and the economic impact: Examination of economic policies, corporate behavior and economic achievement," from "Changes in International Environment and the Japanese Economy," edited by ITOH Motoshige, published by Keio University Press.

Ministry of Economy, Trade and Industry (2011) "White Paper on International Economy and Trade"

National Diet Library (2007) "Attracting and regulating foreign investment," Survey and information No. 600

American Chamber of Commerce in Japan (2010) "Charting a New Course for Growth - Recommendations for Japan's Leaders"

JETRO (2011) "2011 JETRO Global Trade and Investment Report"

FUKAO Kyoji and AMANO Tomofumi (2004) "Foreign Direct Investment and the Japanese Economy," Nikkei Inc.

Cabinet Office (2008) "Analysis of factors for inward and outward foreign direct investment: An explanation for low level of foreign direct investment in Japan" (Policy issues analysis series 1)

Cabinet Office (2010) "White Paper on the Economy and Public Finance" (2010 version)

English

IMD (2011) World Competitiveness Yearbook 2011

― Notes ―

[1] JETRO (2011) p. 35

[2] The amount of inward foreign direct investment in Japan is from the FDI database of UNCTAD, and the GDP figures are from the World Development Indicator by the World Bank.

[3] JETRO (2011), Table 7 on p. 108

[4] JETRO (2011), p. 38

[5] "2009 Economic Census for Business Frame" by the Ministry of Internal Affairs and Communications

[6] Nikkei (electronic version), February 7, 2012

[7] Investment cost comparison by JETRO <http://www.jetro.go.jp/world/search/cost/>

[8] OECD Tax Database

[9] Includes NTT Law, Radio Act, Broadcast Act, and Civil Aeronautics Act, etc.

[10] National Diet Library (2007) serves as a useful reference with regards to restrictions on foreign investment.

[11] National Diet Library (2007)

[12] Please refer to Fukao and Amano (2004) with regards to the effects on the economic indices of the companies purchased as a result of purchases of Japanese companies by foreign-affiliated companies.

[13] For example, please refer to American Chamber of Commerce in Japan (2010).

[14] The Cabinet Office (2010) carried out a similar analysis using the statistics for the period between 2001 and 2007 and obtained similar results.

[15] Please refer to Amano (2009), National Diet Library (2007), etc.

[16] Please refer to the Ministry of Economy, Trade and Industry (2011).

PART 3
—HARMONIZING REGULATIONS AND ESTABLISHING R&D SYSTEMS FOR INTERNATIONAL STANDARDS—

Chapter 5

Regulatory/Systemic Reforms for Maintaining/Enhancing Competitiveness: The Importance of Developing a Multi-tiered Strategy

NAKAGAWA Junji

Policy recommendations of this chapter

1) The TPP should constitute the core of a strategy for regulatory/systemic reform. Japan should aim to achieve broad-based and highly effective regulatory/systemic reforms through the TPP and to develop the regulatory/systemic reforms incorporated in the TPP into the de facto global standards in the future by expanding the community of countries participating in the TTP and by referencing the TPP in all FTA negotiations with other countries/regions.

2) Japan must exercise leadership in endeavoring to achieve international regulatory/systemic harmonization and standardization via the WTO and other multilateral forums. This will require, however, that Japan's regulatory/systemic experiences as well as those of East Asian countries, which learned many lessons from Japan's experiences to achieve their own economic growth, be carefully considered, theorized and then presented as feasible regulatory/systemic models for other countries as well.

3) Alongside the measures referred to in 1 and 2 above, Japan must pursue regulatory/systemic reform on its own as well in parallel cooperation with other key economies in developing and implementing a strategy for multi-tiered regulatory/systemic reform.

Introduction

What measures should be taken to maintain and enhance the economic power and competitiveness of Japan in the increasingly challenging internal and external environment surrounding the country? This chapter argues that domestic regulatory/systemic reforms are indispensable in order to maintain and enhance Japan's economic power and competitiveness. This chapter further argues that for the steady promotion of regulatory/systemic reforms, Japan's

independent efforts to improve its regulatory/systemic framework alone is insufficient and a multi-tiered strategy for regulatory/systemic reforms is required that encompasses, among others, bilateral talks on regulatory/systemic reforms with major powers, regulatory/systemic reforms through bilateral and regional free trade agreements such as Economic Partnership Agreements (EPAs) and the Trans-Pacific Strategic Economic Partnership Agreement (TPP), and the achievement of international regulatory/systemic harmonization and the acquisition of international standards through multilateral forums in individual regulatory areas.

There is a consensus in public economics that in order to foster market competition and revitalize the economy, regulatory/systemic reforms that promote deregulation and the increasingly limited scope of government intervention in the market with an appropriate safety net are effective. Japan and other major developed countries alike have actually been implementing broad-based regulatory/systemic reforms since early 1980's. However, with the advancement of globalization, the international environment of regulatory/systemic reforms today has significantly changed. With the increasingly reduced room for unilateral implementation of regulatory/systemic reforms by individual countries, it is now considered critical to promote international regulatory/systemic harmonization in a multi-tiered manner through the effective use of bilateral, regional, or multilateral forums and ensure global dissemination of regulatory/systemic frameworks that are favorable to one's own country as international standards.[1]

Today, it is the U.S. and Europe that lead the movement toward international regulatory/systemic harmonization and the establishment of international standards that is underway in a broad spectrum of regulatory areas.[2] The most important reason why the U.S. and Europe have been able to take a leadership role in the movement toward international regulatory/systemic harmonization and the establishment of international standards is that these countries have the largest and strongest economic power in today's increasingly global economy combined with their dominant position as a source of international standards and best practice in the regulatory and systemic areas (i.e., "soft power"). In 19th century Europe, there were multiple empires that had colonies all over the world. The U.K. in particular had overwhelming national power during the period from the late 19th century to the early 20th century. The U.S. rose to supremacy during the period of peace after the First World War and held sway over the world economy following the Second World War. It has maintained the position as the world's largest economy to today. In addition, these countries undertook regulatory/systemic reforms before the

rest of the world and disseminated the reform results internationally, thereby making earnest efforts toward regulatory and systemic harmonization on a global scale and the acquisition of international standards. In particular, Europe, with an increasing sense of danger and feelings of rivalry toward U.S. economic supremacy during the process of its own economic integration, has promoted regulatory and systemic harmonization within the European region and strived to reflect the results of such harmonization in the ongoing movement toward global regulatory and systemic harmonization and the establishment of international standards.

Japan compares unfavorably with the U.S. and Europe in terms of both economic power and the ability to disseminate international standards or international best practice with respect to regulatory/systemic areas. Although Japan is currently the world's third largest economic power, it was only during the 1970's that Japan achieved rapid economic growth and joined the ranks of the major economies, once having been defeated in WWII and stripped of all its colonies. By that time, many of the international forums aimed at regulatory and systemic harmonization on a global scale and the establishment of international standards had already been established, and Japan was a latecomer to them. From then until today, Japan has focused on catching up with, rather than taking the leadership role in, such movement toward international harmonization and the establishment of international standards in the area of regulatory/systemic reforms.

In order to maintain and enhance its economic power and competitiveness in the world today, Japan needs to grow out of such a position and, along with the U.S. and Europe, take a leadership role in the global movement toward international harmonization and standardization of regulations. Based on this awareness, this chapter argues that Japan needs to develop and implement a multi-tiered strategy for regulatory/systemic reforms and explores specific measures to do so. This chapter consists of three sections. Section 1 reviews the historical development of regulatory/systemic reforms in Japan and observes how the international context of regulatory/systemic reforms today is vastly different from that in the past. Section 2, after systematically discussing the measures that should be taken to address the political challenge of trade/investment liberalization and expansion, which is particularly important for the maintenance and enhancement of the economic power and competitiveness of Japan, clarifies how the efforts to realize such trade/investment liberalization and expansion often involve regulatory/systemic reforms in Japan as well as in its investee countries and trade partners and how, to that end, Japan needs to deploy regulatory/systemic reform efforts in a multi-tiered manner by combining

unilateral regulatory/systemic reforms with regulatory/systemic reforms pursued through bilateral, regional, and multilateral agreements. Section 3 discusses the merits and limitations of regulatory/systemic reforms pursued through the Trans-Pacific Strategic Economic Partnership Agreement (TPP), which at present has the biggest strategic importance for Japan as a means to promote regulatory/systemic reforms. Lastly, this chapter concludes by summarizing the conclusions of this chapter and shedding light on future challenges.

1. Historical development and the international context of regulatory/systemic reforms

(1) Historical development of regulatory/systemic reforms

The current Democratic Party of Japan (DPJ) administration also recognizes the importance of regulatory/systemic reforms in the maintenance and enhancement of Japanese economic power and competitiveness. The "Basic Policy on Comprehensive Economic Partnerships" adopted pursuant to the Cabinet decision on November 9, 2010 under the Kan administration stated that "while opening up the country and importing the best management resources in order to enhance its potential for growth, the Government of Japan, with a view to achieving active economic partnerships and eliminating non-tariff barriers, will decide on a concrete plan (on regulatory/systemic reforms [note added by the author])… through the Government Revitalization Unit."[3] The "Strategy for Rebirth of Japan" compiled by the Noda administration on December 24, 2011 also supported the promotion of regulatory/systemic reforms in multiple sections such as those on the redesigning of energy/environmental policies[4] and on the improvement of productivity in the service industry and the creation of new industries/markets in response, among others, to the declining birthrate and aging population.[5] Regulatory/systemic reform efforts are currently being made under the leadership of the subcommittee of the Government Revitalization Unit, a unit of the Cabinet Office, on regulatory/systemic reforms.[6]

Since the establishment of the Second Ad Hoc Research Committee on Administrative Reform ("*Daini Rincho*" chaired by Toshio Doko) in 1981 under Prime Minister Zenko Suzuki's administration, Japan has already been working on regulatory/systemic reforms for three decades.[7] Regulatory/systemic reforms in this period, as part of administrative and public finance reforms aimed at the reconstruction of public finances, were centered around the privatization of inefficient public sector businesses such as the privatization of Nippon Telegraph and Telephone Public Corporation (1985) and Japan National Railways (1987)[8]. In 1995, a deregulation subcommittee

(chaired by Yoshihiko Miyauchi) was formed under the Administrative Reform Committee of the Government to broadly discuss regulatory/systemic reforms (deregulation) aimed at reducing government intervention in the market through regulations. The body to promote regulatory/systemic reforms has since continued to exist in various names and organizations,[9] leading to the current subcommittee on regulatory/systemic reforms within the Government Revitalization Unit, which assumed that function in 2010. During this period, the results of the Government's regulatory/systemic reform efforts have been documented as regulatory/systemic reform promotion plans and implemented in phases for each successive three-year planning period.[10]

Looking back the progress of regulatory/systemic reforms in Japan since the early 1980's, as already mentioned, the initial reform efforts were focused on the privatization of public sector businesses, which had significant implications as a measure to reconstruct public finances. However, the reform priority was gradually shifted to the full revision and elimination/deregulation of government regulations that prevented competition in the market. The "Implementation Policies for Regulatory/Systemic Reforms" (June 2010), which is the latest regulatory/systemic reform plan, set forth 61 reform items in total, which are categorized into four areas: green innovation, life innovation, agriculture, and other. Most government agencies are subject to these reforms.[11]

(2) The international context of regulatory/systemic reforms

A characteristic feature of the international context of regulatory/systemic reforms today is that it has significantly changed from that of the past.

It is not quite accurate to view Japan as having promoted regulatory/systemic reforms independently based on internal motives even in the early 1980's when Japan started to undertake such reforms for the first time on a full scale. Japan has been promoting regulatory/systemic reforms by referencing the experience of various foreign countries, particularly the U.S.[12] Amid the intensifying trade friction and investment friction, Japan had been incessantly requested by the U.S., Europe, and others to open its market since the late 1980's. One aspect of regulatory/systemic reforms in Japan was that they were promoted as a response to such foreign pressure.

The first example of regulatory/systemic reforms as part of a response to foreign pressure was the Structural Impediments Initiative (SII) talks held during the period from 1989 to 1990. These

talks were held to address and improve the structural issues of both Japan and the U.S. underlying the current account and trade imbalances between the two countries. The requests for improvement made by the U.S. through these talks included measures that led to regulatory and systemic reforms in Japan, such as reform of the distribution system, regulation on exclusive trade practice, and reconsideration of intragroup transactions. Based on the results of these talks, Japan implemented various regulatory/systemic reforms including the amendment of the Act on the Adjustment of Business Activities of Retail Business at Large-scale Retail Stores and the more effective enforcement of the Anti-monopoly Act.[13] After the SII talks, Japan and the U.S. continued bilateral talks whose main themes included regulatory/systemic reforms. In particular, from 1997 to today, Japan-U.S economic talks have been held under names that highlight regulatory/systemic reform topics such as deregulation, regulatory reform and economic harmonization (U.S.-Japan Enhanced Initiative on Deregulation and Competition Policy (1997-2001), U.S.-Japan Regulatory Reform and Competition Policy Initiative (2001-2009), and U.S.-Japan Economic Harmonization Initiative (2010-)). Japan has also continued to have talks with the EU on regulatory/systemic reforms toward trade and investment liberalization and/or facilitation since 1994 under the name of Japan-EU Regulatory Reform Dialogue.[14] As outlined above, the international context of regulatory/systemic reforms in Japan until recently can be characterized by (1) regulatory/systemic reforms undertaken by referencing and imitating regulatory/systemic reforms in foreign countries, particularly in the U.S. (unilateral referencing and imitation) and (2) regulatory/systemic reforms through regular talks with the U.S. and Europe (response to foreign pressure between two countries).[15]

The current international context of regulatory/systemic reforms is significantly different from that in the past in the following three aspects. First, as globalization advances, the activity of companies has extended freely across national boundaries. Companies now determine the optimal location for their activity (e.g., production location, source of procurement of raw materials/parts, and market) in consideration of regulatory and systemic differences by country. The era has arrived in which companies choose countries.[16] Regulatory authorities of each country have started to work on regulatory/systemic reforms that provide regulatory/systemic environments that are more favorable to companies than other countries in order to attract foreign companies to and to keep domestic companies in the domestic market (regulatory competition).[17] Second, for fear of such regulatory competition leading to a regulatory race to the bottom, countries started to work on the achievement of international regulatory and systemic harmonization more earnestly than ever

before by coordinating the content and the pace of regulatory/systemic reforms through multilateral forums, the most important of which is the OECD. The OECD started to conduct research and studies on regulatory reform in the mid-1990's. In the latter half of 1990's, it conducted extensive research on regulatory reforms in various countries around the world and complied and published the research results as regulatory reform best practices that are relevant in various regulatory areas and topics.[18] Furthermore, the OECD has been conducting research and evaluations on regulatory reforms in its member countries since the late 1990's, the results of which have been published one after another.[19] Although the OECD's evaluation on regulatory reform in itself does not have any binding power, it works as a pressure on the member nations toward gradual convergence of their regulations and systems to the best practice as it is supported by a broad research and studies on regulatory reform and is based on the best practices of regulatory reform. In addition, since the mid-1990's, the activities of multilateral forums oriented toward international regulatory and systemic harmonization have been gaining momentum. In particular, the WTO established in 1995 not only established international agreements oriented toward international regulatory and systemic harmonization directly related to international trade such as those on rules of origin (Agreement on Rules of Origin) and dumping regulations (Anti-Dumping Agreement), but also established international agreements on international harmonization of intellectual property rights (TRIPS Agreement) and food sanitation/safety standards (SPS Agreement), fostering the significant development of international regulatory and systemic harmonization in these areas.[20]

The third important change that characterizes the international context of regulatory/systemic reforms today is the rising movement toward international regulatory and systemic harmonization through bilateral or regional free trade agreements (FTAs) or Economic Partnership Agreements (EPAs). The movement toward concluding FTAs/EPAs gained momentum in the late 1990's. The underlying factor was that by that time, the WTO was practically dysfunctional as a forum for international regulatory and systemic harmonization. The GATT, which is the predecessor of the WTO, was a club-type international organization that strongly reflected the intentions of major trading countries.[21] However, under the WTO system, it was difficult for a few major trading countries to take the initiative in the decision-making process as the number of member nations increased. This is clearly indicated by the recent collapse of the Doha talks 10 years after their inception in 2001. In combination with the failed efforts of the major developed countries to expand the agendas of the Doha talks to include new areas such as competition and investment,[22]

the major developed countries, particularly the U.S. and Europe, shifted the focus of their trade policy to international regulatory and systemic harmonization through FTAs and EPAs in the late 1990's. Notifications to the WTO indicate that the number of regional trade agreements (FTAs, EPAs and customs unions) increased from only 27 in 1990 to 511 as of January 15, 2012.[23] Japan has also entered into 13 EPAs so far starting from the EPA with Singapore signed in January 2002.[24] In addition, EPA negotiations with South Korea, the Gulf Cooperation Council (GCC), and Australia are currently underway and a Japan-China-South Korea EPA and a Japan-EU EPA are undergoing discussions toward the commencement of negotiations. In February 2012, preliminary talks started toward participation in the Trans-Pacific Strategic Economic Partnership Agreement (TPP) negotiations.

FTAs and EPAs cover not only the liberalization of trade (products and services) between the parties to the agreement, but also the liberalization of the government procurement and investment markets. They also cover regulatory and systemic harmonization at levels that are higher than those under the WTO framework in the areas that are not governed by WTO orders in addition to those governed by these orders. For example, they include such areas as trade facilitation, intellectual property rights, e-commerce, investment protection, competition law/policy, labor, and the environment.

In this way, the international context of regulatory/systemic reforms in Japan today has become more complex and multi-dimensional than before. In addition to regulatory/systemic reforms through traditional channels such as (1) unilateral imitation or referencing and (2) response to foreign pressure between two countries, regulatory/systemic reforms are currently promoted in a multi-tiered manner, in consideration of (3) the intentions of both domestic and foreign companies, through (4) multilateral or (5) bilateral and regional forums.

2. Regulatory/systemic reforms aimed at trade and investment liberalization and expansion

What regulatory/systemic reforms are needed for Japan to maintain and enhance its economic power and competitiveness? This study report is based on four pillars: (1) securing labor resources and youth employment, (2) liberalizing trade and expanding domestic investment, (3) harmonizing regulations and establishing R&D systems for international standards, and (4) human resources development for Japan's international competitiveness, and is aimed at clarifying necessary measures for each of these policy objectives. However, (3) above, which is the topic of this chapter,

is considered to be a means of achieving the other three policy objectives rather than an independent policy objective in itself. This is because many of the measures to be taken by the government to achieve any of these policy objectives are implemented through regulatory/systemic reforms[25] and various measures to achieve these policy objectives are often overlapping and complementary to each other. Therefore, this chapter focuses on the policy objective (2) liberalizing trade and expanding domestic investment in particular and discusses regulatory/systemic reforms necessary to achieve it. If such regulatory/systemic reforms are also effective in achieving the other policy objectives ((1) and (4) above), this will be pointed out in each case.

Then, what regulatory/systemic reforms are necessary for promoting trade liberalization and domestic investment expansion? In the rest of this section, measures for trade liberalization and domestic investment expansion in an era in which companies choose their markets are classified into (1) measures to support the expansion of Japanese companies into overseas markets, (2) measures to maintain and enhance the locational competitiveness of domestic Japanese companies and (3) measures to promote investment in Japan by foreign companies, based on the combination of companies choosing markets (Japanese companies and foreign companies) and the markets being chosen (overseas markets and Japanese markets), and necessary regulatory/systemic reforms are discussed separately for each category.

(1) Measures to support the expansion of Japanese companies into overseas markets

Measures to support the expansion of Japanese companies into overseas markets are generally classified into three groups: (1) securing investment access to overseas markets by Japanese companies, (2) improvement of the investment environment in overseas markets for Japanese companies, and (3) resolution of taxation and pension issues associated with overseas expansion by Japanese companies. What measures are included each group? Which among these measures can be implemented through regulatory/systemic reforms in overseas markets and in Japan? What forums are appropriate for promoting them?

(a) Securing investment access to overseas markets by Japanese companies

Measures necessary for securing investment access to overseas markets by Japanese companies include (1) relaxation or elimination of investment restrictions in overseas markets and (2) opening up of the overseas government procurement markets.

The most effective measure to realize relaxation or elimination of investment restrictions in overseas markets is to conclude bilateral investment treaties (BITs) or EPAs with major investee countries and to hold them responsible for relaxation or elimination of investment restrictions as an obligation under the international agreement. The number of BITs is rapidly increasing as developing countries and countries with economies in transition are taking increasingly aggressive policies for attracting foreign investment capital.[26] BITs generally include provisions for investor protection after investment is made (national treatment, most-favored-nation treatment, expropriation and compensation, dispute settlement through investor state arbitration,[27] etc.) (investment protection agreement). Recently concluded BITs often provide for national treatment not only after investment is made, but also at the stage of investment approval. National treatment at the stage of investment approval is particularly effective for relaxation or elimination of investment restrictions as it means the liberalization of investment in the relevant sector (investment protection/liberalization agreement).[28] Japan has so far entered into 15 BITs, of which 6 BITs concluded in or after 2002 are investment protection liberalization agreements.[29] In addition, most of the EPAs concluded by Japan include in their investment chapters the same provisions as investment protection liberalization agreements.[30]

The government procurement market (purchase of goods and services by government agencies), which is said to account for 10 to 15% of GDP, is a promising investment target for Japanese companies, but countries often impose various restrictions on foreign companies' entry to the government procurement market for the protection of domestic industries and other reasons. The WTO Agreement on Government Procurement (GPA) permits foreign companies to enter into government procurement markets whose scale exceeds a certain amount and encourages the parties to the agreement to open up the government procurement market by increasing the transparency of government procurement (introduction of an open bidding system, disclosure of bidding information, etc.).[31] However, the parties to the WTO Agreement on Government Procurement are only 15 countries/regions including Japan, the EU, and the U.S. Therefore, in order to secure

investment access to the government procurement markets of other countries by Japanese companies, Japan can only negotiate opening up of these markets through bilateral or regional EPAs. Japan entered into an EPA with Mexico in which Mexico promised to open up its government procurement market. However, the current EPAs with other countries/regions merely provide for exchange of information on government procurement and future negotiation for opening up the government procurement market due to strong opposition of the other party to the agreement to the opening up of such a market.[32]

Within the government procurement market, infrastructure improvement is one of the areas expected to grow rapidly in the future, particularly in the emerging economies of Asia. For the promotion of Japanese companies' entry into this market, aggressive support by the government through such means as summit diplomacy, information gathering, and loans and guarantees provided by government-affiliated financial institutions is effective. Under the "New Growth Strategy" approved by the Cabinet in June 2010 that identified the packaged promotion of overseas expansion of infrastructure-related industries as a national project, the Japanese government is currently working on the creation of a system for such promotion through public-private collaboration.[33]

(b) Improvement of the investment environment in overseas markets for Japanese companies

Measures necessary for the improvement of the investment environment in overseas markets for Japanese companies include those related to the improvement of the business environment of investee countries such as the improvement of regulations and systems of investee countries and the application and administration thereof. More specifically, they include (1) improvement of the legal system that is fundamental to business activities (e.g., accounting system, companies law, contract law, and bankruptcy law), (2) prohibition of performance requirements,[34] (3) lower customs duties imposed by the investee country, (4) trade facilitation in the investee country (e.g., simplification and digitization of the customs procedure and increased transparency of the customs procedure), (5) facilitation of the acquisition or renewal of a working visa by Japanese employees, (6) international harmonization and increased transparency of the standards/authentication system of the investee country, (7) restriction on government intervention in technology transfer agreements, (8) increased protection of intellectual property rights in the investee country (including improved enforcement), (9) fair enforcement of the competition law in the investee

country (in particular, more effective enforcement with regards to the state enterprises of the investee country), (10) guarantee of free transfer of funds in and out of the investee country (including transfer of profit out of the investee country), and (11) guarantee of an appropriate settlement procedure for disputes with the investee country (e.g., investor-state arbitration).

The most important means for Japan to promote the measures listed above is to include these matters in the investment chapter of a BIT or EPA with the investee country and to hold the investee country responsible for the compliance with them as an obligation under the international agreement. Most of the investment chapter of the BITs and EPAs concluded by Japan include provisions concerning (2) through (11) above, thereby striving to improve the business environment in the investee countries for Japanese companies, although the specific content of the agreement differs slightly from one agreement to another. In addition, many of the EPAs concluded by Japan include a chapter on the improvement of the business environment, which proscribes the establishment of a formal opportunity for discussion toward the improvement of the business environment (subcommittee on the improvement of the business environment), thereby striving to include in the agenda and resolve certain types of issues such as those that are faced by Japanese companies, those that are difficult to be proposed as a discussion agenda by any single company, and those that are relevant to the industry as a whole.[35] Among the measures listed above, (1) improvement of the legal system that is fundamental to business activities is an issue that is related to the legislative power of investee countries. As such, it is difficult to address this issue through BITs or EPAs. However, Japan is offering technical assistance to support the improvement of the fundamental legal system in certain investee countries that are countries with economies in transition such as Vietnam and Laos.[36]

In addition, mutual recognition of the authentication system for industrial products of the investee country under a bilateral agreement can be used as a complementary measure for promoting (6) international harmonization and increased transparency of the standards/authentication system of the investee country (mutual recognition agreement). Japan concluded its first mutual recognition agreement with the EU in 2001 in four areas including telecommunications equipment (effective on January 1, 2002) and has subsequently concluded mutual recognition agreements with the U.S., Singapore, the Philippines, and Thailand (in the case of Singapore, the Philippines, and Thailand, a mutual recognition chapter is included in the EPA).[37]

In order to improve the investment environment in overseas markets for Japanese companies, the effective use of multilateral agreements and multilateral forums is also important. In particular, the WTO has established many agreements that lead to the improvement of the investment environment in overseas markets. The TRIMs Agreement of the WTO addresses (2) prohibition of performance requirements, while the TRIPS Agreement provides for (7) restriction on government intervention in technology transfer agreements and (8) increased protection of intellectual property rights in the investee country (including improved enforcement). With regard to (6) international harmonization and increased transparency of the standards/authentication system of the investee country, detailed disciplines are prescribed in the SPS Agreement (covering food sanitation/safety standards) and the Agreement on Technical Barriers to Trade ("TBT Agreement," covering the standards/authentication system for industrial products other than those covered by the SPS Agreement). In addition, with regard to (4) trade facilitation in the investee country, detailed rules are prescribed in the Revised Kyoto Convention on the Simplification and Harmonization of Customs Procedures (effective February 3, 2006) adopted by the World Customs Organization (WCO).[38] As for (9) fair enforcement of the competition law in the investee country, active efforts are being made toward the international convergence of the competition law and competition policy through the International Competition Network (ICN), which was established in October 2001 under the leadership of the U.S. and in which most countries in the world that have their own competition law/policy participated.[39]

Lastly, regarding (6) international harmonization and increased transparency of the standards/authentication system of the investee country, it is important for Japan to make a positive approach through public-private collaboration to the relevant global forums (such as the International Organization for Standardization (ISO) and the Codex Committee on Food Hygiene) so that the standards made in Japan will be adopted as international standards. Japan established strategic objectives on international standardization in 2006 and started to create a system to strategically promote international standardization.[40]

(c) Resolution of taxation and pension issues associated with overseas expansion by Japanese companies

Expansion into overseas markets by Japanese companies entails such issues as (1) international double taxation on income from a foreign operation or international tax evasion using tax havens or

transfer prices in intra-group transactions and (2) situations where employees who are assigned to a post in a foreign country for a long term may be forced to participate in pension plans in both Japan and the foreign country at the same time or may not be qualified to receive pension benefits when they retire due to the lack of the number of years of participation to either the Japanese pension plan or the pension plan of the foreign country or both. In order to resolve these issues, Japan needs to enter into international agreements with the relevant foreign countries to take necessary measures.

Countries generally address the problems of international double taxation and tax evasion by concluding bilateral tax treaties. Tax treaties take measures to prevent international double taxation, for example, by limiting the taxing power of the country of origin and by limiting the scope of the income that is taxable by the source country (the country in which income is generated) (the source country can impose taxes only on the business income generated from the activities of a foreign operation such as a foreign branch and tax rates applicable to investment income (dividend, income, and rent) is subject to certain upper limits). They also take measures to crack down on international tax evasion, for example, by providing for the exchange of taxpayer information (including bank secrecy) between the tax authorities of the parties to the treaty and by adjusting the transfer pricing taxation of the parties to the treaty (i.e., taxation based on fair transaction price rather than transfer price). As of October 31, 2011, Japan was a party to 52 tax treaties.[41]

Countries generally deal with the pension issues associated with overseas business expansion by entering into bilateral social security agreements. In order to avoid double payment burden of pension premiums, social security agreements provide that expatriate employees should be exempted from the participation in the pension plan of the foreign country to which they are dispatched if the period of domicile in that country is within a certain period. They also address the issue of insufficient years of participation in the pension plan by providing that, for expatriate employees, the number of years of participation in the pension plans of both the home country and the foreign country to which they are dispatched should be aggregated so that they will be qualified to receive pension benefits based on the aggregated number of years of participation either in the home country or in the foreign country. Japan has so far entered into social security agreements with 15 countries including the U.S. and South Korea and is currently under negotiation for the conclusion of such agreements with 8 countries including China and Australia.[42]

Table 5-1 summarizes the measures to support Japanese companies' expansion into overseas markets and the means to implement them as discussed above in this section.

Table 5-1 Measures to support Japanese companies' expansion into overseas markets and means to implement them

Objective	Measure	Domestic measure*1	Bilateral agreement	Multilateral agreement
Securing investment access	**Relaxation/elimination of investment restrictions**	×	BIT, EPA investment chapter	WTO (GATS)
	Liberalization of the government procurement market	×	EPA government procurement chapter	WTO (GPA)
	Packaged promotion of overseas expansion of infrastructure-related industries	○*2	Nuclear agreement	×
Improvement of investment environment	**Improvement of the legal system that is fundamental to business activities**	×	Legal system improvement support	×
	Prohibition of performance requirements	×	BIT, EPA investment chapter	WTO (TRIMs)
	Lower customs duties imposed by the investee country	×	EPA bound tariff schedules	WTO bound tariff schedules
	Trade facilitation in the investee country	×	EPA trade facilitation chapter	WTO, WCO Revised Kyoto Convention
	Facilitation of the acquisition or renewal of a working visa by Japanese employees	×	EPA investment chapter, trade in services chapter	×
	International harmonization and increased transparency of the standards/authentication system of the investee country	○*3	EPA, mutual recognition agreement	WTO (TBT/SPS)

	Restriction on government intervention in technology transfer agreements	×	EPA intellectual property chapter	WTO (TRIPS)
	Increased protection of intellectual property rights in the investee country	×	EPA intellectual property chapter	WTO (TRIPS)
	Fair enforcement of the competition law in the investee country	×	EPA competition chapter	ICN
	Guarantee of free transfer of funds in and out of the investee country	×	EPA investment chapter	×
	Appropriate settlement procedure for disputes with the investee country	×	BIT, EPA investment chapter	×
	Improvement of the business environment of the investee country	×	EPA business environment improvement chapter	×
Taxation / pension	*Prevention of international double taxation on income from a foreign operation and measures against international tax evasion*	○*4	Tax treaty	×
	Resolution of the issues of double participation in pension plans and insufficient years of participation	○*5	Social security agreement	×

*1 Indicates measures to be taken by Japan in its domestic market and does not include measures to be taken by investee country in its domestic market.

*2 Strategy for packaged promotion of overseas expansion of infrastructure-related industries

*3 Strategic objectives on international standardization

*4 Measures under domestic tax laws to be taken in response to tax treaties

*5 Measures to be taken by Japan in its domestic market in response to social security agreements

(Source: Prepared by the author)

In Table 5-1 above, the items written in bold characters indicate those requiring regulatory/systemic reforms in the investee country and the items written in italic characters indicate those requiring regulatory/systemic reforms in Japan. The item written in bold italic characters, i.e., international harmonization and increased transparency of the standards/authentication system of the investee country, requires regulatory/systemic reforms in both Japan and its investee countries.

(2) Measures to maintain and enhance the locational competitiveness of domestic Japanese companies

The maintenance and enhancement of the locational competitiveness of the companies that choose to stay in Japan is a necessary measure to prevent the industrial infrastructure in Japan from hollowing out and to secure domestic employment. Measures necessary for achieving this objective are classified into four groups: (1) trade liberalization and facilitation, (2) regulatory and systemic improvements in export destination countries, (3) improvement of regulatory and systemic environments in overseas markets that are competitively disadvantageous to domestic Japanese companies, and (4) improvement of the domestic business environment. Similar to sub-section (1) above, the rest of this sub-section clarifies specific measures included in each group and means to implement them as well as which among these measures can be implemented through regulatory/systemic reforms in Japan and in its trade partners.

(a) Trade liberalization and facilitation

Trade liberalization (reduction of customs duties) is a necessary measure to take for both Japan and its export destination countries. Reduction of customs duties in Japan will reduce the procurement cost for imported raw materials and capital goods for domestic Japanese companies. Reduction of customs duties in Japan's export destination countries will reduce the export price of the domestic Japanese companies. The combined effect of these reductions will be the improvement of the export competitiveness of domestic Japanese companies. Similarly, trade facilitation in both Japan and its trade partners (export destination and import source countries) is also expected to improve the export competitiveness of domestic Japanese companies.

Means for Japan to promote trade liberalization include reduction of customs duties through the WTO and EPAs. Reduction of customs duties promised by each member country under the

framework of the WTO is applied to all member countries[43] on a most-favored-nation basis, thereby contributing significantly to the improvement of the export competitiveness of the domestic companies of member countries. EPAs promise the liberalization of substantially all trades between the parties to the agreement (i.e., zero customs duties), thereby achieving more trade liberalization than the tariff rate promised under the WTO framework (bound tariff rate).

As discussed in sub-section (1)(b) above, with regard to trade facilitation, detailed rules are prescribed in the Revised Kyoto Convention on the Simplification and Harmonization of Customs Procedures (effective February 3, 2006) adopted by the World Customs Organization (WCO). Furthermore, the parties to an EPA may agree on higher levels of trade facilitation than prescribed in the Revised Kyoto Convention in the trade facilitation chapter of the EPA.

(b) Regulatory and systemic improvements in export destination countries

In addition to reduction of customs duties and trade facilitation in the export destination countries, the export competitiveness of domestic Japanese companies can be improved through the improvement of regulations and systems in the export destination countries. The measures to achieve this objective include (1) stronger discipline on trade remedies for export destination countries (antidumping, countervailing duties, and safeguards), (2) harmonization and improved transparency of the standards/authentication system in export destination countries, (3) international standardization of Japanese technologies, and (4) increased protection of intellectual property rights in export destination countries.

The export destination countries of Japan may abuse trade remedies and unfairly restrict or preclude exports from Japan for the purpose of protecting their domestic industries. In particular, the U.S. has practically precluded exports of steel and other industrial products from Japan for the past 30 years by taking antidumping measures. Since such abuse of trade remedies is likely to violate the WTO disciplines such as the WTO Anti-dumping Agreement, it should be effective to make an appeal of the elimination of such measures through the dispute settlement procedure of the WTO. Japan has so far made 14 appeals through the dispute settlement procedure of the WTO, of which 6 appeals were related to U.S. antidumping laws and measures. Japan won most of these cases.[44]

In order to avoid a situation in which the standards/authentication system of export destination countries serve as trade barriers to exports from exporting countries, detailed disciplines for international harmonization and increased transparency of the standards/authentication system are prescribed in the TBT Agreement and the SPS Agreement of the WTO. The application of these rules is ensured through the WTO dispute settlement procedure as in the case of the Anti-dumping Agreement. It is also effective to provide for additional disciplines in an EPA to supplement the TBT and SPS Agreements and to introduce mutual recognition of the authentication system under a mutual recognition agreement.

In the same way, in order to increase the protection of intellectual property rights in export destination countries, it is effective to take advantage of the TRIPS Agreement and to prescribe in the intellectual property rights chapter of an EPA levels of protection of intellectual property rights that exceed those in the TRIPS Agreement (TRIPS-plus).

For international standardization of Japanese technologies, measures that are different from those discussed above should be taken. That is, as discussed in subsection (1)(b) above, it is effective to make a positive approach through to the relevant global forums (such as the International Organization for Standardization (ISO) and the Codex Committee on Food Hygiene) so that the standards made in Japan will be adopted as international standards. If technology developed and held by a domestic Japanese company is adopted as the international standard, that company can enjoy economy of scale as it can sell products using the common technology in both domestic and overseas markets. It can also expect to generate additional revenue through licensing of said technology to foreign companies.

(c) Improvement of regulatory and systemic environments in overseas markets that are competitively disadvantageous to domestic Japanese companies

Domestic Japanese companies may suffer from competitive disadvantages in competing with foreign companies in overseas markets or in the Japanese market due to differences in the regulatory and systemic environment. If the environmental standards or the labor standards in a foreign country are less strict than those in Japan or the enforcement of environmental or labor laws in a foreign country is insufficient, the companies of that country will have a competitive advantage over Japanese companies as the former can enjoy lower costs for the compliance with the environmental or labor standards than Japan companies. In order to correct this situation, it is

necessary to have such a country raise the levels of its environmental and labor standards or the enforcement thereof, thereby equalizing the costs for the compliance with environmental and labor standards in both countries. FTAs concluded by the U.S. generally include environmental and labor chapters to prescribe disciplines to ensure equalization of the costs for the compliance with environmental and labor standards between the parties to the agreement (e.g., duties of the parties to the agreement to fully enforce the environmental laws of the respective countries and to comply with the labor standards that are internationally accepted). The EPAs concluded by Japan do not include such provisions, but they should be considered for inclusion in future EPAs.

(d) Improvement of the domestic business environment

In some cases, the regulatory and systemic environments in Japan cause competitive disadvantages to domestic Japanese companies, and any such competitive disadvantages of domestic Japanese companies should be eliminated by improving them. More specifically, they should be improved through (1) increased protection of intellectual property rights in Japan, (2) more strict antimonopoly regulations on public enterprises, (3) acceptance of foreign workers, (4) amendment to employment and labor laws, and (5) reduction of corporate income tax rate to international levels.

Increased protection of intellectual property rights in Japan is important for the protection of profits of companies that have advanced technologies and the content industry. Japan launched the Strategic Council on Intellectual Properties chaired by the Prime Minister in April 2002 and announced the Intellectual Property Policy Outline in July of the same year.[45] The Outline includes the list of systematic measures to enhance the international competitiveness of domestic industries such as promotion of the creation of intellectual property by universities and other institutions, promotion of the creation of intellectual property by for-profit companies and other bodies, speeding up of the patent examination and approval procedure, creation of an intellectual property high court, and protection of intellectual property in new areas (post-genome research results, technologies related to regenerative medicine and gene therapy, and increased protection of copyright on the Internet), which have been implemented successively. The Outline is developed and implemented independently by Japan. However, much of the content of it is actually implemented as part of the efforts toward international harmonization of the protection of intellectual property through such means as referencing or imitation of best practice in overseas

markets and the TRIPS Agreement or TRIPS-plus provided for in the intellectual property chapter of EPAs.

Efforts toward more strict antimonopoly regulations on public enterprises include the correction of the preferential treatment of the Japan Post Bank and Japan Post Insurance Co., Ltd. after their privatization (such as the preferential treatment in terms of the upper limit on deposit protection and the exclusive ability to sell financial instruments through the network of post offices). This is a matter that has been strongly requested by foreign financial institutions, particularly U.S. financial institutions. However, correction of such preferential treatment will also lead to the improvement of the competitive conditions for domestic Japanese financial institutions.

Promotion of the acceptance of foreign workers is an effective measure also for securing labor resources, which is one of the policy objectives covered by this study report. The measures set forth in the basic employment policy announced by the Ministry of Health, Labour and Welfare in February 2008 include, from the perspective of improving international competitiveness, (1) promotion of the employment of foreign workers in specialized/technical areas, (2) helping foreign students studying in Japan to find a job in Japan, and (3) improvement of the work environment for foreign workers.[46] As a measure to promote the employment of foreign workers in specialized/technical areas, Japan permits foreign nurses and nursing care workers to work in Japan under the EPAs with Thailand, Indonesia, the Philippines, and Vietnam. However, the number of such workers remains small due to practical barriers such as the Japanese national examination. Therefore, it is necessary to implement additional measures to promote such acceptance. The immigration laws of Japan do not permit unskilled foreign workers to enter into or stay in Japan. However, it is reported that, in some cases, foreign trainees/interns staying in Japan under the foreigner training/technical internship program are employed as low-wage workers.[47] It is necessary to ensure that the program is administered properly through the oversight of the competent government agencies and the guidance and enlightenment activities of the Japan International Training Cooperation Organization (JITCO), which is the body that administers the training/internship program.[48]

Higher elderly employment and improvement of the employment of young people through amendment to employment/labor laws is a necessary measure for Japan, where the total population is declining, to secure the necessary labor force for domestic Japanese companies.

The corporate income tax rate is higher than major economies in the world, which makes the business cost for Japanese companies expensive. A reduction of the corporate income tax rate to the levels of major economies in the world is expected to eliminate some of the competitive disadvantages of domestic Japanese companies.[49]

Table 5-2 summarizes the measures to maintain and enhance the locational competitiveness of domestic Japanese companies and the means to implement them as discussed above in this section.

Table 5-2: Measures to maintain and enhance the locational competitiveness of domestic Japanese companies and the means to implement them

Objective	Measure	Domestic measure	Bilateral agreement	Multilateral agreement
Trade liberalization and facilitation	Reduction of customs duties (Japan)	○	EPA bound tariff schedules	WTO bound tariff schedules
	Reduction of customs duties (export destination countries)	×	EPA bound tariff schedules	WTO bound tariff schedules
	Trade facilitation (Japan)	○	EPA trade facilitation chapter	WTO, WCO Revised Kyoto Convention
	Trade facilitation (trade partners)	×	EPA trade facilitation chapter	WTO, WCO Revised Kyoto Convention
Regulatory/ systemic improvements	**Stronger discipline on trade remedies for export destination countries**	×	EPA trade remedies chapter	WTO dispute settlement
	Harmonization and improved transparency of the standard/authentication system in export destination countries	×	EPA, mutual recognition agreement	WTO (TBT/SPS)

	International standardization of Japanese technologies	*1	×	ISO, etc.
	Increased protection of intellectual property rights in export destination countries	×	EPA intellectual property chapter	WTO (TRIPS)
Regulatory/ systemic reforms	**More strict environmental standards and their enforcement in overseas markets**	×	EPA environment chapter	×
	More strict labor standards and their enforcement in overseas markets	×	EPA labor chapter	×
Improvement of the domestic business environment	*Increased protection of intellectual property rights in Japan*	*2	EPA intellectual property chapter	WTO (TRIPS)
	More strict antimonopoly regulations on public enterprises	*3	EPA competition chapter	×
	Acceptance of foreign workers	○	EPA service chapter	×
	Amendment to employment/labor laws	○	×	×
	Reduction of corporate income tax rate to international levels	○	×	×

*1 Strategic objectives on international standardization

*2 Outline of Intellectual Property Strategy

*3 Correction of the preferential treatment of the Japan Post Bank and Japan Post Insurance Co., Ltd.

(Source: Prepared by the author)

In Table 5-2 above, the items written in bold characters indicate those requiring regulatory/systemic reforms in the trade partners and the items written in italic characters indicate those requiring regulatory/systemic reforms in Japan. The item written in bold italic characters, i.e., international harmonization and increased transparency of the standards/authentication system of the export destination countries, requires regulatory/systemic reforms in both Japan and its export destination countries.

(3) Measures to promote investment in Japan by foreign companies

Facilitation of direct investment in Japan by foreign companies with excellent technical strength and know-how is an effective measure to maintain and expand the competitiveness of Japan, which will also contribute to higher employment. Since the launch of the Japan Investment Council chaired by the Prime Minister in July 1994, Japan has been developing and implementing a comprehensive national strategy for promoting investment in Japan by foreign companies. The "Program for Promoting Japan as an Asian Business Center and Direct Investment into Japan" compiled in December 2011 by the Conference on Promoting Japan as an Asian Industrial Center and Direct Investment into Japan, which was launched in November 2011 under the Noda administration, systematically indicates the priority measures to achieve this policy objective.[50] In this sub-section, measures to promote investment in Japan by foreign companies are classified into three groups: (1) securing investment access to the Japanese market by foreign companies, (2) improvement of the business environment in the Japanese market for foreign companies, and (3) resolution of taxation and pension issues associated with investment in Japan by foreign companies. The rest of this sub-section clarifies specific measures included in each group and means to implement them, as well as which among these measures can be implemented through regulatory/systemic reforms in Japan and in its trade partners.

(a) Securing investment access to the Japanese market by foreign companies

Measures to secure investment access to the Japanese market by foreign companies include (1) relaxation or elimination of investment restrictions in the Japanese market and (2) liberalization of the government procurement market.

Under the amendment to the Foreign Exchange and Foreign Trade Act (Act No. 228 of 1949) in 1980 and the subsequent amendment in 1998, relaxation or elimination of investment restrictions in

the Japanese market has been progressed considerably. The current Foreign Exchange and Foreign Trade Act provides that Japan shall determine whether to accept or reject direct investment in Japan that is likely to cause any of the following situations by the examination of applications submitted in advance: (a) national security is impaired, the maintenance of public order is disturbed, or the protection of public safety is hindered and (b) it results in significant adverse effects to the smooth management of the Japanese economy (Article 27)[51]. It is not necessary to submit an application in advance for other investments. With the exception of investments that are subject to certain restrictions or conditions under individual laws governing certain industries,[52] investment access to the Japanese market by foreign companies is guaranteed as a general rule.

The Japanese government procurement market is open widely to foreign companies. Under the tables attached to the WTO Government Procurement Agreement (revised in December 2011[53]), Japan opens up the procurement in an amount of 100,000 SDR (15 million yen) or more to the companies of the parties to the agreement with regard to the procurement of goods and services by all central government agencies. The procurement by many of prefectural governments, government-designated cities, and independent administrative institutions is also open to these companies subject to a certain minimum procurement amount. In addition, Japan opens up the government procurement market for companies of countries other than the parties to the WTO Government Procurement Agreement under individual EPAs concluded with these countries. Furthermore, in the areas of procurement of various goods, supercomputers, computer products, non-R&D satellites, electric telecommunication equipment, medical equipment, construction services, etc., Japan has implemented a voluntary measure to open up the procurement market more than the extent required by its obligations under the WTO Government Procurement Agreement, in consideration also of the Japan-U.S. negotiations. Japan has also established a government procurement complaint review committee to respond to complaints made by foreign companies regarding government procurement.[54]

(b) Improvement of the business environment in the Japanese market for foreign companies

Many of the measures to improve the business environment in the Japanese market for foreign companies are the same as the measures to maintain and enhance the locational competitiveness of domestic Japanese companies discussed in (2). This is because these measures aim at improving the business environment for companies located in Japan, regardless of whether they are Japanese

companies or foreign companies, to compete against foreign companies in the domestic and overseas markets. Therefore, many of the measures listed in Table 5-2 are also effective for the improvement of the business environment in the Japanese market for foreign companies. Additional measures include the use of special economic zones to provide exceptions to the provisions of otherwise applicable regulations or tax, budgetary, or financial support to foreign companies with excellent technical strength or know-how. The aforementioned "Program for Promoting Japan as an Asian Business Center and Direct Investment into Japan" announced in December 2011 includes the effective use of special economic zones as one of the measures to promote investment in Japan by foreign companies.[55]

(c) Resolution of taxation and pension issues associated with investment in Japan by foreign companies

As in the case of a Japanese company operating in a foreign country, expansion into the Japanese market by foreign companies entails such issues as (1) international double taxation on income from an operation in Japan or international tax evasion using tax havens or transfer prices in intra-group transactions and (2) situations where foreign employees who are assigned to a post in Japan for a long term may be forced to participate in pension plans in both Japan and the foreign country at the same time or may not be qualified to receive pension benefits when they retire due to the lack of the number of years of participation to either the Japanese pension plan or the pension plan of the foreign country or both. The measures to address these issues are the same as those listed in subsection (1)(c) above.

Table 5-3 summarizes the measures to facilitate investment in Japan by foreign companies and the means to implement them as discussed above in this section.

Table 5-3 Measures to facilitate investment in Japan by foreign companies and means to implement them

Objective	Measure	Domestic measure	Bilateral agreement	Multilateral agreement
Securing investment access	*Relaxation/elimination of investment restrictions*	○	BIT, EPA investment chapter	WTO (GATS)
	Liberalization of the government procurement market	○	EPA government procurement chapter	WTO (GPA)
Improvement of investment environment	*Attracting foreign companies using special economic zones*	○*1	×	×
	Prohibition of performance requirements	○	BIT, EPA investment chapter	WTO (TRIMs)
	Reduction of customs duties (Japan)	○	EPA bound tariff schedules	WTO bound tariff schedules
	Reduction of customs duties (trade partners)	×	EPA bound tariff schedules	WTO bound tariff schedules
	Trade facilitation (Japan)	○	EPA trade facilitation chapter	WTO, WCO Revised Kyoto Convention
	Trade facilitation (trade partners)	×	EPA trade facilitation chapter	WTO, WCO Revised Kyoto Convention
	Facilitation of the acquisition or renewal of a working visa by employees	○	EPA investment chapter, trade in services chapter	×
	Acceptance of foreign workers	○	EPA service chapter	×
	Amendment to employment/labor laws	○	×	×

	International harmonization and increased transparency of the standards/authentication system of Japan	○	EPA, mutual recognition agreement	WTO (TBT/SPS)
	Restriction on government intervention in technology transfer agreements	○	EPA intellectual property chapter	WTO (TRIPS)
	Increased protection of intellectual property rights (Japan)	○	EPA intellectual property chapter	WTO (TRIPS)
	More strict antimonopoly regulations on public enterprises	○	EPA competition chapter	ICN
	Appropriate settlement procedure for investment disputes	○	BIT, EPA investment chapter	×
	Reduction of corporate income tax rate to international levels	○	×	×
	Improvement of the business environment	○*2	EPA business environment improvement chapter	×
Taxation / pension	*Prevention of international double taxation on income from a foreign operation and measures against international tax evasion*	○	Tax treaty	×
	Resolution of the issues of double participation in pension plans and insufficient years of participation	○	Social security agreement	×

*1 The use of special economic zones included in the "Program for Promoting Japan as an Asian Business Center and Direct Investment into Japan" (comprehensive special zones for international strategy, comprehensive special zones for regional revitalization, and special zones for reconstruction).

*2 Invest Japan Business Support Center, JETRO.[56]

(Source: Prepared by the author)

In Table 5-3 above, the items written in italic characters indicate those requiring regulatory/systemic reforms in Japan and the items written in bold characters indicate those requiring regulatory/systemic reforms in the trade partners. The item written in bold italic characters, i.e., international harmonization and increased transparency of the standards/authentication system of Japan, requires regulatory/systemic reforms in both Japan and its trading partners.

(4) Regulatory/systemic reforms aimed at trade and investment liberalization and expansion: Summary

This section has classified the measures for trade liberalization and domestic investment expansion into three categories: (1) measures to support the expansion of Japanese companies into overseas markets, (2) measures to maintain and enhance the locational competitiveness of domestic Japanese companies and (3) measures to promote investment in Japan by foreign companies, and has discussed the content of the necessary regulatory/systemic reforms for each category. What has been clarified by this discussion is that the regulatory/systemic reforms to achieve these three groups of policy objectives have much in common and significant overlap ((1) ≈ (2) ≈ (3)).

However, this is, in a sense, natural. In the current times in which companies choose countries, the environment in which Japanese companies can comfortably operate their business (in Japan and overseas) coincides with the environment in which foreign companies can comfortably operate their business (in Japan). Therefore, this leads to the conclusion that it is desirable to improve the business environment both in and outside Japan equally through regulatory/systemic reforms. This is the reason why it is necessary to develop a multi-tiered strategy to simultaneously promote regulatory/systemic reforms in Japan and those in the investee countries and trade partners of Japan.

Lastly, regulatory/systemic reforms necessary for trade and investment liberalization and expansion by Japan are summarized below to recapitulate the analysis in this section.

Regulatory/systemic reforms are a broad concept and include regulatory/systemic reforms with different characteristics. They are classified into the following five groups based on their content and characteristics: (1) relaxation/elimination of regulations, (2) more strict regulations and their enforcement, (3) regulatory harmonization, (4) regulatory jurisdiction coordination, and (5)

increased transparency of regulations. Based on this classification, Table 5-4 summarizes regulatory/systemic reforms necessary for trade and investment liberalization and expansion by Japan.

Table 5-4 Regulatory/systemic reforms aimed at trade and investment liberalization and expansion

Type	Specific measure	Subject country		Policy objective
		Japan	Foreign	
Relaxation/ elimination of regulations	**Relaxation/elimination of investment restrictions (foreign countries)**	×	○	(1)(a)
	Relaxation/elimination of investment restrictions (Japan)	○	×	(3)(a)
	Liberalization of the government procurement market (foreign countries)	×	○	(1)(a)
	Liberalization of the government procurement market (Japan)	○	×	(3)(a)
	Attracting foreign companies using special economic zones (Japan)	○	×	(3)(a)
	Reduction of customs duties (foreign countries)	×	○	(1)(b), (2)(a),(3)(b)
	Reduction of customs duties (Japan)	○	×	(2)(a), (3)(b)
	Trade facilitation (foreign countries)	×	○	(1)(b), (2)(a),(3)(b)
	Trade facilitation (Japan)	○	×	(2)(a), (3)(b)
	Prohibition of performance requirements (foreign countries)	×	○	(1)(b)
	Prohibition of performance requirements (Japan)	○	×	(3)(b)
	Facilitation of the acquisition or renewal of a working visa by employees (foreign countries)	×	○	(1)(b)

	Facilitation of the acquisition or renewal of a working visa by employees (Japan)	○	×	(3)(b)
	Guarantee of free transfer of funds (foreign countries)	×	○	(1)(b)
	Restriction on government intervention in technology transfer agreements (foreign countries)	×	○	(1)(b)
	Restriction on government intervention in technology transfer agreements (Japan)	○	×	(3)(b)
	Acceptance of foreign workers (Japan)	○	×	(2)(d), (3)(b)
	Amendment to employment/labor laws (Japan)	○	×	(2)(d), (3)(b)
More strict regulations and their enforcement	**Increased protection of intellectual property rights (foreign countries)**	×	○	(1)(b), (2)(b)
	Increased protection of intellectual property rights (Japan)	○	×	(2)(d), (3)(b)
	More strict environmental standards and their enforcement (foreign countries)	×	○	(2)(c)
	More strict labor standards and their enforcement (foreign countries)	×	○	(2)(c)
	Application of the competition law to public enterprises (foreign countries)	×	○	(1)(b)
	Application of the competition law to public enterprises (Japan)	○	×	(2)(d), (3)(b)
	Stronger discipline on trade remedies (foreign countries)	×	○	(2)(a)
Regulatory harmonization	**Trade facilitation (foreign countries)**	×	○	(1)(b), (2)(a),(3)(b)
	Trade facilitation (Japan)	○	×	(2)(a), (3)(b)
	Standards/authentication system (foreign countries)	×	○	(1)(b), (2)(b)

	Standards/authentication system (Japan)	○	×	(1)(b), (2)(b),(3)(b)
	International standardization of Japanese technologies	○	○	(2)(b)
	Increased protection of intellectual property rights (foreign countries)	×	○	(1)(b), (2)(b)
	Increased protection of intellectual property rights (Japan)	○	×	(2)(d), (3)(b)
	Labor standards (foreign countries)	×	○	(2)(c)
	Application of the competition law to public enterprises (foreign countries)	×	○	(1)(b)
	Application of the competition law to public enterprises (Japan)	○	×	(2)(d), (3)(b)
	Reduction of corporate income tax rate to international levels (Japan)	○	×	(2)(d), (3)(b)
Regulatory jurisdiction coordination	**Prevention of international double taxation and international tax evasion (foreign countries)**	×	○	(1)(c), (3)(c)
	Prevention of international double taxation and international tax evasion (Japan)	○	×	(1)(c), (3)(c)
	Resolution of pension issues (foreign countries)	×	○	(1)(c), (3)(c)
	Resolution of pension issues (Japan)	○	×	(1)(c), (3)(c)
Increased transparency of regulations	**Improvement of the business environment (foreign countries)**	×	○	(1)(b)
	Improvement of the business environment (Japan)	○	×	(3)(b)
	Appropriate settlement procedure for investment disputes (foreign countries)	×	○	(1)(b)
	Appropriate settlement procedure for investment disputes (Japan)	○	×	(3)(b)

The items written in italic characters indicate those requiring regulatory/systemic reforms in Japan and the items written in bold characters indicate those requiring regulatory/systemic reforms in foreign countries. The item written in bold italic characters requires regulatory/systemic reforms in both Japan and foreign countries.
(Source: Prepared by the author)

3. TPP and regulatory/systemic reforms

(1) Strategic significance of regulatory/systemic reforms through EPAs

EPAs, aiming at not only trade liberalization, but also investment liberalization and investment protection, include disciplines on a wide range of regulatory/systemic reforms. They are important as a means for Japan to promote regulatory/systemic reforms in both Japan and its trade/investment partners simultaneously for the purpose of trade and investment liberalization and expansion. The WTO is an important multilateral forum, but its effectiveness as a forum for regulatory/systemic reforms seems to be waning as can be seen from the failure of the Doha talks. For some time going forward, an effective strategy will be to expand the network of regulatory/systemic reforms through bilateral or regional EPAs. However, there are limits in regulatory/systemic reforms through EPAs. For one thing, it takes significant time and effort as regulatory/systemic reforms are progressed through a series of individual agreements. In addition, there is a risk that disciplines created in one agreement may be inconsistent with those in another agreement, which may contradict the purpose of regulatory/systemic reforms and regulatory and systemic harmonization in particular (spaghetti bowl or noodle bowl). Furthermore, EPAs are useless for regulatory/systemic reforms in the areas not covered by them in the first place.

This section discusses regulatory/systemic reforms through the Trans-Pacific Strategic Economic Partnership Agreement (TPP), which at present has the biggest strategic importance for Japan as a means to promote regulatory/systemic reforms, and their limitations. The strategic importance of the TPP as a means to promote regulatory/systemic reforms lies above all in the fact that the TPP is a FTA that is oriented toward highly effective regulatory/systemic reforms covering a broad range of regulations and systems. The TPP covers most of the regulatory/systemic reforms aimed at trade and investment liberalization and expansion that are discussed in section 2. above. Moreover, the TPP is an open FTA aimed at covering the entire Asia-Pacific region in the future. We can also

expect that, through the expansion of the network of FTAs to be concluded by the parties to the TPP with the countries in regions outside the Asia-Pacific region, the content of the regulatory/systemic reforms included in the TPP will potentially be accepted widely as the de facto global standards (the possibility of the TPP replacing the WTO).

In the sense mentioned above, for the maintenance and enhancement of Japanese economic power and competitiveness, it is extremely important for Japan to participate in TPP negotiations, thereby participating in the development of disciplines for effective regulatory/systemic reforms covering a broad range of regulations and systems and ensuring that they include content that is advantageous to Japan. With regard to Japan's participation in TPP negotiations, there is a strong disagreement within Japan particularly among agricultural organizations and medical associations and controversy over trade liberalization of agricultural products and opening up of the service market. However, the significance of regulatory/systemic reforms that will likely be realized through the TPP is seldom discussed. The rest of this section discusses the merits and limitations of the TPP, highlighting its impact on regulatory/systemic reforms aimed at trade and investment liberalization and expansion. However, as separate articles[57] discuss in detail the topics covered by the ongoing TPP negotiations and their impact on regulatory/systemic reforms, the discussion here is intended to briefly describe the impact of the TPP on regulatory/systemic reforms in Japan and other parties to the partnership and the limitations of the TPP.

(2) Impact of the TPP on regulatory/systemic reforms

There are 24 working groups in TPP agreement negotiations. They include working groups not focusing on a specific area such as chief negotiator's meeting and multiple working groups that can be grouped into one area such as access to product markets and services. As rearranged based on the negotiation area, there are the following 18 TPP negotiation areas:[58] (1) Access to product markets (agricultural, textile/apparel, industrial), (2) rules of origin, (3) trade facilitation, (4) SPS, (5) TBT, (6) trade remedies, (7) government procurement, (8) intellectual property rights, (9) competition policy, (10) services (cross-border trade in services, temporary movement of business personnel, financial services, electric telecommunication services), (11) e-commerce, (12) investment, (13) environment, (14) labor, (15) systemic matters, (16) dispute settlement, (17) cooperation, and (18) matters related to multiple areas (regulatory coherence, facilitation of the use of the TPP by SMEs, improved competitiveness, agreement updates, development, etc.).

As compared with Tables 5-1 through 5-4 in section 2, it is clear that the TPP negotiation areas listed above cover most of the regulatory/systemic reforms aimed at trade and investment liberalization and expansion. However, these matters disciplined by the TPP include many items that are the same obligations as those already imposed on the parties to the partnership by the WTO or existing FTAs and BITs and/or items that have only an insignificant impact on regulations and systems. Therefore, they are classified into the following four groups: (a) items that are not covered by existing obligations of the parties to the TPP under the WTO or existing FTAs/EPAs and BITs and have a significant impact on the regulations and systems of the parties to the TPP, (b) items that are not covered by existing obligations of the parties to the TPP under the WTO or existing FTAs/EPAs and BITs, but have only an insignificant impact on the regulations and systems of the parties to the TPP, (c) items that are already covered by existing obligations of the parties to the TPP under the WTO or existing FTAs/EPAs and BITs, but have a significant impact on the regulations and systems of the parties to the TPP, and (d) items that are already covered by existing obligations of the parties to the TPP under the WTO or existing FTAs/EPAs and BITs and have only an insignificant impact on the regulations and systems of the parties to the TPP; and their impacts on the regulations and systems of Japan and other countries participating in the negotiations are discussed below.

(a) Items that are not covered by existing obligations of the parties to the TPP under the WTO or existing FTAs/EPAs and BITs and have a significant impact on the regulations and systems of the parties to the TPP

Among the items in this group, (2) rules of origin, (11) e-commerce, (15) systemic matters, and (18) matters related to multiple areas have the most significant impact on the regulations and systems of Japan. The rules of origin are the rules to determine the origin of the products of the parties to the TPP to which TPP preferential tariffs apply and extensive rules are developed in accordance with the product tariff classification. In particular, the yarn-forward rule[59] meets with a strong objection from the textile/apparel industries in the parties to the TPP that are using yarn originating in countries outside the region as this rule is chiefly meant to protect the textile/apparel industries in the U.S. As for e-commerce, in addition to the ongoing deliberations at multilateral forums such as the WTO, OECD, United Nations Commission on International Trade Law (UNCITRAL), and APEC toward the establishment of international disciplines, FTAs concluded by the U.S. and Australia have started to include provisions to guarantee the liberalization of

e-commerce. However, the formation of international rules has not progressed much.[60] The provisions adopted by the U.S. and Australia in their past FTAs (duty-free treatment of e-commerce, most-favored-nation treatment and national treatment of digital products, validity of digital authentication and digital certification, on-line consumer protection, etc.) may also be included in the TPP. As for systemic matters, a mechanism is expected to be created in which representatives of government agencies concerned of the parties to the TPP meet regularly every year to ascertain the implementation status of the agreement and discuss any necessary revision of the agreement (free trade committee). The TPP is sometimes called a living agreement in the sense that it is revised flexibly for further evolution on an ongoing basis in response to the changes in the environment.[61] With regard to matters related to multiple areas, in particular regulatory coherence, the U.S. aims at applying to all parties to the TPP the procedure that has been adopted by the U.S. since 1993 in which all proposed and existing regulations developed and enforced by the federal government are subject to the examination by the Office of Information and Regulatory Affairs (OIRA) of the Office of Management and Budget (OMB) for their coherence and appropriateness.[62] If this proposal is adopted, the impact on the Japanese regulations and systems will be massive.

The impact of the items within this group on the regulations and systems of other parties to the TPP are considered to be largely parallel with that on the Japanese regulations and systems. In particular, regulatory coherence, which is among the matters related to multiple areas, will have a massive impact on the regulations and systems of the parties to the TPP with the exception of certain countries such as Australia[63] that have already adopted a system similar to the U.S.

(b) Items that are not covered by existing obligations of the parties to the TPP under the WTO or existing FTAs/EPAs and BITs, but have only an insignificant impact on the regulations and systems of the parties to the TPP

Among the items in this group, (9) competition policy, (13) environment, and (14) labor have only an insignificant impact on the regulations and systems of Japan. International harmonization in the area of (9) above has not progressed much. Accordingly, the chief aim of the competition chapter of the TPP is to prescribe cooperation among the regulatory authorities of the parties to the TPP concerning the regulations on anticompetitive business conduct outside the region that has potential impact on the competitive order in the parties to the TPP and their enforcement

(jurisdiction coordination and enforcement cooperation), on the premise that each party to the TPP enforces its own competition law and competition policy in good faith. However, as discussed in (2)(d) and (3)(b) of section 2, if a provision is introduced to require the parties to the TPP to restrict anticompetitive business conduct of public enterprises in their jurisdiction, Japan may be required to correct the preferential treatment of Japan Post Bank and Japan Post Insurance Co., Ltd. after their privatization. The aim of (13) and (14) above is to require the compliance and enforcement of the environmental and labor laws in the developing countries participating in the TPP. As such, their effect on Japanese environmental and labor laws will be insignificant, as they are highly advanced relative to the international standards.

On the other hand, (9), (13), and (14) above will have a significant impact on the developing countries participating in the TPP. In particular, there are many preferential treatments of state-run enterprises in a wide variety of areas in Vietnam whose economy is in transition to market economy, and Vietnam will be required to correct them.

(c) Items that are already covered by existing obligations of the parties to the TPP under the WTO or existing FTAs/EPAs and BITs, but have a significant impact on the regulations and systems of the parties to the TPP

Among the items in this group, the regulations and systems of Japan will be significantly affected by reduction/elimination of customs duties on agricultural, forestry and marine products among the items classified as (1), items of (8) intellectual property rights for which Japan is required to implement more extensive/effective protection (TRIPS-plus or EPA-plus) than the WTO TRIPS Agreement or the intellectual property rights chapter of existing EPAs, and the items of (10) services for which Japan is required to promise liberalization that is more extensive than that promised in the GATS schedules of specific commitments or schedules of specific commitments of existing EPAs (GATS-plus or EPA-plus). In particular, the TPP, in principle, aims at the reduction/elimination of customs duties on all products. Therefore, Japan is likely to be required to implement the reduction/elimination of customs duties on rice and other agricultural products, which Japan has excluded from the reduction of customs duties under EPAs in the past. In service areas, Japan may be required to open up the market to foreign capital in such areas as medical services and financial services. However, improved access to these markets is not an obligation that is uniformly imposed on all parties to the TPP, but an obligation owed by individual

parties to the TPP through negotiations among them. For example, whether or not exemptions among rice and other agricultural products are permitted and how long the grace period will be before the elimination of custom duties depends on such negotiations. As for TRIPS-plus and EPA-plus provisions concerning intellectual property rights, it appears that extension of the protection period for intellectual property rights (from the current 50 years to 70 years after the death of the author) and more effective enforcement of the regulations on the infringement of copyrights and trademark rights, among others, are being discussed in TPP negotiations and if they are realized, Japan will need to amend the applicable laws.

The situation of other parties to the TPP is basically the same as that of Japan. In particular, tariff rates on agricultural, forestry and marine products in developing countries participating in the TPP are generally high and opening up of service markets has not progressed much in these countries. In addition, there are only a few cases in which these countries accepted TRIPS-plus or FTA-plus provisions concerning the protection of intellectual property rights. Therefore, the impact of these items on the regulations and systems of these developing countries participating in the TPP will be more significant than for Japan.

(d) Items that are already covered by existing obligations of the parties to the TPP under the WTO or existing FTAs/EPAs and BITs and have only an insignificant impact on the regulations and systems of the parties to the TPP

Among the items in this group, reduction/elimination of customs duties on textile/apparel products and industrials among the items classified as (1), (3) trade facilitation, (4) SPS, (5) TBT, (6) trade remedies, (7) government procurement, items of (10) services for which Japan has already committed to liberalization in the GATS schedules of specific commitments or schedules of specific commitments of existing EPAs , and (12) investment have only an insignificant impact on the regulations and systems of Japan. Japan has already reduced significantly the tariff rates on most products other than agricultural products. Therefore, there are only a few such products for which Japan will be required to further reduce or eliminate customs duties under the TPP. This is also true for opening up of the government procurement market and trade in services. As for trade facilitation, Japan already has a trade facilitation obligation under EPAs, which is more extensive than that under the WCO Revised Kyoto Convention. Therefore, it is unlikely that the TPP will impose an even more extensive obligation on Japan. As for SPS and TBT, the TPP is expected to

merely reaffirm the obligations under the WTO SPS and TBT Agreements and will unlikely impose additional obligations. This is also true for trade remedies. As for investment, it is not probable that Japan will be required to implement investment protection or liberalization measures that are more extensive than those prescribed in BITs or the investment chapter of EPAs that were concluded by Japan in the past. There is controversy in Japan over the proposed introduction of an investor state dispute settlement method based on arbitration, but this method was already adopted by Japan in BITs and the investment chapter of EPAs that were concluded by Japan in the past.

On the other hand, developing countries participating in the TPP may be required to implement further reduction/elimination of customs duties on textile/apparel and industrial products. Similarly, since many of the countries participating in TPP negotiations are not parties to the WTO Agreement on Government Procurement (GPA), they will likely be required to open up the government procurement market through TPP government procurement agreement negotiations. This is also true for service areas. As for trade facilitation, many developing countries participating in the TPP will have a new trade facilitation obligation. On the other hand, the TPP is unlikely to introduce an obligation concerning SPS, TBT and trade remedies that is more extensive than the relevant agreements of the WTO. Therefore, the impact on other parties to the TPP is expected to be small. In addition, all parties to the TPP including those that are developing countries already have investment protection and liberalization obligations under BITs or FTAs. As such, they will unlikely to be subject to an additional obligation in this area by participating in the TPP.

The following table summarizes the above discussion on the impact of the TPP on the regulations and systems of Japan and other parties to the partnership.

Table 5-5 Impact of the TPP on the regulations and systems of Japan and other parties to the partnership

	TPP item	Significant impact		Insignificant impact	
		Japan	Other parties	Japan	Other parties
No WTO, BIT, and FTA provisions	Rules of origin	○	○		
	E-commerce	○	○		
	Systemic matters	○	○		
	Matters related to multiple areas	○	○		
	Competition policy	□*1	○		
	Environment		○	○	
	Labor		○	○	
Already provided for by WTO,BIT, and FTA	Access to product markets (agricultural, forestry and marine products)	○	○		
	Services	□*2	○		
	Intellectual property rights (TRIPS-plus, EPA-plus)		○	○	
	Access to product markets (textile, apparel, and industrials)		○	○	
	Trade facilitation		○	○	
	SPS			○	○
	TBT			○	○
	Trade remedies			○	○
	Government procurement		○	○	
	Investment			○	○

*1 Application of the competition law to public enterprises (Japan Post Bank and Japan Post Insurance Co., Ltd.).

*2 Opening up of the medical and financial services markets (subject to the results of the service market access negotiations).

(Source: Prepared by the author)

The conclusion drawn from Table 5-5 is that the impact of TPP participation on regulations and systems is generally small for Japan, but generally significant for other parties to the partnership. The items for which Japan already has certain obligations under the WTO or existing BITs and EPAs are unlikely to have a significant impact on the Japanese regulations and systems. With regard to the new items for which Japan has no relevant obligation under the WTO or existing BITs and EPAs, many of the items having a significant impact on the Japanese regulations and systems will affect Japan in the direction of further reduction of government intervention in the market and market revitalization (e-commerce, systemic matters, matters related to multiple areas, and competition policy). Among these items, there are those that may potentially cause a major reform in the Japanese regulations and systems such as regulatory coherence. However, the author expects that regulatory coherence requirements will have a positive effect on the maintenance and enhancement of Japanese competitiveness. Since it is difficult for Japan to consider introducing such a measure independently, the author would like to positively support the introduction of a major reform in the Japanese regulations and systems by taking advantage of participation in the TPP.

On the other hand, Japan should pay attention to the fact that the impact of TPP participation on regulations and systems is generally significant for other parties to the partnership, particularly the developing countries participating in the TPP. Japan's participation in the TPP should be seen as an important step to improve regulations and systems in the developing countries participating in the TPP and develop them into broad-based and highly effective international regulatory and systemic harmonization and international standardization, rather than regulatory/systemic reforms in Japan.

(3) Limitations of the TPP as a means of regulatory/systemic reforms

As discussed above, the author considers the TPP as an important and effective means to realize regulatory/systemic reforms not only in Japan, but also in all parties to the partnership. However, it should be noted that there are several limitations in the TPP as a means to realize regulatory/systemic reforms. First, the TPP is powerless for regulatory/systemic reforms in the areas not covered by the partnership. For example, the TPP does not cover social security systems including public medical insurance plans.[64] In addition, matters related to the immigration control policy of the parties to the TPP other than those related to the issuance and examination of business visas are not subject to TPP negotiations. Therefore, Japan must independently promote

regulatory/systemic reforms to secure sufficient employment in Japan (acceptance of foreign workers and amendment to employment/labor laws). In relation to the international harmonization of standards/authentication systems for industrial products and food, Japan also needs to develop and implement a strategy to gain acceptance of Japanese technologies as international standards through forums other than the TPP.

Second, in some areas, regulatory/systemic reforms through the TPP may contradict the movement toward international regulatory and systemic harmonization and international standardization. In particular, different rules of origin have been established under individual EPAs including the TPP. Under this situation, a company that intends to build a global supply chain using EPAs may not be able to do so due to high administrative costs (spaghetti bowl or noodle bowl).[65]

Third, the provisions of the TPP concerning regulatory/systemic reforms apply only to the trade and investment among the parties to the TPP. Whether they will contribute to international regulatory and systemic harmonization and international standardization will depend on how much the number of countries participating in the TPP will increase in the future and whether the provisions included in the TPP will be referenced by other FTAs and accepted as global standards.

(4) Future of the TPP

Unlike most of the past FTAs, the TPP is an open FTA. The Trans-Pacific Strategic Economic Partnership Agreement among New Zealand, Singapore, Brunei, and Chile (called P4), which is the predecessor agreement of the TPP, declared that it was open to the participation of all APEC member countries as well as other countries.[66] The current TPP negotiations are based on this provision for open participation and, as currently planned, the same provision will be included in the TPP. Therefore, the number of the countries participating in the TPP may expand to include other APEC member countries and countries in other regions. Moreover, it is conceivable that countries participating in the TPP will reference the content of the TPP as a model in concluding FTAs in the future to reflect the TPP content in the FTAs, thereby disseminating the TPP content as the de facto standards. It is an important strategy for Japan to make a decision to participate in TPP negotiations at an early stage, to reflect Japan's interest in the negotiations to realize broad-based and highly effective regulatory/systemic reforms, and to reflect, in turn, the content of TPP in the EPA negotiations with the EU and the Japan-China-South Korea EPA negotiations scheduled to start before the end of 2012. Having done this, Japan should ultimately aim at promoting the

acceptance of the content of the TPP as the de facto global standards through the expansion of the number of countries participating in the TPP and the number of FTAs referencing the content of the TPP. Given that current state of the WTO has made it difficult to reach a compromise in negotiations due to the large number of member countries, the strategy outlined above is a practical and effective measure to realize regulatory/systemic reforms on a multinational and global basis for the medium- to long-term.

Conclusion

This chapter argued that domestic regulatory/systemic reforms are indispensable in order to maintain and enhance Japan's economic power and competitiveness and that for the steady promotion of regulatory/systemic reforms, Japan's independent efforts to improve its regulatory/systemic framework alone are insufficient and a multi-tiered strategy for regulatory/systemic reforms is required encompassing, among others, bilateral talks on regulatory/systemic reforms with major powers, regulatory/systemic reforms through bilateral and regional free trade agreements such as EPAs and the TPP, and the achievement of international regulatory/systemic harmonization and the acquisition of international standards through multilateral forums, particularly the WTO, in individual regulatory areas. More specifically, this chapter examined regulatory/systemic reforms that are necessary for trade and investment liberalization and expansion, which is one of the policy objectives for the maintenance and enhancement of Japanese competitiveness addressed by this study report, in detail and proposed a multi-tiered strategy to promote them. It also discussed regulatory/systemic reforms through the TPP, which at present has the biggest strategic importance for Japan as a means to promote regulatory/systemic reforms, and their limitations.

Based on the examination above, the rest of this section summarizes future challenges necessary to be addressed for Japan to develop and implement a multi-tiered strategy for regulatory/systemic reforms and present them as policy recommendations.

First, The TPP should constitute the core of a multi-tiered strategy for regulatory/systemic reform. With the WTO currently dysfunctional as a forum for regulatory/systemic reform, bilateral and regional EPAs are the most important means for promoting regulatory/systemic reform aimed at bringing about international harmonization and standardization. The TPP is essentially a broad-area FTA covering the entire Asia-Pacific region that is open to all countries within the

region as well as countries outside the region and, given its provisions aimed at highly effective international harmonization and standardization across a broad spectrum of regulatory/systemic areas, the TPP is considerably more important than other EPAs as a means of promoting regulatory/systemic reform. Given the potential for the regulatory/systemic reforms incorporated in the TPP to develop into global standards in future, it is important that Japan actively engage in negotiations so that regulatory/systemic reforms that will help reinvigorate Japan will be included.

Second, Japan must at the same time exercise leadership in endeavoring to achieve international regulatory/systemic harmonization and standardization via the WTO and other multilateral forums. In today's world of progressing globalization, many regulatory/systemic reforms are realized through the international harmonization and standardization of regulations. Modifying the Western-dominated approach to the international harmonization and standardization of regulations is a matter of life-or-death importance for realizing regulatory/systemic reform. To that end, the ability ("soft power") to actively disseminate proposals for regulatory/systemic reform that can be acknowledged and accepted as global standards is needed. Japan made a fresh start after its defeat in World War II, achieved rapid economic growth within a short timeframe and became an economic superpower, and its regulatory/systemic experiences in the course of this transformation can provide attractive models for many developing countries. This will require, however, that Japan's regulatory/systemic experiences as well as those of East Asian countries, which learned many lessons from Japan's experiences to achieve their own economic growth, be carefully considered, theorized and then presented as feasible regulatory/systemic models for other countries as well. Japan's social scientists will likely have a large role to play in this regard.

Third, alongside regulatory/systemic reforms through the TPP and other EPAs and international regulatory/systemic harmonization through multilateral forums such as the WTO, Japan must pursue regulatory/systemic reform on its own as well in parallel cooperation with the US, Europe, China and other key players in developing and implementing a strategy for multi-tiered regulatory/systemic reform. The areas covered by the various elements of this multi-tiered regulatory/systemic reform strategy will not completely overlap. Combining and synthesizing these will enable Japan to make the regulatory/systemic reforms needed to maintain and strengthen its competitiveness.

－Notes－

[1] The term "international standards" is sometimes used to mean industrial standards that are globally accepted. See, for example, International Organization for Standardization (ISO), About ISO. <http://www.iso.org/iso/about.htm>. However, in this chapter, the term is used more broadly to indicate a concept that represents the content of regulatory/systemic frameworks that harmonize or converge in international regulatory/systemic harmonization.

[2] Nakagawa, Junji [2008]: *International Harmonization of Economic Regulation*, Yuhikaku Publishing, pp. 374-375.

[3] *Basic Policy on Comprehensive Economic Partnerships*, Cabinet decision on November 9, 2010: <http://www.npu.go.jp/pdf/20101109/20101109.pdf> (accessed on February 6, 2012).

[4] *Strategy for Rebirth of Japan—Overcoming Crises and Embarking on New Frontiers*, Cabinet decision on December 24, 2011, p. 8: <http://www.npu.go.jp/policy/pdf/20111226/20111224.pdf> (accessed on February 6, 2012).

[5] *Ibid*, p. 12.

[6] The website of the Government Revitalization Unit's subcommittee on regulatory/systemic reforms: <http://www/cao.go.jp/sasshin/kisei-seido/index.html> (accessed on February 6, 2012).

[7] For literature that overviews the history of regulatory/systemic reforms in Japan, see, for example, OECD ed. [1999]: *Regulatory Reform in Japan* (Paris: OECD) and Eto, Masaru [2003]: *Regulatory Reform and Japanese Economy*, Nihon Keizai Hyouronsha, Chapter 2.

[8] For the privatization efforts made by *Daini Rincho*, see Iio, Jun [1993]: *The Political Process of Privatization: Results and Limitations of Rincho-style Reform*, University of Tokyo Press.

[9] Deregulation Committee (since 1998), Regulatory Reform Committee (since 1999), Council for Regulatory Reform (since 2001), Council for the Promotion of Regulatory Reform (since 2004), and Regulatory Reform Council (since 2007).

[10] Deregulation Promotion Program (Cabinet decision on July 31, 1995), Three-Year Program for the Promotion of Deregulation (Cabinet decision on March 31, 1998), Three-Year Program for Promoting Regulatory Reform (Cabinet decision on March 30, 2001), Three-Year Plan for the Promotion of Regulatory Reform and the Opening Up of Government-Driven Markets for Entry into the Private Sector (Cabinet decision on March 19, 2004), and Three-Year Plan for the Promotion of Regulatory Reform (Cabinet decision on June 22, 2007). The subcommittee on regulatory/systemic reforms within the Government Revitalization Unit submitted its first report outlining the implementation policies for regulatory reform relating to specified areas and individual matters on June 15, 2010, based on which "Implementation Policies for Regulatory/Systemic Reforms" was adopted pursuant to the Cabinet decision on June 22, 2010. However these implementation policies were revised and enhanced to reflect the effect of the Great East Japan Earthquake in March 2011 and were adopted as "Additional Policies for Regulatory/Systemic Reforms" pursuant to the Cabinet decision on July 22, 2011. The website of the Government Revitalization Unit's subcommittee on regulatory/systemic reforms (op. cit. in note 6).

[11] The Ministry of Defense and the National Public Safety Commission are the only government agencies for which none of the reform items listed in the "Implementation Policies for Regulatory/Systemic Reforms" falls within their jurisdiction.

[12] The comment of Hiroshi Kato, chairman of the Ad Hoc Council for the Promotion of Administrative Reform, which recommended the privatization of Nippon Telegraph and Telephone Public Corporation, as quoted by Vogel [1996] clearly indicates this: "Our biggest concern was whether it will become a global trend, and if it will, we thought that Japan should not be left behind." (Vogel, Steven K. [1996]: *The Transformation of the Japanese Economy–The Political Battle over Deregulation*, Ithaca: Cornell University Press, 1996, p. 23.)

[13] Nakagawa, Junji [2006]: "Foreign Economic Policy: From the SII Talks to the East Asian Community" in Institute of Social Science, University of Tokyo (ed.) *Beyond the 'Lost Decade' Volume 2: The Koizumi Reforms*, University of Tokyo Press, pp. 313-340, pp. 317-319.

[14] Ministry of Foreign Affairs, Japan-EU Regulatory Reform Dialogue.

<http://www.mofa.go.jp/mofaj/area/eu/index_c.html> (accessed on February 7, 2012).

[15] Vogel [1996] (*op. cit*. in note 12), pp. 22-26.

[16] For example, see Yashiro, Naohiro [2003]: *Law and Economics on Regulatory Reform* Yuhikaku Publishing, pp. 16-17.

[17] For excellent theoretical observations on intensifying regulatory competition as a result of the advancement of globalization, see Murphy, Dale D. [2004]; *The Structure of Regulatory Competition: Corporations and Public Policies in a Global Economy*, Oxford: Oxford University Press; and Dresner, Daniel W. [2007]: *All Politics is Global: Explaining International Regulatory Regimes*, Princeton and Oxford: Princeton University Press.

[18] OECD [1997]: *The OECD Report on Regulatory Reform*, Volume 1: Sectoral Studies, Volume 2: Thematic Studies, Paris: OECD.

[19] For example, for a research report on regulatory reform in Japan and its follow-up research report, see OECD (ed.) [1999] (op. cit. in note 7) and OECD [2004]: *The OECD Reviews of Regulatory Reform–Regulatory Reform in Japan* (1999), Paris: OECD.

[20] For the international harmonization of regulations through the WTO, see Nakagawa [2008] (op. cit. in note 2), Chapters 2 through 5.

[21] In the eight rounds of multilateral trade negotiations that were held during the GATT era, the decisions were normally made through informal meetings among a few major trading countries (which were called "green room" meetings after the color of the room used for these meetings), which were in

turn adopted by consensus in the general meeting. See Hoekman, Bernard M. & Kostecki, Michel M. [2009]: *The Political Economy of the World Trading System: The WTO and Beyond*, 3rd Ed., Oxford: Oxford University Press, pp. 67-68.

[22] The First WTO Ministerial Conference held (in Singapore) in 1996 adopted a ministerial declaration to start discussion for adding such topics as investment, competition policy, transparency of government procurement, and trade facilitation to the agenda of the first Doha Development Round (Doha talks) to be held under the WTO framework. However, this declaration met with strong objection from developing countries and it was finally decided at the General Council meeting held in August 2004 that these topics, except for trade facilitation, would be excluded from the agenda of Doha talks.

[23] WTO, Regional Trade Agreements. <http://www.wto.org/english/tratop_e/region_e/region_e.htm> (accessed on February 7, 2012).

[24] Ministry of Foreign Affairs, Free Trade Agreement (FTA) and Economic Partnership Agreement (EPA). <http://www.mofa.go.jp/mofaj/gaiko/fta/> (accessed on February 8, 2012).

[25] For example, in order to achieve the policy objectives (1) securing labor resources and youth employment and (4) human resources development for Japan's international competitiveness, regulatory/systemic reforms such as the amendment/enhancement of employment laws, social security system, and immigration control laws are indispensable in addition to the amendment/enhancement of the recruiting and human resource management systems of the employer (company) and education programs and human resource development approaches of universities and other higher education institutions. The regulatory/systemic reforms necessary to achieve the policy objective (2) liberalizing trade and expanding domestic investment are covered in the text in detail.

[26] As of December 31, 2010, the total number of BITs that have been concluded in the world is 2,807. UNCTAD [2011], *World Investment Report,* Geneva: UNCTAD, p. 100.

[27] Investor-state arbitration is a procedure in which a dispute between the investee country and a foreign investor is settled through arbitration rather than through the domestic court proceedings of the investee

country. If a dispute is contested in the domestic court proceedings of the investee country, it may take a long time to complete the court proceedings or fairness in the proceedings may not be ensured depending on the jurisdiction. In the case of settlement through arbitration, the arbitrator and the governing law are chosen based on the agreement between the parties to the dispute. It takes less time to reach a settlement through arbitration than through domestic court proceedings as an arbitration award, as a general rule, is considered final. For this reason, the investment chapter of BITs and EPAs often adopts arbitration as the standard dispute settlement procedure.

[28] Regional Economic and Industrial Policy Group, Ministry of Economy, Trade and Industry (ed.) [2011]: *2011 Report on Compliance by Major Trading Partners with Trade Agreements - WTO, FTA/EPA, and BITs* -, Nikkei Printing Inc. pp. 588-592.

[29] Ministry of Foreign Affairs, Investment

<http://www.mofa.go.jp/mofaj/gaiko/investment/index.html> (accessed on February 8, 2012).

[30] Regional Economic and Industrial Policy Group, Ministry of Economy, Trade and Industry (ed.) [2011] (op. cit. in note 28), p. 593, Chart 5-4.

[31] WTO, Government Procurement. <http://www.wto.org/english/tratop_e/grop_e/gproc_e.htm> (accessed on February 8, 2012). The WTO Agreement on Government Procurement was revised in December 2011 to expand the obligations of the parties to the agreement to open up the government procurement market (lowering of the procurement amount used as the standard for determining the markets subject to the opening up obligation) and to further increase the market transparency. WTO [2011]: "Historic deal reached on government procurement," WTO News, December 15, 2011. <http://www.wto.org/english/news_e/news11_e/gro_15dec11_e.htm> (accessed on February 8, 2012).

[32] Regional Economic and Industrial Policy Group, Ministry of Economy, Trade and Industry (ed.) [2011] (op. cit. in note 28), pp. 657-659.

[33] New Growth Strategy, Cabinet decision on June 18, 2010, pp. 41-42.

<http://www.npu.go.jp/policy/policy04/pdf/04/06/2-1--917_shinseityousenryaku_honbun.pdf> (accessed on February 8, 2012).

[34] Performance requirements is a general term for various requirements imposed by a investee country on the activities of foreign investors. For example, they include local content requirements, which require the ratio of the parts manufactured in the investee country to the total parts used by foreign investors to manufacture industrial products in the investee country to exceed a certain threshold; foreign equity requirements, which limit the foreign equity ratio within a certain limit; and imposition of export quota on the products manufactured by foreign investors.

[35] Regional Economic and Industrial Policy Group, Ministry of Economy, Trade and Industry (ed.) [2011] (op. cit. in note 28), pp. 727-738.

[36] The representative Japanese government department that is in charge of the improvement of legal systems in foreign countries is the International Cooperation Department, Research and Training Institute of the Ministry of Justice. Ministry of Justice, Technical Assistance in the Legal Field. <http://www.moj.go.jp/houseouken/houso_lta_lta.html> (accessed on February 8, 2012).

[37] Ministry of Economy, Trade and Industry, Mutual Recognition Index.

<http://www.meti.go.jp/policy/economy/hyojun/kijyun/mrarenew/MRindex.htm> (accessed on February 9, 2012).

[38] World Customs Organization, The Revised Kyoto Convention.

<http://www.wcoomd.org/home_pfoverviewboxes_tools_and_instruments_pfrevisedkyotoconv.htm> (accessed on February 8, 2012).

[39] International Competition Network, ICN Factsheet and Key Messages, April 2009. <http://www.internationalcompetitionnetwork.org/uploads/library/doc608.pdf> (accessed on February 9, 2012).

[40] Ministry of Economy, Trade and Industry, International Standardization Strategy Objectives, November 29, 2006.

<http://www.meti.go.jp/policy/standards_conformity/files/sennryakumokuhyo.pdf> (accessed on February 9, 2012).

[41] Ministry of Finance, The Tax Treaty Network of Japan.

<http://www.mof.go.jp/tax_policy/summary/international/182.htm> (accessed on February 8, 2012).

[42] Ministry of Health, Labour and Welfare, For Those Who Are Working Abroad (Social Security Agreements) <http://www.mhlw.go.jp/topics/bukyoku/nenkin/nenkin/shakaihoshou.html> (accessed on February 8, 2012).

[43] As of February 2012, the number of WTO member countries is 153. At the Eighth WTO Ministerial Conference held in December 2011, the applications for membership submitted by Russia, Samoa, Vanuatu, and Montenegro were approved. They will formally become WTO member countries 30 days after the membership is ratified in their domestic procedures and the ratification is notified to the WTO.

[44] The titles and the case numbers of the appeals made by Japan through the WTO dispute settlement procedure against U.S. antidumping laws/measures are as follows: United States — Anti-Dumping Act of 1916 (DS162), United States — Anti-Dumping Measures on Certain Hot-Rolled Steel Products from Japan (DS184), United States — Continued Dumping and Subsidy Offset Act of 2000 (Byrd Amendment) (DS217), United States — Sunset Review of Anti-Dumping Duties on Corrosion-Resistant Carbon Steel Flat Products from Japan (DS244), United States — Measures Relating to Zeroing and Sunset Reviews (DS322), and United States — Measures Relating to Zeroing and Sunset Reviews (Request for the Establishment of a Panel) (DS322).

[45] Strategic Council on Intellectual Properties, "Intellectual Property Policy Outline," July 3, 2002. <http://www.kantei.go.jp/jp/singi/titeki/kettei/020703taikou.html> (accessed on February 10, 2012).

[46] Ministry of Health, Labour and Welfare [2008] "Basic Employment Policy — Toward Realization of a Society in which Everybody can Show His/Her Ability, Work with a Sense of Safety and Security, and Lead a Stable Life," Ministry of Health, Labour and Welfare Notification No. 40, February 29, 2008, 3(2)[3].

[47] For example, see Legal Research Office, Research Bureau of the House of Representatives [2008]: "Current Situation and Issues of the Foreigner Training/Skills Practice Program" (This is a report in an electronic media, posted in the website of the House of Representatives.), January 2008, pp. 266-267. <http://www.shugiin.go.jp/itdb_rchome.hsf/html/rchome/Shiryo/houmu_200801.pdf> (accessed on February 10, 2012).

[48] Japan International Training Cooperation Organization (JITCO), Stop Inappropriate Cases (Guide for Appropriate Program Administration). <http://www.jitco.or.jp/stop/index.html> (accessed on February 10, 2012).

[49] Nippon Keidanren proposed in a recommendation published in April 2010 (The Keidanren's Proposal: "Growth Strategy 2010") to reduce the effective corporate income tax rate in Japan to international levels (around 30%) by pointing out that countries all over the world are racing against each other to reduce the corporate income tax rate. See Nippon Keidanren [2010]: "The Keidanren's Proposal: "Growth Strategy 2010"" (This is a document in an electronic media, posted in the website of Nippon Keidanren), April 13, 2010, pp. 124-125.

<http:///www.keidanren.or.jp/japanese/policy/2010/028/honbun.pdf#page=101> (accessed on February 10, 2012).

[50] Conference on Promoting Japan as an Asian Industrial Center and Direct Investment into Japan, "Program for Promoting Japan as an Asian Business Center and Direct Investment into Japan" <http://www.invest-japan.go.jp/jp/fdip/files/asia-ij/siryou2-1.pdf> (accessed on February 11, 2012).

[51] The J-Power case is an example of cases in which investment in Japan by a foreign company was rejected by the examination of applications submitted in advance pursuant to Article 27 of the Foreign

Exchange and Foreign Trade Act. In January 2008, a British investment fund submitted an application for the additional acquisition of shares in Electric Power Development Co., Ltd. (J-Power) up to 20%. The Minister of Finance and the Minister of Economy, Trade and Industry, who has jurisdiction over the business, advised the fund to cancel the additional acquisition as they determined that "the investment is likely to disturb the maintenance of public order." The investment fund refused to accept the advice and, as a result, the Government ordered the fund to cancel the investment. Kojo, Makoto [2008]: "Acquisition of Shares in J-Power by TCI Fund: Foreign Exchange and Foreign Trade Act and Restrictions on Foreign Capital," Hougaku-kyoushitsu, Vol. 337, pp. 8-12.

[52] Examples of such restrictions or conditions under individual laws governing certain industries include the Radio Act applicable to the telecommunications sector (foreign juridical persons shall not be granted a radio station license (Article 5, Paragraph (1))), the Broadcast Act (when a listed general broadcaster, etc. has received a request to enter the name and address in its register of shareholders from foreign nationals, etc. who have acquired its shares, the general broadcaster may refuse to do so if the ratio of voting rights of foreign nationals, etc. reaches or exceed one-fifth upon acceptance of the request (Article 52-8, Paragraph (1)) and such shareholders are not permitted to exercise their voting rights (Paragraph (3) of the same article)), the Act on Nippon Telegraph and Telephone Corporation, etc. (the ratio of voting rights of foreign nationals, etc. in NTT shall not exceed one-third (Article 6)), the Ship Act applicable to the coastal shipping sector (foreign companies shall be excluded from the coastal shipping industry (Article 3)), and the Mining Act (mining rights shall be held only by the people of Japan or juridical persons of Japan unless otherwise provided for in the treaty concerned (Article 17)).

[53] The revision takes effect 30 days after the approval of two-third of the parties to the agreement is obtained.

[54] Cabinet Office, CHANS: Office for Government Procurement Challenge System.

<http://www5.cao.go.jp/access/japan/chans_main_j.html> (accessed on February 11, 2012).

[55] Nippon Keidanren [2010] (op. cit. in note 49), p. 5.

[56] Invest Japan Business Support Center (IBSC), JETRO. <http://www.jetro.go.jp/invest/ibsc> (accessed on February 11, 2012).

[57] Nakagawa, Junji [2011]: "How Will the TPP Change Japan? (1)," *Boueki to Kanzei*, July 2011 and the subsequent series of articles that are currently being published every month on the same topic. The series is scheduled to include 12 articles.

[58] Rearranged by the author based on Cabinet Secretariat, et. al. [2011]: "Current Status of the TPP Negotiations by Negotiation Area," October 2011

(<http://www.npu.go.jp/policy/policy08/pdf/20111014/20111021_1.pdf> accessed on February 11, 2012).

[59] The yarn-forward rule is a rule that applies a preferential tariff only to textile/apparel products using yarn originating in parties to the agreement by deeming only such textile/apparel products as products originating in parties to the agreement. The textile/apparel industries in the U.S. are strongly requesting the adoption of this rule by the TPP. See "Apparel, Textile Organizations Urge Yarn-forward Rule in TPP," *Textile News*, September 13, 2011.

<http://www.textileworld.com/Articles/2011/September/Apparel_Textile_Organizations_Urge_Yarn_Forward_Rule_In_Tpp.html> (accessed on February 12, 2012).

[60] Regional Economic and Industrial Policy Group, Ministry of Economy, Trade and Industry (ed.) [2011] (op. cit. in note 28), pp. 681-704.

[61] For example, see Center for Strategic & International Studies (CSIS), "The Significance of the Trans-Pacific Partnership Negotiations," January 24, 2012.

<http://www.csis.org/publication/significance-trans-pacific-partnership-negotiations> (accessed on February 12, 2012).

[62] The U.S. submitted a proposal concerning regulatory coherence to the 6th round of TPP negotiations held in March-April 2011. This proposal was not publicly disclosed as the countries participating in TPP negotiations had agreed not to disclose any proposals and other documents submitted to the negotiations. However, in October 2011, the U.S. proposal concerning regulatory coherence was leaked to multiple media outlets and the content of the proposal became known as a result. See "Leaked TPP Proposals Show U.S. Positions on IPR, Regulatory Coherence, Medicinal Access," *Inside U.S. Trade*, Issue of October 24, 2011.

[63] OECD [2010]: *OECD Reviews of Regulatory Reform–Australia: Towards a Seamless National Economy*, Paris: OECD, 2010.

[64] "Mixed Treatment Not Subject to TPP Negotiations, Say Informal Communications from the U.S. Government to Japan," *47News*, Kyodo News, January 23, 2012.

<http://www.47news.jp/CN/201201/CN2012012201001643.html> (accessed on February 12, 2012).

[65] It is possible that if common rules of origin are adopted under the TPP, the inconvenience of having different rules of origin under individual FTAs will be avoided as the TPP is an FTA in which many countries participate and the common rules of origin are applied to the trade among the parties to the TPP. However, tariff schedules of FTAs concluded between the parties to the TPP in the past and the applicable rules of origin may survive. Therefore, whether to apply the TPP rules of origin or the rules of origin under past FTAs may become an issue in trade among the parties to the TPP even after the conclusion of the TPP Agreement, which may result the spaghetti bowl (or noodle bowl) effect pointed out in the text.

[66] P4, Article 20.6, paragraph (1). For the text of P4, see New Zealand Ministry of Foreign Affairs & Trade, Trans-Pacific Strategic Economic Partnership Agreement, Understanding the P4–The Original P4 Agreement, Text of the Agreement.

<http://mfat.govt.nz/Trade-and-Economic-Relations/2-Trade-Relationships-and-Agreements/Trans-Pacific/4-P4¬Text-of-Agreement.php> (accessed on February 20, 2012).

Chapter 6
Developing R&D Capabilities Suited to International Standard Acquisition

NAGAOKA Sadao

1. Introduction

The reason why international standards have recently drawn so much attention is that the success of the leading IT companies in the world such as Microsoft, Google, Apple, Intel, and Facebook has been driven by their success in providing products and services that are regarded as the world standards. In contrast, Japanese companies have not recently succeeded in the development of products that are to become international standards as can be seen by the struggling semiconductor industry and the difficulties experienced by Sony and Nintendo. Under this situation, Japanese companies are longing for the acquisition of international standards. However, as can be clearly seen in the examples of successful U.S. companies, the most fundamental point in the acquisition of international standards is whether or not a company is conducting research and development (R&D) that is outstanding enough to acquire them. In other words, it is important to have the ability to develop excellent technologies that can contribute to the expansion of markets in the countries all over the world.

In an industry in which standards matter, network externality is at work. In other words, the expansion of the installed base (customers using a particular product) of a company will enhance its competitiveness and result in further expansion of the customer base. In this case, there could be multiple equilibriums in the market and thus it is important to secure first-mover advantage. For example, in the case where there are multiple candidate technologies (assuming that technology A is superior to technology B), even if the inferior technology B is adopted as a standard, it is very difficult to change the standard to technology A once the standard is widely accepted in the market. Therefore, important factors for the actual acceptance of standards include whether a company can start the efforts for such acceptance at an early stage, how many users it can acquire, whether it can acquire complementary technologies, and whether backward compatibility is secured. Therefore, the existence of excellent R&D results aimed at the global market is not a sufficient condition. However, the fundamental issue that determines whether a Japanese company can acquire international standards is whether the Japanese industry conducts R&D with international

competitiveness and, as a result, has developed a good proposal as a potential international standard. For example, Sony and Nintendo have extensive experience in competing in industries where network externality is important and have experienced successes in these industries.

This chapter evaluates the competitiveness of R&D in the Japanese industry and examines what R&D is necessary for the acquisition of international standards.

2. Competitiveness of Japan's R&D

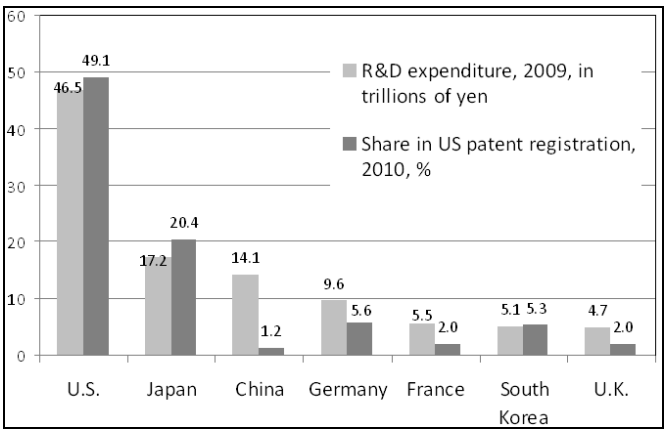
First, the general characteristics of Japan's R&D will be clarified and relevant issues will be summarized. Chart 1 shows the scale of R&D in Japan. The scale of R&D expenditure is expressed on a purchasing power parity basis and the countries are ranked in descending order in accordance with the amount of the expenditure. This chart also indicates the percentage shares of these countries in patent registrations in the U.S. Japan stands in second place next to the U.S. in terms of the scale of R&D, but it should be noted that the scale of China's R&D is almost as large as Japan. The scale of R&D expenditure in China is far larger than Germany or France. The number of academic articles published in international academic magazines is highly correlated with the amount of such expenditure. In fact, the number of academic articles written by Chinese authors and published in international academic magazines and the number of quotations from these articles are nearly equal to those of Japanese authors.

However, there is a considerable difference in terms of technological strength, which is clearly demonstrated by the patent data. The percentage share of China in patent registrations in the U.S. is only 1.2%, which is significantly lower than the share of South Korea (5.3%), although it is much closer to the 2% level of France and the U.K. Much of the R&D expenditure of China depends on government expenditure and Chinese companies are not, under the current situation, conducting R&D of their own and acquiring patents around the world.

The R&D capability of companies can be directly evaluated by using Table 1. This table indicates the distribution by country of top 1,000 companies in the world in terms of the amount of R&D expenditure. Among the top 1,000 companies, 339 companies are U.S. companies and 199 companies are Japanese companies. The top 1,000 companies also include 75 German companies, 50 French companies, 50 U.K. companies, and 35 Taiwanese companies, but only 16 Chinese

companies. Therefore, there remains a considerable difference between China and advanced countries in terms of the growth of R&D-oriented companies.

Chart 1 Top 7 countries in the world in terms of R&D expenditure (on a PPP basis, 2009) and percentage share of these countries in patent registrations in the U.S. (2010)



Source: Science and Technology Indicators, Ministry of Education, Culture, Sports, Science and Technology, 2011 (R&D expenditure) and U.S. Patent and Trademark Office (patent data)

Table 1 Distribution by country of the top 1,000 companies in the world in terms of R&D expenditure (2009, top 20 countries)

			Percentage share of each country (total of companies of each country / total of all 1,000 companies)			Companies of each country
Ranking	Country	Number of companies	Net Sales, %	R&D Investment, %	MV, %	R&D/Sales
1	U.S.	339	25%	34%	37%	5%
2	Japan	199	20%	22%	11%	4.0%
3	Germany	75	10%	11%	5.3%	3.8%
4	France	50	7.8%	6.1%	5.6%	2.8%
5	U.K.	50	9.2%	4.4%	11%	1.7%
6	Taiwan	35	1.8%	1.3%	1.5%	2.7%
7	Switzerland	30	2.3%	4.5%	4.1%	7.1%
8	South Korea	23	3.5%	2.6%	2.2%	2.7%
9	Sweden	18	1.3%	1.5%	1.4%	4.1%
10	Netherlands	17	1.7%	2.3%	1.0%	4.8%
11	China	16	4.0%	1.3%	3.8%	1.2%
12	Italy	15	2.8%	1.5%	1.8%	1.9%
13	Denmark	14	0.4%	0.8%	0.6%	6.5%
14	India	12	0.5%	0.3%	1.1%	2.4%
15	Spain	12	1.7%	0.7%	1.8%	1.4%
16	Belgium	10	0.6%	0.5%	0.9%	2.9%
17	Canada	10	0.6%	0.6%	0.5%	3.5%
18	Australia	8	0.5%	0.5%	1.5%	3.8%
19	Finland	8	0.6%	1.4%	0.4%	8.1%
20	Ireland	7	0.4%	0.3%	0.5%	3.0%

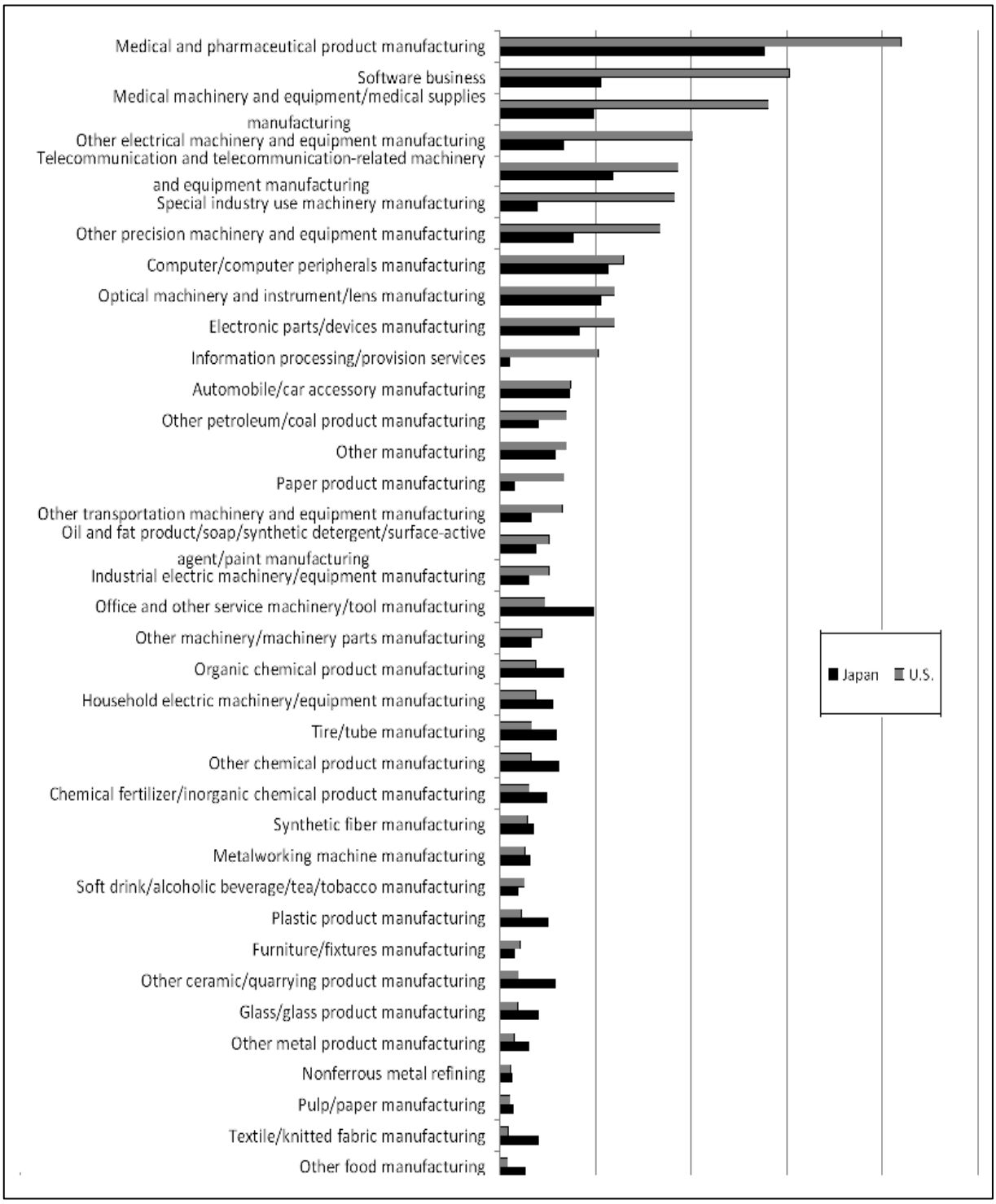
Source: "The 2010 Industrial R&D Investment Scoreboard," European Commission. The percentage share of each country is a ratio of R&D expenditure of companies of each country to R&D expenditure of all 1,000 companies.

U.S. and Japanese companies are investing most in R&D, and by comparing them, one can see that the R&D intensity (i.e., ratio of R&D investment to sales) of U.S companies is much higher than that of Japanese companies (5% vs. 4%). Percentage shares of Japanese companies and U.S. companies in sales are 20% and 25%, respectively, while percentage shares of Japanese companies and U.S. companies in R&D investment are 22% and 34%, respectively. The difference is larger in terms of the latter than the former. The difference is even larger in terms of the share in market valuation as the share of Japanese companies in market valuation is 11% and that of U.S. companies is 37%. These differences indicate that the quality of R&D conducted by and the profitability of U.S. companies are higher than Japanese companies. The reason for this is explained below in detail.

Both Japanese and U.S. companies bear most of the R&D investment by themselves. Therefore, if a company' R&D intensity is high, this means its profitability (average profit generated by 1 yen of sales) is high enough to recover the R&D investment that is relatively high as compared with its sales and that its growth potential is also high. These profitability and growth potential of a company are determined by how innovative the products developed by the company are and the ability of these products to differentiate themselves from competing products. Therefore, if a company can maintain R&D intensity at high levels for a long-term period, it means the company has the ability to conduct excellent R&D. This understanding is also supported by the difference in market valuation between the U.S. and Japanese companies pointed out above. The difference between the U.S. and Chinese companies is much larger in this regard as the ratio of R&D investment to sales of Chinese companies is 1.2%, which is approximately one-fourth of U.S companies.

Chart 2 compares R&D intensity of Japanese and U.S. companies by sector using the consolidated data of listed companies of both countries. In the sectors in which R&D expenditure of both Japanese and U.S. companies is high such as medical/pharmaceutical products and software, R&D intensity of U.S. companies is more than twice that of Japanese companies. One of the characteristics of Japan's R&D is that R&D intensity of Japanese companies is higher than that of U.S. companies in the sectors in which overall R&D intensity is not so high. This clearly indicates there is a significant difference in the ability to innovate between Japanese and U.S. companies in advanced sectors.

Chart 2 A U.S.-Japan comparison of R&D intensity of listed companies (by sector, 2006)



Source: Kim, Young Gak and Nagaoka, Sadao [2012]: "Construction of Multidimensional Database of U.S. and Japanese Companies on a Consolidated Basis and Basic Observations," Working Paper 2012-No. 2, Institute of Innovation Research, Hitotsubashi University.

Table 2 below shows the percentage shares by technological area of Japan and the U.S. triadic patents (meaning patents applied with Japanese and European patent offices and registered in the U.S.) in approximately 30 technological areas as well as the degree of importance of science in each technological area. Their priority years range from 2000 to 2005.[1] For the purpose of this analysis, a patent applied for by Japan (the U.S.) is defined as a patent for which at least one of the inventors is a resident of Japan (the U.S.) and at least one of the applicants is a Japanese (U.S.) national. Importance of science is assessed at three levels (H, M, and L) based on the importance of the science and technology literature to the conception of inventions in each area. For example, organic compounds, medical and pharmaceutical products, medical devices, and biotechnology are areas in which the importance of science is high. The percentage share of the U.S. in patents in these areas is higher than that of Japan.

Overall, there is at present a considerable difference between the R&D capability of U.S. companies and that of Japanese companies.

Table 2 The importance of science and the structure of patent applications from Japan and the U.S.
(distribution by technological area of triadic patents, priority years from 2000 to 2005)

		Japan	U.S.	Japan	U.S.	Importance of science and technology literature in invention conception (ratio of "very important," U.S.÷Japan average %)	Importance of science ranking by the left column
Chemical	Chemical (agriculture, food, textile areas)	0.3%	0.5%			23	H
	Coating	1.3%	1.6%			25	H
	Gas	0.3%	0.6%			14	L
	Organic compounds	2.2%	3.6%			31	H
	Resins	3.7%	4.6%			22	H
	Other chemical	7.7%	10.1%	15.4%	21.1%	19	M
Computer and telecommunication	Telecommunication	8.2%	8.1%			19	M
	Computer hardware	1.2%	1.5%			15	M
	Software	5.7%	6.3%			15	M
	Computer peripherals	3.9%	2.3%			16	M
	Information storage	3.3%	1.8%	22.4%	19.9%	17	M
Medical and pharmaceutical products and medical devices	Medical and pharmaceutical products	1.8%	10.0%			51	H
	Surgical anc medical devices	1.7%	5.7%			20	H
	Biotechnology	1.0%	3.7%			51	H
	Other pharmaceutical and medical	0.3%	1.5%	4.8%	20.9%	16	M
Electrical/electronic	Electrical equipment	4.3%	2.0%			17	M
	Lighting	2.9%	1.5%			24	H
	Measurement/testing	2.7%	2.8%			23	H
	Radiation/X-ray	1.5%	1.7%			15	M
	Electric power system	7.0%	3.5%			16	M
	Semiconductor devices	3.6%	3.8%			22	H
	Other electrical equipment	2.6%	1.3%	24.6%	16.7%	11	L
Machinery	Processing/manipulation of substances	3.1%	2.8%			5	L
	Metalworking	2.9%	1.6%			12	L
	Motors/engnes/parts	5.5%	2.4%			12	L
	Optics	4.0%	2.0%			16	M
	Transportation	2.7%	1.1%			11	L
	Other machinery	3.2%	2.3%	21.3%	12.2%	3	L
Other	Agriculture/food	0.5%	0.7%			15	M
	Toys	0.5%	0.2%			1	L
	Apparel/textile	0.8%	0.5%				
	Excavation/mining	0.2%	0.2%			32	H
	Furniture/fixtures	0.6%	0.6%			0	L
	Heating	0.5%	0.4%			14	L
	Pipes/joints	0.6%	0.4%			9	L
	Containers	0.5%	0.8%			9	L
	Other	7.3%	5.2%	11.5%	9.2%	14	L
		48,934	43,487			17	

Source: Nagaoka, Sadao [2011] "Innovation Process in Japan: Findings from the RIETI Inventors Survey" in Fujita, Masahisa and Nagaoka, Sadao (ed.) *Productivity and Innovation Systems*, Nippon Hyoron Sha, 2011.

2. The capacity of Japan's R&D to absorb science

What is the cause of the difference between Japan and the U.S. in R&D performance? This section compares Japanese and U.S. companies and analyzes how much they are using scientific findings in conducting R&D. There is a considerable difference between Japan and the U.S. in the educational levels of inventors. Table 3 compares Japan and the U.S. from this perspective based on the Japan-US Inventor Survey conducted by the Research Institute of Economy, Trade and Industry. As can be seen from this table, while 45% of U.S. inventors have a doctorate, only 12-13% of Japanese inventors do. In addition, a half of the Japanese inventors with a doctorate are so-called "thesis doctors," meaning those who obtained a doctorate by completing and submitting the doctoral thesis while working for a company. The probability of inventing something using science and technology literature varies significantly with the educational levels of inventors. Therefore, the difference in the educational levels mentioned above appears to be one of the important factors behind the disparity in the capacity to absorb science between Japanese and U.S. companies. Another important U.S.-Japan difference is that in the U.S. 12% of inventors belong to companies with 100 or fewer employees, but in Japan only 4.7% do.

The disparity in the ratio of inventors with a doctorate is expected to affect the R&D portfolios of both countries. The purpose of R&D may be classified into (1) enhancement of existing business line, (2) creating a new business line, and (3) enhancement of the ability to make a new technological proposal which may not be related to the existing business (enhancement of the technology base). Based on this classification, Chart 3 indicates that there is a significant difference between Japan and the U.S. in that the ratio of R&D conducted for purpose of the enhancement of existing business line is very high in the case of Japanese companies, while U.S. companies are more often conducting R&D for the purpose of the enhancement of the technology base. In looking at the frequency of cases where the inventor is a person with a doctorate and the importance of science and technology literature by purpose of R&D, Chart 4 indicates that in the explorative R&D areas aimed at the enhancement of the technology base, the ratio of inventors with a

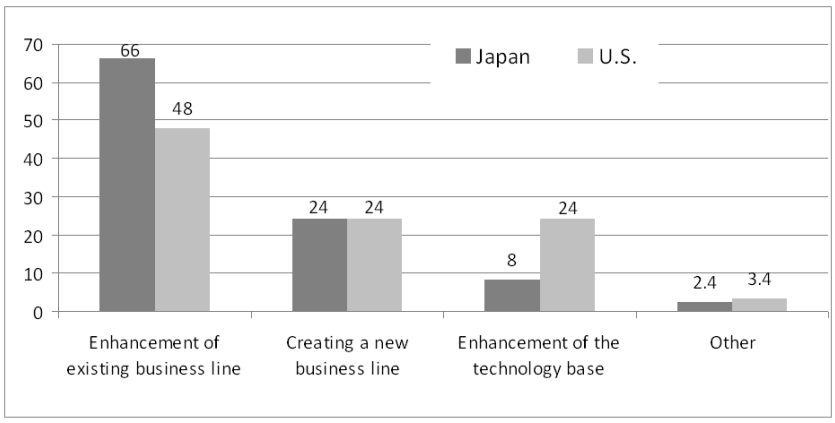
doctorate is higher in both Japan and U.S. and the importance of science and technology literature is also higher as compared with R&D aimed at the enhancement of existing business line.

Table 3 Profiles of Japanese and U.S. inventors (adjusted for the difference in the number of triadic patents and in technological areas)

		Japan	U.S.
Sample size		3658	1919
Academic Background	University graduate (%)	87.6	93.6
	Doctorate (%)	12.9	45.2
Female (%)		1.7	5.2
Age (mean; SD)		39.5 (9.1)	47.2 (9.9)
Organizational Affiliation	Large firm (500+ employees)(%)	83.6	77.1
	Medium firm (250-500)(%)	5	4.2
	Small firm (100-250)(%)	3.1	3.3
	Very small firm (-100)(%)	4.7	12.1
	University (%)	2.5	2.3
	Other	1	1.0

Source: Nagaoka, Sadao [2011] "Innovation Process in Japan and the U.S.: Major findings from the RIETI inventor surveys" in Fujita, Masahisa and Nagaoka, Sadao (ed.) *Productivity and Innovation Systems*, Nippon Hyoron Sha, 2011.

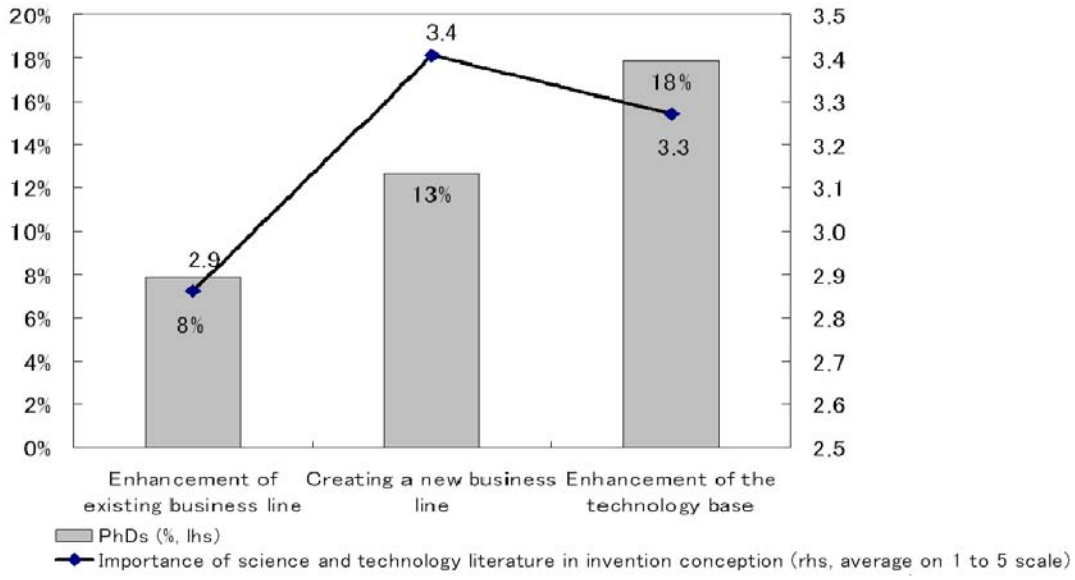
Chart 3 R&D portfolios of Japanese and U.S. companies



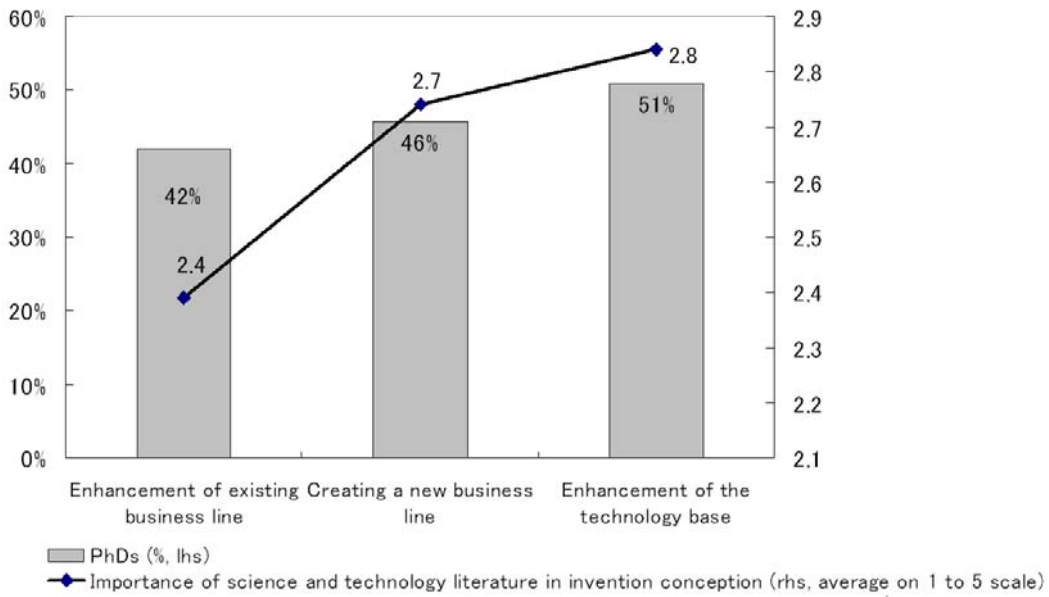
Source: Nagaoka, Sadao [2011] "Innovation Process in Japan and the U.S.: Major findings from the RIETI inventor surveys" in Fujita, Masahisa and Nagaoka, Sadao (ed.) *Productivity and Innovation Systems*, Nippon Hyoron Sha, 2011.

Chart 4 Talent and knowledge source used in R&D (by purpose of R&D)

(1) Japan



(2) U.S.



Source: Nagaoka, Sadao [2011] "Innovation Process in Japan and the U.S.: Major findings from the RIETI inventor surveys" in Fujita, Masahisa and Nagaoka, Sadao (ed.) *Productivity and Innovation Systems*, Nippon Hyoron Sha, 2011.

Japanese inventors very often regard existing patent literature as an important source of invention conception, while many U.S. inventors regard science and technology literature as a more important source. Science and technology literature is more closely related to the ability to make a new technological proposal. Research based on patent literature means that somebody else has already carried out the related technological development and innovative or progressive aspects of such research should naturally be limited. As for what is considered important as earlier literature for R&D by educational level, in both Japan and the U.S., inventors with higher education tend to use science and technology literature as earlier literature more often and the difference in educational levels is considered to be one of the factors underlying such difference.

3. International expansion of R&D

Corporate earnings from R&D investment depend on the size of the market in which the results of R&D investment can be used effectively. Therefore, companies in pursuit of R&D and business strategy incorporating the plans to supply products/services in both domestic and overseas markets can establish a competitive position on a global basis. New ideas in R&D are often conceived in scientific research and whether they can be developed further and the speed of development depends on the size of the market in which these new ideas can be used effectively. Japanese companies have experience in and are skillful at finding new uses of technology or developing technology in the Japanese market, but the importance of conducting these activities on a global scale is increasing. In addition, the utilization of international research resources for R&D is also important. While R&D requires a wide range of skills, companies can acquire various combinations of talents and skills by utilizing international research resources. This is very important in the areas of advanced technology. In particular, participation of technical experts in the respective countries is very important in the process of finding new uses of technology in overseas markets and engaging in R&D. The rest of this section compares and analyzes the international expansion of R&D in Japan, the U.S. and Germany from the perspective of international co-inventions and international business expansion.

3.1 International co-inventions

Chart 5 depicts the structure of inventions in five major countries with regard to triadic patents from 2000 to 2005 in order to grasp the proportion of international co-inventions by country. In this chart, inventions are classified into (1) single inventor inventions, (2) domestic co-inventions, and

(3) international co-inventions. The information about the inventor and the applicant is obtained from the patent with the earliest application date among the families of triadic patents. The proportion of single inventor inventions by an inventor in each country is approximately one-fourth for all countries and approximately three-fourths of the inventions are multiple inventor inventions. The proportion of domestic co-inventions is higher than other arrangements in all countries. The proportion is the highest in Japan (71%) and the lowest in the U.K. (45%). The rest of the co-inventions are international co-inventions. The proportion of international co-inventions is 27% in the U.K. and 10-20% in the U.S., Germany and France, but a mere 2% in Japan. There is clearly a bias among Japanese companies toward assigning only Japanese inventors to R&D efforts.

The proportion of international co-inventions in the four countries under study other than Japan increased two to threefold from the 1980s to the 1990s and by 40% from the 1990s to the 2000s, but that proportion in Japan has hardly increased (see Nagaoka and Tsukada [2011]).[2] One of the reasons for the significant disparity in the ratio of international co-inventions in the U.S. and Japan is that there are many immigrants in the U.S. In fact, only 70% of U.S. inventors were born in the U.S. There are many U.S. inventors who have immigrated to Silicon Valley and other centers from abroad, and they naturally have a strong international network.

Chart 5 Ratio of international co-inventions (2000 - 2005)

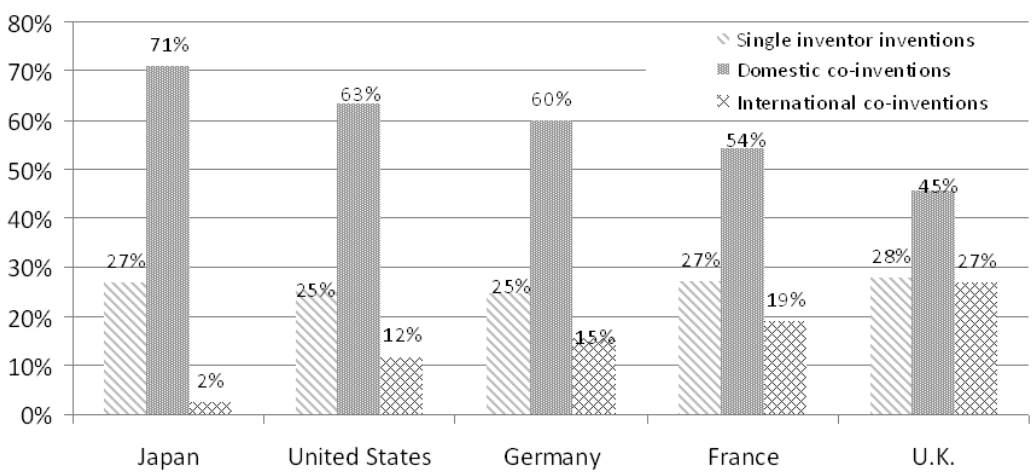
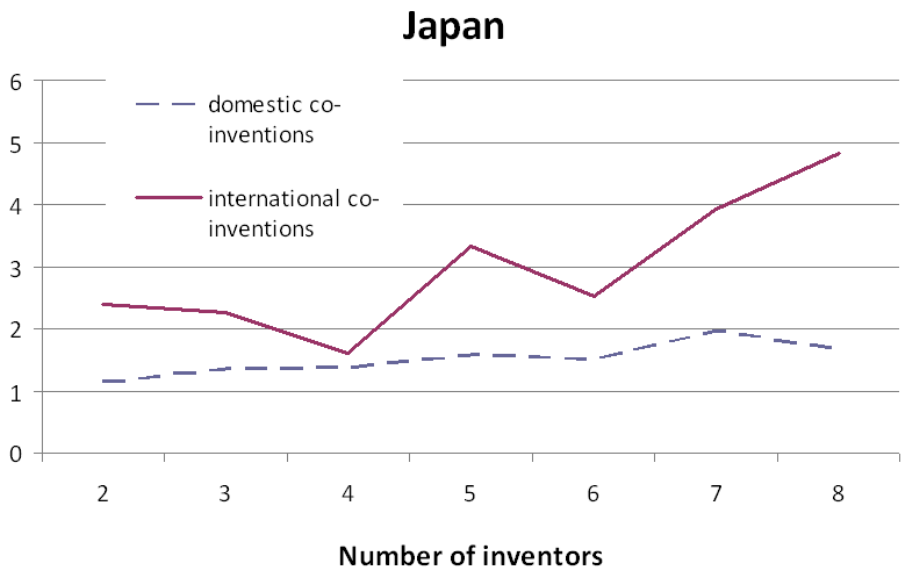


Chart 6 below indicates the number of quotations from non-patent literature per patent to see the effect of international co-inventions on knowledge absorption. The data of the number of inventors are controlled for the difference between the case where inventors include a foreign inventor and the case where inventors do not include any foreign inventor. The number of quotations from non-patent literature such as science and technology literature can be used as an indicator of the amount of scientific or technical knowledge used in the invention. In consideration of the fact that the quotation behavior of U.S. inventors/companies is significantly different from those of other countries, U.S. patent data as well as the date of co-inventions/applications with U.S. inventors are deleted from the sample. As the number of inventors increases, the number of quotations from non-patent literature also increases as expected. In addition, in the case where inventors include a foreign inventor, the number of quotations from non-patent literature is significantly higher. These observations indicate that in international co-inventions the breadth of knowledge used in R&D is expanded.

Chart 6 Number of quotations from non-patent literature per patent (vertical axis) and international co-inventions (Japan)

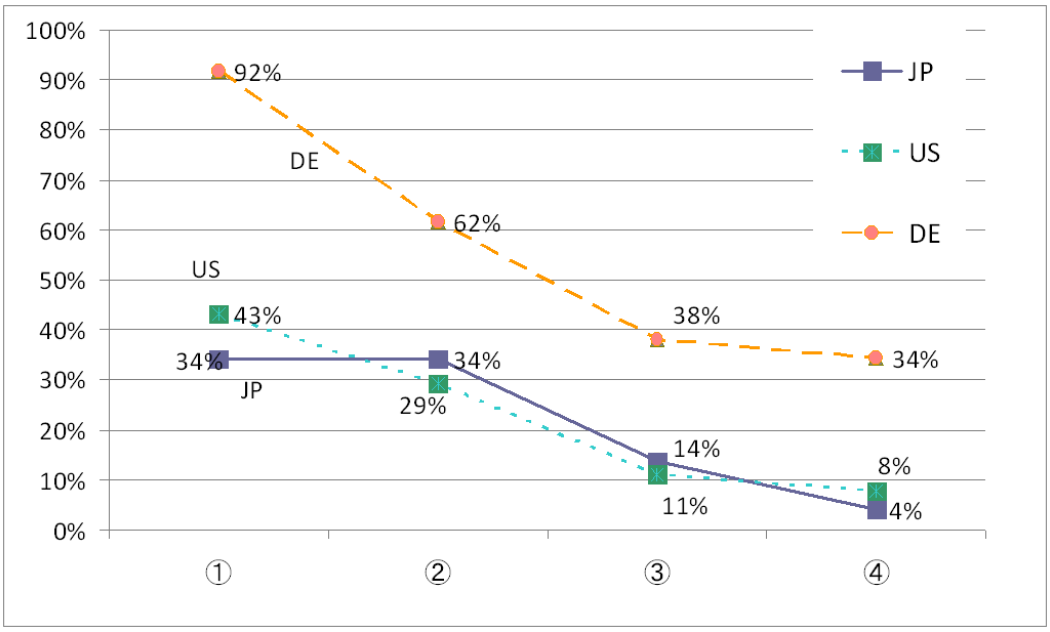


Number of quotations from non-patent literature per patent

3.2 International business expansion

Lastly, as can be seen in the following chart, although there are some Japanese companies with a strong global orientation, their domestic sales on average account for a higher percentage of total sales than is the case with their U.S. or German counterparts. Chart 7 analyzes the relationship between R&D intensity of each sector of manufacturing industry and export ratio in Japan, the U.S., and Germany by using the STAN Database of the OECD. The OECD classifies the manufacturing industry into four sectors based on the level of R&D intensity: high-technology sector, medium-high-technology sector, medium-low-technology sector, and low-technology sector. Chart 7 indicates export ratios of these four sectors with regard to the manufacturing industry in Japan, the U.S., and Germany. Either 2007 data or 2008 data are used depending on the data availability.

Chart 7 Export ratio of Japanese, U.S. and German manufacturing industry by level of R&D intensity (%, 2007 or 2008)



Legend: ① high-technology sector, ② medium-high-technology sector, ③ medium-low-technology sector, and ④ low-technology sector.

Source: OECD, STAN Database

According to this chart, in all three countries the export ratio is the highest in the sector in which R&D intensity is the highest. In contrast, as R&D intensity decreases, the export ratio also decreases significantly. In the case of the manufacturing industry in Germany, the export ratio of the high-technology sector (① above) is slightly over 90%, but that of the low-technology sector (④ above) declines to slightly over 30%. In the case of the manufacturing industry in Japan, the export ratio of the high-technology sector (① above) is slightly over 30% to slightly over 40%, but that of the low-technology sector (④ above) declines to slightly less than 10%. This relationship shows that expansion into overseas markets is more important in highly R&D-intensive industries. This is because the results of R&D are obtained in the form of knowledge and the incremental profit from global expansion is significant, leading to high incentive for global expansion. In industries in which the export ratio is high, the ratio of local production through direct investment also tends to be high. Therefore, the same tendency is observed even after taking local production into consideration.

Another notable point is that the export ratio of the Japanese manufacturing industry is low given the size of the Japanese domestic market. The export ratio is lower in a country whose domestic market is larger. Therefore, it is theoretically expected that the export ratio of the Japanese manufacturing industry falls between that of the U.S. and Germany. However, the export ratio of the Japanese manufacturing industry is actually not only lower than that of the German manufacturing industry, but also about the same levels as that of the U.S. manufacturing industry. In the high-technology sector of the manufacturing industry, it is even lower than that of the U.S. manufacturing industry. The low levels of international expansion in the Japanese manufacturing industry may become a significant constraint to the growth of the high-technology sector of the manufacturing industry in Japan including the international standardization of Japanese technologies.

4. Conclusion

In order for Japanese technologies to become international standards, it is necessary that they are excellent technologies and have wide applicability in the global market. Technologies satisfying these fundamental conditions will likely be accepted widely in the global market. Needless to say, it is also important, among others, to strengthen the ability to propose Japanese technologies to

international de jure standard organizations (such as ITU and ISO). However, the recent trend of standardization in these organizations is to adopt widely accepted informal standards as formal standards or to acknowledge multiple standards as formal standards and to let market competition select the best among them. As such, it is important to have the ability to develop outstanding technologies that will be supported widely in the global market.

The scale of R&D in the Japanese industry is the second largest in the world next to the U.S. industry (in terms of the ratio of R&D investment to sales), but there is a considerable qualitative gap between the two countries. One of the differences lies in the capacity to absorb science. It is essential that company's capacity to absorb science be increased. The key issues in this regard include improving companies' capacity to absorb science by providing support for basic research at companies, enhancing industrial-academic collaboration, and assisting technology start-ups, although the supply-side policy to increase the number of doctorate students is clearly facing a problem as can be seen by the "over-doctor" (persons with a doctorate, but without a full-time job) issue.

In addition, markets, knowledge and human resources must also be sought out around the world. Corporate earnings from R&D investment depend on the size of the market in which the results of R&D investment can be used effectively. Therefore, companies in pursuit of R&D and business strategy incorporating the plans to supply products/services in both domestic and overseas markets can establish a competitive position on a global basis. The utilization of international research resources for R&D is also important. While R&D requires a wide range of skills, companies can acquire various combinations of talents and skills by utilizing international research resources. This is very important in the areas of advanced technology. In particular, participation of technical experts in the respective countries is very important in the process of finding new uses of technology in overseas markets and engaging in R&D.

For the acquisition of international standards, it is vital for Japanese companies to conduct competitive R&D from the perspectives discussed above.

－Notes－

[1] Data is derived from the EPO's Worldwide Patent Statistical Database (PATSTAT; version April 2008). Registration with the U.S. Patent and Trademark Office is a prerequisite for triadic patents and there is a time lag between the application and the registration. For this reason, there are some patents that have been applied for by 2005, but whose examination has not been completed. As a result, some of the patents are truncated.

[2] Nagaoka, Sadao and Tsukada, Naotoshi [2011]: "Assessing the effects of international research collaboration on invention process: Some evidence from triadic patent data," *IIR working paper*, forthcoming.

PART 4
—HUMAN RESOURCE DEVELOPMENT FOR JAPAN'S INTERNATIONAL COMPETITIVENESS—

Chapter 7
Development of Internationally Viable Human Resources: Open Recruitment of Graduates for National Civil Service
A Case Study of Australia [1]

HATTA Tatsuo

Introduction

Unlike their foreign counterparts, members of the Japanese elite with a humanities (i.e., non-science) background who have received graduate education (hereinafter abbreviated as "graduate degree holders") in the social sciences are few. The fundamental reason that many members of the Japanese elite with a humanities background have not received graduate education is that neither the public nor the private sector hires as many graduate degree holders as undergraduate degree holders.

It is believed that this feature unique to Japan is attributable to the civil servant recruitment system. Because the Japanese government does not actively recruit graduate degree holders, many talented people who wish to become civil servants do not go on to study at graduate schools. Since many talented people do not go on to study social sciences at graduate schools, private-sector companies are not motivated to actively recruit graduate degree holders either.

An analysis of why foreign governments accord preference to graduate degree holders will be helpful in analyzing the underlying reasons why the Japanese government does not hire graduate degree holders.

The U.S. government hires an extremely large number of graduate degree holders. However, the U.S. system differs greatly from that of Japan in structure, there being no faculty of law on the undergraduate level and many of the senior bureaucrats being appointed politically under the Presidential system.

By contrast, in Australia, the faculty of law is an undergraduate school, and under the parliamentary cabinet system, the Secretary of each ministry, who is the second in command of the ministry only after the Minister, is a career administrator. Thus, the Japanese and the Australian bureaucratic systems share many points in common, Australia has been hiring many graduate degree holders in recent years.

In consideration of these circumstances, this study focuses on the analysis of why the Australian government is hiring large numbers of graduate degree holders, and why it is encouraging bureaucrats already in their employment to receive graduate education. To this end, incumbent Commissioner

Stephen Sedgwick and previous Commissioner Lynelle Briggs of the Public Service Commission and other individuals were interviewed in Australia.

To conclude, Australia, unlike the Japanese government, does not administer a uniform civil servant examination for all ministries and agencies. Because each ministry and agency has the discretionary power to recruit, each hires individuals who are best qualified to fill the positions available. Therefore, while having a graduate degree will work to the advantage of the candidates for certain positions, it is not a requirement for positions that do not require graduate degrees. Furthermore, vacancies must be filled by open recruitment. Civil servants are not transferred or promoted to a different position pursuant to instructions from above. Accordingly, ministries and agencies are thorough in recruiting to place the right person in the right position, and individuals with appropriate qualifications are placed in positions requiring graduate education as a matter of course. In other words, the difference between the Japanese and the Australian governments on the recruitment of undergraduates is attributable to the fundamental difference in the civil servant examination system.

1. Percentages of graduate degree holders in humanities: International comparison

One reason that the human resources of present-day Japan are losing competitiveness in comparison with their foreign counterparts, both in the private and the public sectors, is that the Japanese elite, unlike the foreign elite, lack graduate education in the social sciences. The fundamental reason that many members of the Japanese elite have not received graduate education is that both the public and the private sectors mainly hire undergraduate degree holders. In fact, the number of holders of graduate degrees in humanities in Japan is significantly lower in comparison with the United States and Australia, where humanities are defined as all academic fields with the exception of natural sciences, engineering, medicine and agriculture.

According to the School Basic Survey [2] compiled by the Ministry of Education, Culture, Sports, Science and Technology, the number of Japanese students obtaining a graduate degree in humanities in AY 2008 was 32,308, which is approximately 5.8% of the total number of students obtaining undergraduate degrees (555,690). In contrast, students obtaining a graduate degree in humanities that same academic year in the United States numbered 553,672, or approximately 34.6% of those obtaining an undergraduate degree (1,601,368) according to the National Center for Education Statistics [3], an affiliate of the U.S. Department of Education. Further, according to the Australian Government Department of Education, [4] students obtaining a graduate degree in humanities in AY

2008 numbered 66,810 in Australia, accounting for approximately 24.8% of those obtaining an undergraduate degree (265,891).

To sum up, while graduate school students studying humanities account for 35% of the total number of students graduating from institutions of higher education in the United States and 25% in Australia, they account for only 6% in Japan.

Comparison of educational paths of Japanese, U.S. and Australian graduate school students studying humanities: AY 2008

	①	②	③	④	⑤	⑥	⑦
	Students obtaining a bachelor's degree	Students obtaining a master's degree in humanities	Students obtaining a doctorate in humanities	Total number of students obtaining a graduate degree in humanities	Percentage of students obtaining a master's degree in humanities ②/①	Percentage of students obtaining a doctorate in humanities ③/①	Percentage of students obtaining a graduate degree in humanities ④/①
Japan	555,690	27,562	4,746	32,308	5%	0.9%	5.8%
United States	1,601,368	510,695	32,282	553,672	31.9%	2%	34.6%
Australia	268,891	62,118	4,692	66,810	23.1%	1.7%	24.8%

(Unit: Students)

A remark on the Australian figure may be called for. In the United States, emphasis is placed on general education at the undergraduate level, and specialized education is provided at the graduate level. By contrast, there is no general education at Australian universities. Therefore, obtaining a bachelor's degree is similar to obtaining a master's degree. Moreover, taking a year of an honors program in addition to the regular three years of the undergraduate program will result in academic competence comparable to or greater than that acquired through a master's program in the United States. Thus, the percentage of obtaining a graduate degree in substantive sense in Australia is well over 25%.

2. Recruitment by the Australian government of master's degree holders

A vast majority of university graduates hired by the policy-making organs of the Australian government hold an "honors" level undergraduate degree. Accordingly, civil servants at Australian policy-making organs who are classified as undergraduate degree holders may be regarded as master's degree holders in the American sense of the term.

Because there is no general education curriculum in Australian universities, students are able to graduate and obtain a degree in three years. However, since only undergraduate degree holders who

completed a four-year curriculum are hired as civil servants, the government is essentially hiring those who received a graduate level education.

The first group falling in this category comprises undergraduate law degree holders. Because undergraduate law majors are required to a double major in another field, they require four years to graduate. The government, therefore, hires a considerable number of law degree holders. However, since law majors are highly specialized, they are notably different from their Japanese counterparts.

The second group comprises non-law university graduates holding a bachelor's degree with honors. While a regular student spends three years at a university, those who are highly capable remain at a university for four years to take graduate-level courses and write a thesis. This is the honors system. Courses offered under the honors systems are normally said to be higher than master's level courses and comparable to doctorate courses.

Although the government does not have a numerical percentage of graduate degree holders overall since individual ministries are authorized to recruit and hire in Australia, it is said that essentially all of the professionals in policy making organs with a humanities background have a bachelor's degree with honors or a higher academic degree.

3. Institutional reason the Australian government is able to hire graduate degree holders: Open recruitment

Why do foreign governments accord preference to graduate degree holders?

As is well known, civil servants in the United States with a master's degree or a doctorate are accorded preferential treatment, and the acquisition of such degrees results in an increase in salary. Consequently, many people have graduate degrees. In Australia, on the other hand, acquisition of such degrees does not equate to an increase in salary, as is the case in Japan. Nevertheless, Australia's civil service hiring system has come to place an emphasis on graduate degrees because, unlike Japan's civil service, there is no uniform employment test administered by all ministries/agencies; Australia's ministries/agencies have adopted an "open recruitment system" by which the person best suited to a particular position can be selected by open recruiting.

While the Australian government provides lifetime employment, all vacancies are filled by open recruitment. There are not automatic promotions or salary increases within the ministries. Accordingly, applicants for a vacancy in a managerial position, for example, would include those within the ministry and those from other ministries, as well as non-government employees. Because the recruitment process is required to be open and transparent, the Public Service Commission sends an interviewer to

ensure that the hiring takes place fairly in accordance with the initially indicated hiring criteria. An individual in a given position may remain that position permanently unless he/she applies for a different position, but there will be no salary increase.

Because each ministry is responsible for hiring individuals best qualified for its vacancies and the recruitment process is fairly implemented, having a doctorate is beneficial when applying for positions with policy-making ministries and agencies that require a doctorate. A doctorate is not a requirement in the case of positions at Centrelink, for example, which is a payment agency. [5]

4. Open recruitment of civil servants in Australia

(1) Recruitment methods

Recruitment methods in Australia can be classified into three categories:

(a) Graduate Program: This is basically a system where an individual is hired immediately after acquiring a bachelor's degree, a master's degree or a doctorate. This is both a fast track and an entry level program. A sizable group is hired under this system, since large numbers of vacancies occur each year. Candidates for the positions known as Australian Public Service Jobs (APS Jobs) are openly recruited online. Individuals hired via the graduate program participate in a training program within the respective ministry for a period of one year. The new recruits spend approximately half of their time in the program, while performing their actual duties. Taking the name of the recruitment method, the individuals hired in this manner are referred to as graduate program hires. There is no degree-based difference in salaries. However, capable Ph.D. holders have an advantage over others in future promotions, since ministries and agencies accord them treatment that would discourage them from leaving.

(b) Bulk Hiring: Bulk hiring is the method used when there is a need to hire large numbers of economists and accountants for positions higher than entry level positions. Individuals with experience are openly recruited using this method when there is a large number of vacancies by specifying the job type (i.e., national security, economics, policy project implementation, governance).

(c) Open recruitment to fill a specific vacancy: Recruitment of experts and all senior executive positions falls in this category. Candidates for managerial positions are openly recruited by advertising for each position.

The recruitment panel for senior level positions is comprised of three members.

1. An individual from the hiring ministry or agency chairs the panel.
2. An individual from a different ministry or agency serves as one of the panel members.
3. One individual from the Public Service Commission serves as the other panel member to verify that the merit-based hiring process is implemented appropriately.

Recruitment is left to the discretion of the individual ministries and agencies in all of the categories described above. The role of the Public Service Commission is to ensure the transparency and openness of the system.

(2) History of open recruitment

However, the decisive key to increased hiring of graduate degree holders at the time was open recruitment. A career-based recruitment system managed by the Public Service Commission was utilized until the mid-1980's, with all entry-level applicants taking the civil servant examination. In opposition to the centralized employment system utilized by the Public Service Commission, Secretaries of the various ministries and agencies initiated a reform in 1987 in order to switch to position-based recruitment so that they could hire freely at their own discretion. At that time, it was decided that the individual ministries and agencies should directly hire all civil servants, inclusive of both senior and junior officers. It was also decided that the hiring should be subject to a completely open recruitment system.

Although there already was a mechanism for openly recruiting individuals to fill senior level positions, the extent of publicity regarding open recruitment was limited. The reform was carried out to expand the scope of open recruitment to include all positions.

5. Open recruitment of civil servants around the world

Civil service hiring methods such as Australia's "position-based hiring" are widely employed internationally in addition to the "career-based hiring" adopted in Japan.

(1) Position-based hiring and career-based hiring

The OECD defines career-based hiring and position-based hiring as follows (OECD *Trends in Human Resource Managemen*t, 2004, p. 5):[6]

Career-based hiring:

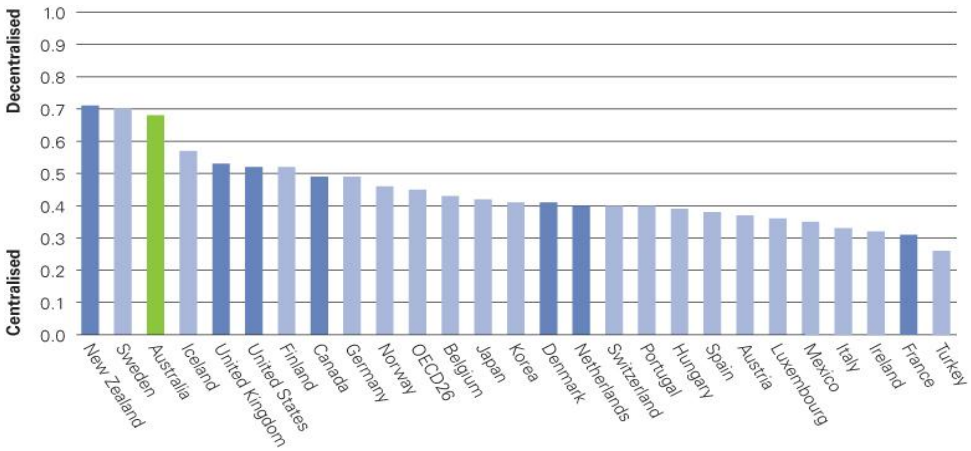
Civil servants are usually hired at the very beginning of their career and are expected to remain in civil service more or less throughout their working life. Initial entry is mostly based on academic credentials and a civil service entry examination. Promotion is based on the year of entry and the grade level of the individual rather than to a specific position. This sort of system is characterized by limited possibilities for entering the civil service at mid-career and a strong emphasis on career development.

Position-based hiring:

This system focuses on selecting the best-suited candidate for each position. Candidates are selected from among all applicants, whether by external recruitment or internal promotion or mobility. Position-based systems allow more open access, and lateral entry is relatively common.

According to an OECD report, differences among the countries in the approaches to the recruitment and promotion of civil servants have different impacts on their incentives and environment. Some OECD countries employ a position-based hiring system, and others employ a career-based hiring system. According to the OECD report, personnel activities of countries employing a position-based hiring system (Australia, New Zealand, etc.) tend to be more decentralized, while the recruiting activities of countries employing a career-based hiring system (France, etc.) are centralized.

Figure 1 Index on delegation to individual ministries and agencies of the authority to hire civil servants



Source: OECD, Government at a Glance 2009, p. 78.

(2) Openness in recruitment of civil servants

The hiring system referred to as "open recruitment" in Australia is a form of position-based hiring in the sense that the recruitment for specific positions is conducted in a highly open manner. OECD performed a study on the openness, by level, of recruitment for civil servants as shown in Table 1. Most countries are open with the exception of France, which is extremely closed.

Table 1: Openness in recruitment of civil servants

	Australia	Canada	Denmark	France	New Zealand	UK	USA	The Netherlands
Open competition for all positions			X		X			X
Open competition for all positions except some SES[15]	X	X					X	
Open competition for all below middle levels, middle and senior levels partially open						X		
No open competition above graduate recruitment level				X				

Source: OECD, Trends in Human Resource Management, 2004, p. 5. As quoted by KPMG, Benchmarking Australian Government Administration Performance, 2009, p. 12.

As used herein, Senior Executive Service (SES) shall mean as defined in OECD; that is, "generically to describe 'a structured system of staff arrangements for the highest non-political positions in government'". OECD, The State of the Public Service, 2008, p. 70.

6. Recruitment by the Australian government of graduate degree holders

The history and the international background of open recruitment, which was the key in enabling the hiring of graduate degree holders in Australia, have been analyzed thus far. The increased hiring of graduate degree holders in the Australian civil service system and government-funded study abroad programs are examined below.

(1) History of government-funded study abroad programs and hiring of graduate degree holders

(a) From the 1960s to the mid-1980s

Until the 1980s, the government was sending competent civil servants to foreign graduate schools to have them acquire a doctorate. Accordingly, many of the current Secretaries are Ph. D. holders. Examples include the Secretaries of the Department of Foreign Affairs and Trade, the Prime Minister's Department and the Social Welfare Department.

(b) From the mid-1980s to the mid-1990s

Beginning in the mid-1980s, emphasis was placed on the assertion that the bureaucratic system should comply with the wishes of the incumbent administration given that the country is a democracy. This perspective is strongly reflected in law amendments particularly of the 1990s.

As a result, the bureaucratic system became structured to respond quickly to the agenda of the incumbent administration. This led to the discontinuation of the study abroad program in the 1980s. Meanwhile, the ministries and agencies began to recognize the importance of graduate education in the 1980s. However, the hiring of graduate degree holders was limited to a maximum of 5% of the total hires. This upper limit was eliminated in the early 1990s for the following two underlying reasons:

(i) Because World War II veterans that had joined the civil service workforce were beginning to retire at the time, there was a need to hire large numbers of civil servants.

(ii) A large portion of clerical work was mechanized due to progress in computer technology, allowing for the recruitment of a skilled workforce.

(iii) Needs-based scholarships became more widely available for domestic master's programs. Doctoral programs had always been free.

(iv) It was, in a sense, compensation for the abolition of the study abroad program.

(c) **The Blue Print period**

In the 1990s came the recognition of the problem that bureaucrats were no longer giving adequate thought to very question of what the agenda should be. The division of roles between the administration and the bureaucracy was reviewed over the past five years in an attempt to re-establish the relationship between the two. The results of the review were summarized as *Blue Print for Reference of Australian Public Service*. Preparation of the Blue Print was outsourced to an external group at the initiative of the Prime Minister, pursuant to the recommendations of the Secretaries Board. The government accepted all of the Board's recommendations.

Consistently running through the Blue Print is the belief that the bureaucracy should assume leadership based on the perspective that the bureaucrats themselves must establish agenda that will allow them to stay ahead of the times in terms of both culture and competence.

In the 1990s, structures for focusing on the education of bureaucrats were established in accordance with the Blue Print. Particularly in the period from the late 1990s to 2000, the ministries became acutely aware of the need to educate their bureaucrats and began to adopt education programs voluntarily. The Prime Minister's Department began to hire graduate degree holders, including doctorate holders, at about this time. The same was true of the Treasury.

The following are two examples of the establishment of a structure focused on the education of bureaucrats. First, the Australia and New Zealand School of Government (ANZSOG) was established as a government-led program in 2002 at the initiative of senior officials of the ministries. Next, the Wilson Foundation Scholarship was established in 2009. Australia has been sending a considerable number of civil servants overseas to enroll in doctoral programs since two years back. The expenses are borne by the Public Service Commission. Individuals acquiring a degree under the program do not have to return to the original ministry, but are required to return to the service of the

Australian government. Regardless, the ministries and agencies are utilizing the Wilson Foundation Scholarship.

(2) Training system

Various training systems and domestic study programs were established in addition to the accordance of preference to graduate degree holders in hiring and government-funded study abroad programs.

(a) As described above, there are intra-ministry training programs for undergraduate degree holders hired through the Graduate Program. They are year-long programs, during which participants are taught, for example, how to develop policy advice and how to write. The curricula are structured. The new hires perform their duties as civil servants while participating part-time in the training programs. In addition, a mentor is assigned to provide advice regarding various issues.

(b) Support for individuals enrolled in the graduate-level study-while-working program. Individuals may study at an Australian national university or online. They are allowed to take days off each week, known as study days, to attend classes or to take online courses. Furthermore, the government will pay the tuition.

To give an example, Ms. Welch of the Prime Minister's Department, whom the author interviewed, found it extremely helpful professionally to acquire an MA in business and technology, since she was a corporate finance major at the undergraduate level. According to Ms. Welch, enrolling in graduate studies in this manner not only provided the advantage of receiving graduate education with an awareness of real life problems, but was also helpful in selecting her area of professional focus within the narrow scope of her discipline.

(c) Both the central and municipal governments of Australia strongly recommend that civil servants work on acquiring a master's degree or undergo training programs, either on a full time or a part time basis. Civil servants with undergraduate degrees must prepare a training plan each year for completion during the year. This practice is generating a strong demand for public policy programs at Australian graduate schools.

Attraction of graduate degree holders

According to Ms. Briggs, previous Commissioner of the Australian Public Service Commission, and others, the government finds graduate degree holders attractive in the following ways.

(a) Expert knowledge. This is particularly notable in economics and diplomacy.

(b) The "mindset" attributable to specialized education is beneficial. Economics provides an objective view. Subjects such as history are also beneficial in terms of providing writing skills and generally training individuals to look at things from a higher perspective. These skills are useful in ways different from an individual's knowledge of economics or history.

(c) When hiring, the fact that an individual is a graduate degree holder has the effect of signaling the individual's high academic capabilities.

(d) Because successful individuals from various fields meet each other as students, they are able to build networks from which they will benefit throughout their lives.

(e) One of the advantages of having incumbent civil servants receive graduate education is that their presentations and research papers are graded by the universities. Ministries and agencies place high importance on grades as an evaluation of the abilities necessary as a civil servant, such as giving presentations and writing research papers.

7. Education programs for civil servants at Australian universities

The characteristics of education programs for civil servants offered by major Australian universities are as follows:[7]

(a) The Australian National University offers programs specifically designed for bureaucrats. They provide not only practical but also pure economic training. The government considers such training important, and the trainees also believe it will contribute to their career paths.

(b) In the case of Monash University, which receives civil servants from the central government into its master's programs, classes consist entirely of economics and quantitative analysis. Meanwhile, the Crawford School (of Economics and Government) at ANU, which also accepts civil servants from the central government into its master's programs, offers classes in economics and policy analysis. However, policy analysis is focused mainly on environmental and industrial policies.

(c) In the case of faculties within the University of Melbourne and Sydney University, which receive civil servants from state governments, classes relate mainly to administrative

management, with economics and quantitative analysis accounting for only a small percentage of the total.

(d) Many of the individuals enrolled in these academic degree programs are part-time students. There are various forms of accommodating these students, such as teaching from 5:00p.m. to 7:00p.m. in addition to Saturdays, teaching after 6:00p.m., and even entering into a contract with the government to allow the student to take two days off each week and teach two subjects per day.

(e) A master's thesis is optional or not required at all for a large majority of the programs and, furthermore, is short. At Sydney University, the program for civil servants from state governments includes a system where 80 mentors with previous experience in a state government position of Bureau Director or higher are made available to students for consultation.

(f) Each university has a strong organization for Short Executive Programs, which they draw on as sources of revenues. Faculty members that cooperate to provide the program are compensated accordingly.

(g) The Australian National University and Monash University do not have partnerships with the research facilities of the various ministries and agencies. It is unusual for central government ministries and agencies to have research facilities.

(h) Faculty members of public policy universities are all doctorate holders. In the area of administrative management, however, those with experience in a position of Bureau Director or higher teach courses as part-time faculty based on their experience.

8. Institutions supporting the hiring system

(1) Secretaries Board

The head of an Australian ministry is a Minister and the second in command is Secretary. A Secretary is a career civil servant and not a political appointee. Although there was a time in Australia when people called for political leadership and the ability of civil servants to formulate policies was suppressed, the importance of the civil service system came to be recognized with the passage of a number of administrations. During this period, the Secretaries worked to convince the government that it is important for the Secretaries to prioritize the long-term interests of the country and thus supplement government policies. As a result, the Secretaries were able to gain control of the efforts to improve the civil service system through training systems and other means. For example, Secretaries

took the lead in initiating the Wilson Foundation Scholarship as a Ph. D. program in addition to conducting an administrative reform with emphasis on Centrelink, a new ministry. The Blue Print Reform is a symbol of the Secretary-led reform.

These events led to the official establishment of the Secretaries Board in accordance with law in 2010. The Board has 21 members comprising Secretaries from each ministry and the Public Service Commissioner. The Board, which meets once each month, serves as a forum for discussing matters such as the reform of the civil service system and even long-term agenda that the country should pursue. The contents of the discussions are reported to the Prime Minister. The fact that the Secretaries thus led the overall reform of the Australian civil service system deserves special consideration.

(2) Roles of Commissioner

The Human Service Commissioner is designated by the Prime Minister and appointed by the Prime Minister following an objective screening process. However, the Commissioner is required to be politically neutral.

The Commissioner performs two functions. The first is to work for the incumbent government. A typical example is the involvement in decisions regarding the salaries of civil servants. The second is the exercise of authority which, by law, is to take place independent of the incumbent government. This requirement is stipulated in the Public Service Act. The purpose of the Commissioner is to ensure from a neutral perspective that fairness is maintained in the hiring process of the individual ministries. Accordingly, the hiring criteria is required to be clearly defined not from the perspective of the individual ministries, agencies or supervisors but from the perspective of the administrative organ overall. The Commissioner also has the authority to issue orders not only on the hiring process but also on the improvement of organizational functions to ensure a more organic administrative operation of the ministries.

9. Comparison of Japanese and Australian civil service hiring systems: Summary

(1) Similarities of Japanese and Australian personnel systems

The Japanese and the Australian personnel systems are fundamentally similar in the following two respects:

(a) The senior officers of the ministries are career civil servants.
Those who pass the civil service examinations become Secretaries.

(b) Academic degrees are not a requirement in the hiring process.

In both Japan and Australia, entry-level salaries are essentially the same for bachelors, masters and doctorates. In both countries, the salaries essentially reflect nothing more than the average increase corresponding to the period spent on education.

(2) Differences between Japanese and Australian personnel systems

(a) Merit-based promotion

The fundamental difference between Japan and Australia is that civil servants are evaluated based not on the period of tenure but on their merit. Because promotion following entry into the ministry is based on abilities, individuals will acquire a doctorate if that will be of material help.

The Minister has the right of veto with respect to personnel actions relating to the relevant Secretary. While the Minister is able to state his/her comments regarding personnel actions relating to positions immediately below the Secretary, he/she does not have the right of veto with respect thereto. Further, in order to ensure that the personnel actions taken by the individual ministries are fair, there is a screening mechanism by which the Public Service Commission collectively reviews the promotion of senior officers recommended by the ministries.

(b) Recent increase in number of doctors hired

Unlike Japan, the numbers of doctorate holders and foreign master's holders have been increasing in Australia in recent years. Furthermore, it is sending civil servants already in their employment to universities overseas and throughout the country to acquire doctorates.

10. Conclusion

This study considers steps that should be taken to increase the number of people in both the public and private sector who have received graduate education in the humanities in order to develop internationally viable human resources. In Japan, no preference is accorded in civil service hiring to those holding graduate degrees. Accordingly, many talented people in Japan do not go on to study social sciences at university. This would appear to be one reason that private-sector companies also do not actively recruit graduate degree holders.

Why does the Japanese government not hire graduate degree holders? This study seeks to answer this question by analyzing why foreign governments hire graduate degree holders. Attention and analysis

was focused on Australia as a case study in this regard, as Australia shares many points in common with Japan, such as a low number of political appointees among the civil service bureaucracy. The results were unexpected.

Because Australia, unlike Japan, has no uniform civil servant examination, individual ministries/agencies are responsible for hiring civil servants to fill specific positions through open recruiting. Should ministries or agencies desire graduate degree holders, they are able to actively recruit such persons. Because all government positions are filled by open recruiting, civil servants are also motivated to undergo training in order to obtain better positions. Civil servants thus earn degrees and actively utilize graduate training programs made available by the government to upgrade their own skills.

In other words, Australia's flexible system of civil service hiring allows individual ministries and agencies to hire graduate degree holders in order to place the right person in the right job. Simply put, Japan's present national civil service hiring system is hobbling the international competitiveness of Japan's human resources. How should this system be reformed?

To take a lesson from Australia's civil service hiring system, an effective move would be to allow individual ministries on their own to engage in open recruitment to fill open positions. Only by doing this will it become possible for civil servants hired for specific positions by specific ministries or agencies to advance their careers in other ministries or agencies.

On the other hand, there is no promotion by seniority in the Australian civil service system, or a promotion examination in the Japanese sense. Because the system involves broad recruitment of applicants for the vacancies available, individuals with high foreign language skills are selected for positions requiring a foreign language, and a doctorate is required in order to vie against a foreign bureaucrat with a doctorate.

This may appear vastly different from the Japanese system. However, Australia, too, had recruited civil servants across ministries and agencies via civil service examinations until the 1980s. That this approach was changed to today's open recruitment demonstrates that such reforms of the civil service system are not impossible, even in Japan.

References

Advisory Group on Reform of Australian Government Administration, "AHEAD OF THE GAME Blueprint for the reform of Australian government administration", March 2010

U.S. Merits Systems Protection Board, "Attracting the Next Generation: A Look at Federal Entry-Level New Hires", January 2008

United States General Accounting Office, Richard L. Fogel, "Report of the National Commission on the Public Service", April 1989

National Graduate Institute for Policy Studies, "Report on Inspection Tour of Australian Graduate Schools for Policy Studies", October 1, 2009

Benchmarking Australian Government Administration Performance, KPMG, November 2009, P12

Ministry of Education, Culture, Sports, Science and Technology, "School Basic Survey"
http://www.e-stat.go.jp/SG1/estat/List.do?bid=000001015837&cycode=0

Department of Education, National Center for Education Statistics
http://nces.ed.gov/

Australian Government Department of Education
http://www.deewr.gov.au/HigherEducation/Publications/HEStatistics/Publications/Pages/2010StudentFullYear.aspx

Notes:

[1] This study was made possible with the full support of Professor Jenny Corbett of the Australian National University Crawford School of Economics and Government. Professor Corbett went to the trouble of referring and introducing the author to the various individuals interviewed in Australia. Further, this study was made possible by conducting interviews of the previous and current Commission Member Stephen Sedgwick and previous Commission Member Lynelle Briggs and current Human Resources Bureau Director Ian Fitzgerald of the Australian Public Service Commission, Barnadette Welch of the Prime Minister's Office, James Llewelyn, Martin Walker, Darren Hansen and David Lowe from various ministries, and Tom Kompas, Veronica Taylor, John Wanna and Rikki Kersten of the Australian National University faculty. The author would like to express his deep gratitude to the individuals who agreed to be interviewed. The author also received valuable advice from Masahiro Onishi of the National Personnel Authority, Personnel Affairs Division Director Norio Fukuda of the National Personnel Authority, and International Affairs Division Director Hiroko Shimada of Cabinet Secretariat. The author would like to extend his gratitude to them as well.

[2] http://www.e-stat.go.jp/SG1/estat/List.do?bid=000001015837&cycode=0 Ministry of Education, Culture, Sports, Science and Technology, "School Basic Survey"

[3] http://nces.ed.gov/ Department of Education [National Center for Education Statistics]

[4] http://www.deewr.gov.au/HigherEducation/Publications/HEStatistics/Publications/Pages/2010StudentFullYear.aspx Bachelor's Pass was used to account for the number of undergraduate degree holders. Honors degree holders are not included in master's degree holders.

[5] In addition to policy agencies such as Treasury, Finance and Foreign Affairs, there is a ministry called Centrelink Australia. Centrelink is a government office that specializes in the payment of, for example, annuities, health benefits, financial assistance, labor assistance and unemployment benefits.

Centrelink is a new ministry that was created by splitting payment departments off of the government offices, which were vertically consolidated and concurrently working on both policies and payment, and then consolidating them. For example, policies relating to health services are handled by a policy agency, but health insurance is executed by Centrelink. Whereas an individual had to receive payments from different government offices when collecting annuities, unemployment benefits and the like, all payment functions were consolidated to provide a one-stop service for the added convenience of beneficiaries. At the same time, the separation allowed for a rational division of labor, since a payment agency such as Centrelink differs completely in nature from policy agencies. While Centrelink rarely hires individuals with higher academic degrees, policy agencies hire many.

[6] Benchmarking Australian Government Administration Performance, KPMG, November 2009, P11

[7] National Graguate Institute for Public Policy Studies, 2009.

Chapter 7 **Appendix**

*This is a response from Mr. Ian Fitzgerald, Chief Human Capital Officer Australian Public Service to the questionnaire following up interview with Prof. Tatsuo Hatta.

1. What is the salary difference between a MA holder and a B.A holder when both are entering the Graduate Program? Is the salary of a MA holder approximately equal to the level of the salary that a B.A holder of the same age who started the government career two years before, or is it enough to compensate the lost wage of two years? What about a Ph. D holder?

In the Australian Public Service (APS) most graduates start at an APS 3 level with the responding salary for this level. This is understood when people apply for the program so MA and PhD holders expect to receive the same salary as BA holders. However, each department is responsible for running its own graduate programs and can have different standards of intake. For example, some departments will not accept BA holders as graduates due to the high competition for the positions.

2. Imagine the case where a section chief is unhappy about a rather slow man under her. How can she get rid of him? Clearly, she cannot fire him. But is it possible for her to transfer him to a different position that can tolerate a rather slow person? Or should she leave this section and apply for a different position in order to depart from him? If the latter is the case, this slow person will forever stay in this section.

Each APS agency has formal performance management arrangements in place, designed to improve performance by aligning individual, team and organisational/business goals. These arrangements should provide each employee with a clear statement of their duties and standards of performance expected. Employees are generally required to develop performance agreements with their managers - setting out expected work outcomes/responsibilities (duties, tasks, projects, etc), performance and behavioural measures (including timeframes).

As part of managing performance, APS agencies have procedures in place for assessing and resolving underperformance. The arrangements would include measures such as advising the employee of the reasons why their performance is not up to standard (such as not meeting deadlines), setting clear

expectations about the areas where improvements need to be made and the provision of ongoing feedback, counseling and/or training. In some circumstances, it may be appropriate to move an underperforming employee to another work area within the agency that may be better suited to the employees' skills and/or interests. Ultimately, where performance has not improved, an agency head may terminate the employment of an APS employee on performance grounds - section 29(3)(c) of the Public Service Act provides that a ground for termination of employment is non-performance, or unsatisfactory performance, of duties.

For further information on managing performance you can visit Performance management and appraisal (http://www.apsc.gov.au/employmentpolicy/performanceappraisal.htm).

The Australian Public Service Commission is currently undertaking a Performance Management Project that will strengthen the APS Performance Framework. An aspect of this will be to develop common APS-wide guidelines for dealing with underperformance.

3. When a position is abolished, is the person in that position guaranteed another position in the government? If not, he will apply for another position, but if he is rejected by all the open competition for recruitment, should he leave the government?

Each APS agency has procedures in place for managing employees who are considered excess as a result of changes to the way work is performed (which includes where a particular job is abolished). If there was only one job abolished, the first step would typically be to seek to find alternate employment for the employee in the agency. If alternative employment was not possible then the agencies excess staff procedures would commence. Under these procedures, staff has the option of seeking to be redeployed within the agency or accepting a voluntary redundancy payment and having their employment terminated. Section 29(3)(a) of the Public Service Act provides that a ground for termination of employment is where an employee is excess to the requirements of an agency.

For those who choose to seek redeployment instead of the voluntary redundancy package, a period of retention in employment may be available. The duration of this retention period varies between agencies, but is typically 7 or 13 months depending on age or length of service. Where an employee has not been

redeployed within the retention period, the excess employee may be terminated (and the voluntary redundancy package is not payed in this situation).

In 2011, new APS redeployment arrangements were introduced, aimed at facilitating and supporting the redeployment of excess employees across the APS by seeking and retaining experienced staff wherever practicable. The new arrangements include 8 key redeployment principles to guide agencies when reducing staffing levels, which give a high priority to redeploying excess employees and avoiding termination wherever possible. APS agencies are primarily responsible for managing the redeployment of their excess staff although the Australian Public Service Commission established and maintains a central register of excess employees seeking redeployment which agencies will be required to consult when filling vacancies

For further information, the APS redeployment policy is APS Redeployment Policy (http://www.apsc.gov.au/redeployment/index.htm). I have also included a link to the Australian Public Service Commission's guide on termination of employment (http://www.apsc.gov.au/employmentpolicy/termination.htm) for your information.

4. When someone applies for the Graduate Program or Bulk Recruitment, I presume he does not know which position he will be assigned. Or is it the case even at the entry level, an applicant applies for a particular position? Once a recruit of a Graduate Program is assigned to a position, how long does he stay in that position? Is he assigned next position based on his performance in the Graduate Program?

When a graduate applies for a program they do not know the position they will receive only the department they will work for. Graduates will have a rotation of 3 positions within the department. The length of this is dependent upon the time scale each department uses for the graduate program, which may be either 12 or 18 months. Graduates will also have specific blocks for training during their time in the program which does not count as time in their rotation.

Graduates are also not aware of what position they will be assigned at the end of their program.

Performance does not play a factor is a graduates next assignment except if they are underperforming and are deemed unsuitable for work in the public service, whereupon their position is terminated.

5. I believe that the Japanese civil servants are most interested in the role played by the Secretaries Board in reforming the civil service system in Australia. How often does the Board meet? What is the process in which their decision is put in a law? Does not the ruling party try to interfere with the Board's decision?

The Secretaries Board was established in May 2010, in response to a recommendation in the 'Ahead of the Game'report on reforming the Australian Public Service (APS). The Board meets monthly and is chaired by the Secretary of the Department of the Prime Minister and Cabinet, (PMC). Membership consists of the Secretaries of all portfolio departments and the Public Service Commissioner.

The Secretaries Board is responsible for:

- Overseeing APS reform and development
- Making decisions on public sector management issues
- Identifying and progressing strategic priorities for the APS
- Setting the annual work program for Board sub-committees
- Commissioning projects proposed by departments and agencies to be led by senior executives who report back to the Board
- Endorsing approaches to significant policy and service delivery issues, to support coordinated advice to Government
- APS workforce planning and development
- Discussion of contemporary issues facing the APS.

The Board's decisions are not 'put into law', as only Parliament has the authority to create laws. The APS operates under two Parliamentary Acts, the *Public Service Act 1999*, and the *Financial Management and Accountability Act 1997*. The responsibilities under these two Acts take precedence over any decisions taken by the Board, which operates more as a forum for discussion than a formal decision making authority.

The issue of interference from the ruling party does not arise as the Board's role is not to debate Government policy, but to consider how best to deliver that policy. Through its chair, the Prime Minister is kept regularly advised on decisions and discussions taken by the Board.

Chapter 8
Rebuilding Japan's International Competitiveness and Developing Global Human Resources: From the Perspective of Competition with South Korea and China

FUKAGAWA Yukiko

Introduction

Japanese industries are in a tight corner, beset with both internal and external difficulties, with the so-called Lehman shock in 2008 and the financial crisis in Europe starting in 2010, coupled with the Great East Japan Earthquake, the accident at the Fukushima Daiichi Nuclear Power Plant and subsequent power shortage in 2011 to add to that. The business community (e.g., Keidanren (2011)) has been pointing out and requesting that measures be taken regarding numerous unfavorable conditions, including the rapid appreciation of the yen, the high corporation taxes, heavy pressure relating to environmental and labor protection, and the existence of tariff barriers due to the lack of progress in free trade agreement (FTA) negotiations.

However, it is probably unreasonable to attribute the competitive weakening of major industries entirely to the business environment. Setting small and medium enterprises aside, large enterprises have a global presence. The overseas production ratio of Japanese companies is rapidly increasing, with many companies experiencing a reversal of the domestic to overseas sales ratio. It may be that the problem involves not only environmental factors but also the fact that Japanese companies have not been very successful in conducting global business and even their technologies, which have always enjoyed dominance, are being exposed to intense competition with South Korea and China. It appears that there may also be problems with the workforces of the companies or, more specifically, the human resources aspect that fell behind in the globalization process. Such arguments resulted in active discussions on reforming the industry-government-academia structure. This article examines Japan's global human resources problem from a perspective slightly different from that of the discussions on the industry-government-academia structure, with a focus on corporate competition with South Korea and China. 1. provides an overview of changes in the competitive positions of Japan, China and South Korea during the latter half of the 2000s, and 2. sets forth the background thereof in terms of how Chinese and South Korean companies develop and utilize human resources and discusses the measures Japan implemented to counter their moves. 3. sets forth the issues that the business community and academia face in relation to 2. and provides a few policy recommendations.

1. Collapse of the competitive advantage of Japanese companies

1.1. Structural changes in the late 2000s

The division of labor between Japan and East Asia had long been "vertical". This is due to the fact that the structure where Japan supplied the mother machines requiring complex changes in design depending on the intended usage, as well as the materials and components that are indispensable for ensuring high quality, and East Asia assembled them together had not changed overall in spite of the dynamic development of trade with East Asia. Also, in the electric apparatus and electronics industries, which are the largest industries in the world amassing cutting edge technologies, the division of labor still is such that South Korea manufactures devices using Japanese manufacturing equipment and materials, and China incorporates the devices into the end product. The cross-border division of labor had been understood by Japan, as well as East Asia, to be attributable solely to difference between technical capabilities between the two; in other words, as the difference in the accumulation of human resources capable of performing everything from research and development to production (skilled labor). In particular, South Korea, which is located between Japan (= holder of advanced technologies) and China (= holder of mass production technologies), has traditionally been afraid of being subjected to a pincer attack and the public, including the leadership, still is unable to overcome the belief that its tremendous deficit in the trade with Japan[1] is an indication of the difference in technical capabilities.

However, it was none other than the South Korean companies, which had experience-based understanding of the true nature of globalization due to a currency crisis, who were the first ones to notice the three mutually-interacting structural changes in the global market during the late 2000s and promptly took action. South Korean conglomerates pushed through with a thorough "selection and concentration" of business and restructured their business organizations accordingly. Consequently, Samsung Electronics, LG Electronics, Hyundai Motor Company, POSCO and other large South Korean companies became global companies within a short period of time.

The first structural change was that, as is often said, the introduction of IT led to rapid digitization of technical systems and rendered analog processes meaningless. The significance of skills that largely dictated precision and quality, such as *suriawase* (designing and mutually making adjustments to multiple components to ensure the right fit) and *tsukurikomi* (building in of quality through detailed customization of specifications), declined greatly, and the use of modules led to considerable cost reduction in the case of mass-produced industrial products. As change progressed mainly in the PC and the digital home appliance segments, Japanese companies that had vertically integrated their business

through highly skilled labor gradually lost cost competitiveness, being unable to undertake reform based on self-denial. Meanwhile, South Korean companies that expanded their shares not only of semiconductors but also liquid crystal display panels and major devices through enormous concentrated investment proceeded with modularization to expand production and maximize profit, while self-manufacturing the products at an "appropriate" level. Because many Chinese companies, which were dependent on Japan and South Korea for many devices and a majority of whose business is OEM exports, are not yet ready to engage in the sophisticated global marketing of their own brands, South Korean companies were able to make impressive leaps in the global market by driving out Japanese companies.

The second change is the appearance of emerging markets led by China, India and Brazil, which are completely different from the profound and highly diverse mature markets and consume large quantities of products with functions and designs that are commensurate with price. Because Japanese companies with strong brand names still had a hold on developed markets during the first half of the 2000s, South Korea had no choice but to advance into emerging markets from early on. All the more because of this, they were able to execute dynamic marketing strategies targeted mainly at the middle class when consumption began to increase in earnest in emerging countries, where Japanese brands have little presence. While many Japanese companies were hesitant or failed to proceed beyond the planning stage given the swift changes and instability of emerging markets, South Korean companies, a majority of which are managed by owners, took on the challenge with speed typical of top-down business management. Meanwhile, they were able to differentiate themselves in competitions with Chinese and other local companies through designing capabilities and advertisement strategies that they had been focusing on in investing and strengthening. By hiring graduates of European and American business schools and giving local human resources well-defined goals and considerable discretion, South Korean companies also cleared the way for recruitment of competent human resources.

The third change was the dawning of the age when "technology can be bought" in two ways without corporate acquisitions that involve the transfer of ownership and control and when revenue is affected not by technical capabilities per se but by the different combinations of technologies and the establishment of business models. Until the 20th century, many companies, including IBM and Kodak, ensured their advantage in production through vertical consolidation by containing innovative technologies using patents. Large Japanese companies that came after them and are extremely particular about their technologies still retain this inclination. However, in this day and age of

progressive digitization, many companies, such as Intel, are implementing the open strategy of keeping only the core technology in the black box and actively releasing peripheral technologies. In addition, rapid globalization of researchers in the areas of research and development, where the entire world is fiercely competing against each other, rendered it possible to acquire a certain level of technical capabilities by cross-border recruitment on an individual basis. Japanese companies with low fluidity of human resources have been developing their research and development staff in-house and containing them, whereas large South Korean companies took in and added their own development work to the now openly available technologies. They also promoted rapid globalization by promptly initiating external recruitment of development staff. A vast majority of large companies, a representative example being Samsung, eliminated the seniority-based personnel system from their head offices at the time of the currency crisis for the thorough implementation of the merit-based system, allowing for considerable flexibility in the recruitment of foreigners and other human resources.

1.2. Changes in the competitive positions of Japan, South Korea and China

1.2.1. Reversal of the performance of Japanese and South Korean companies

How did the competitive positions of major Japanese, Chinese and South Korean companies change amid structural changes? Table 1 shows a comparison of the top 50 companies in the Asian region in 2005 and 2011 according to data indicated in Fortune 500, which is a well known list ranking the top global companies. While Japanese companies accounted for 38 of the total in 2005, the number dropped to as low as 22 in 2011. They were largely replaced by Chinese companies, which increased from a mere six to 16 and took over the first through the third places from Japanese companies, which had monopolized the first through the sixth places in 2005. The number of South Korean companies also increased from the usual four to five with the comeback of POSCO.

However, in the case of Chinese companies, only two automotive companies fall in the manufacturing segment with a vast majority being national or municipal government-owned companies falling in the financial segment or the infrastructure segment, such as oil-based energy, power generation, railroads and communication. Moreover, the two companies are yet to compete for shares with Japan and South Korea in the global market, their shares in the global market outside of China still being minimal. In contrast, the five South Korean companies, with the exception of SK that is in the business of communication and energy, are all manufacturers dealing in electrical goods and electronics, automobiles or iron and steel. Given that the South Korean market is only about one fifth of the Japanese market, they achieved their extensive business growth in the course of globalization.

Table 1 Changes in the ranking of major Asian companies

2011				Revenues ($ millions)
1	5	Sinopec Group	Beijing	273,422
2	6	China National Petroleum	Beijing	240,192
3	7	State Grid	Beijing	226,294
4	8	Toyota Motor	Toyota	221,760
5	9	Japan Post Holdings	Tokyo	203,958
6	22	Samsung Electronics	Seoul	133,781
7	31	Nippon Telegraph & Telephone	Tokyo	120,316
8	40	Hitachi	Tokyo	108,766
9	45	Honda Motor	Tokyo	104,342
10	48	Nissan Motor	Yokohama	102,430
11	50	Panasonic	Osaka	101,491
12	55	Hyundai Motor	Seoul	97,408
13	58	JX Holdings	Tokyo	95,964
14	60	Hon Hai Precision Industry	Tucheng C	95,191
15	73	Sony	Tokyo	83,845
16	77	Industrial & Commercial Bank of China	Beijing	80,501
17	81	Nippon Life Insurance	Osaka	78,571
18	82	SK Holdings	Seoul	78,435
19	86	Petronas	Kuala Lump	76,876
20	87	China Mobile Communications	Beijing	76,673
21	89	Toshiba	Tokyo	74,706
22	95	China Railway Group	Beijing	69,973
23	98	Indian Oil	New Delhi	68,837
24	105	China Railway Construction	Beijing	67,414
25	106	China Construction Bank	Beijing	67,081
26	113	China Life Insurance	Beijing	64,635
27	118	Tokyo Electric Power	Tokyo	62,680
28	125	Mitsubishi	Tokyo	60,793
29	127	Agricultural Bank of China	Beijing	60,536
30	128	PTT	Bangkok	59,930
31	131	Seven & I Holdings	Tokyo	59,252
32	132	Bank of China	Beijing	59,212
33	133	AEON	Tokyo	58,983
34	134	Reliance Industries	Mumbai	58,900
35	139	Noble Group	Hong Kong	56,696
36	141	Meiji Yasuda Life Insurance	Tokyo	56,309
37	145	Dongfeng Motor	Wuhan	55,748
38	147	China State Construction Engineering	Beijing	54,721
39	148	Mitsui	Tokyo	54,635
40	149	China Southern Power Grid	Guangzhou	54,149
41	151	Shanghai Automotive	Shanghai	54,057
42	153	Dai-ichi Life Insurance	Tokyo	53,375
43	157	Mitsubishi UFJ Financial Group	Tokyo	52,877
44	158	Fujitsu	Tokyo	52,871
45	161	POSCO	Seoul	52,462
46	162	China National Offshore Oil	Beijing	52,408
47	166	Sinochem Group	Beijing	49,537
48	171	LG Electronics	Seoul	48,236
49	173	Nippon Steel	Tokyo	47,984
50	189	Sumitomo Mitsui Financial Group	Tokyo	44,902

2005				Revenues ($ millions)
1	7	Toyota Motor	Japan	172,616
2	18	Nippon Telegraph & Telephone	Japan	100,545
3	23	Hitachi	Japan	83,994
4	25	Matsushita Electric Industrial	Japan	81,078
5	27	Honda Motor	Japan	80,467
6	29	Nissan Motor	Japan	79,800
7	31	Sinopec	China	75,077
8	39	Samsung Electronics	Korea	71,556
9	40	State Grid	China	71,290
10	46	China National Petroleum	China	67,724
11	47	Sony	Japan	66,618
12	56	Nippon Life Insurance	Japan	60,521
13	72	Toshiba	Japan	54,304
14	90	Tokyo Electric Power	Japan	46,963
15	92	Hyundai Motor	Korea	46,358
16	96	NEC	Japan	45,176
17	98	Dai-ichi Mutual Life Insurance	Japan	44,469
18	99	Fujitsu	Japan	44,316
19	112	AEON	Japan	38,944
20	113	Meiji Yasuda Life Insurance	Japan	38,835
21	115	LG Electronics	Korea	37,758
22	117	SK	Korea	37,692
23	133	Petronas	Malaysia	36,065
24	142	Nippon Oil	Japan	34,151
25	145	Ito-Yokado	Japan	33,632
26	147	Sumitomo Mitsui Financial Group	Japan	33,318
27	148	Mitsui	Japan	32,806
28	149	Mitsubishi	Japan	32,735
29	154	Canon	Japan	32,072
30	156	Mitsubishi Electric	Japan	31,735
31	157	Nippon Steel	Japan	31,537
32	158	Sumitomo Life Insurance	Japan	31,000
33	170	Indian Oil	India	29,643
34	184	Mizuho Financial Group	Japan	28,279
35	186	Marubeni	Japan	28,274
36	194	KDDI	Japan	27,170
37	197	Millea Holdings	Japan	26,979
38	202	JFE Holdings	Japan	26,088
39	203	Denso	Japan	26,053
40	211	Mazda Motor	Japan	25,061
41	212	China Life Insurance	China	24,981
42	217	Mitsubishi Tokyo Financial Group	Japan	24,458
43	219	Kansai Electric Power	Japan	24,318
44	221	Mitsubishi Heavy Industries	Japan	24,106
45	224	China Mobile Communications	China	23,958
46	225	Sharp	Japan	23,633
47	226	East Japan Railway	Japan	23,611
48	227	Fuji Photo Film	Japan	23,516
49	229	Industrial & Commercial Bank of Ch	China	23,444.60
50	235	Coles Myer	Australia	23,184.40

Source: Prepared based on Fortune 500 (2012)

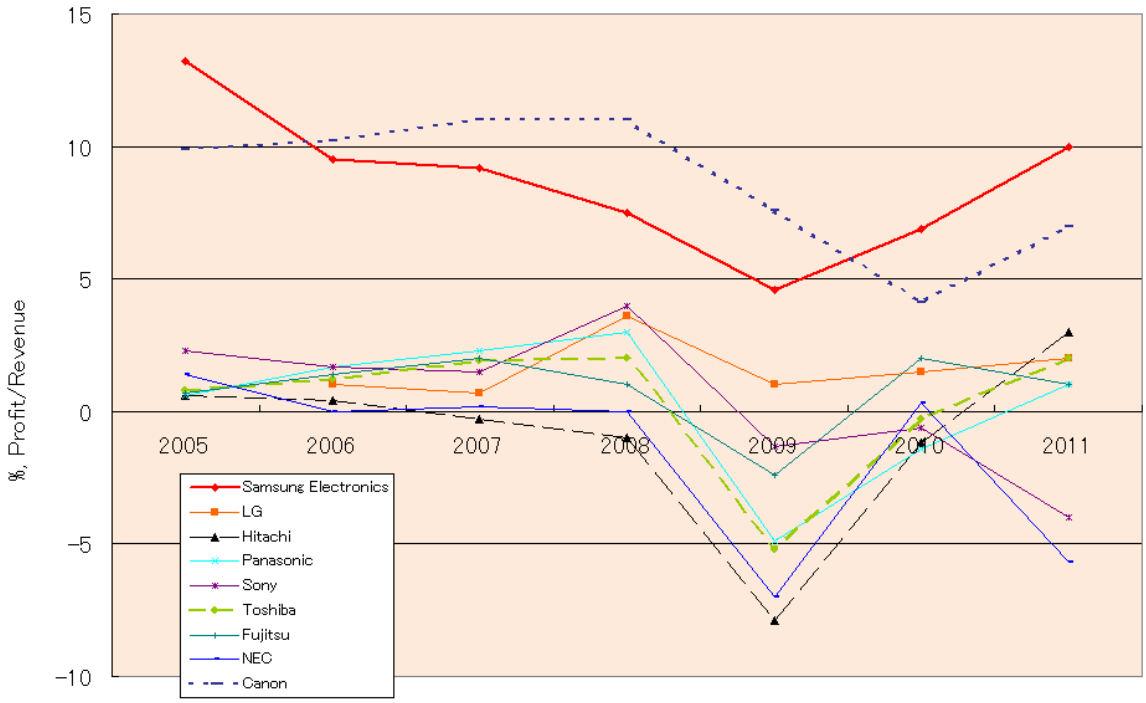
Samsung Electronics moved further up from eighth to sixth (moved up from 39th in 2005 to 22nd in 2011 globally), surpassing not only Hitachi and Panasonic, which had been ranked at third and fourth (respectively fell from 23rd to 40th and 25th to 50th globally), but also Honda and Nissan. Toyota Motor Corporation (fourth) is the one company in Asia ranking higher than Samsung, and it is joined only by VW, GE and GM on the global level. When limited only to the semiconductor segment, Samsung is well on the way to starting an era of the two great powers, ranking second ($29.24 billion in sales in 2011) to Intel ($49.69 billion) globally and exceeding the third ranking company by far. Samsung also was quick to react to the popularization of smartphones and is continuing to manage its business aggressively, being ready to launch into an intense global litigation competition against Apple. However, LG Electronics, which is also in the electrical and electronics business but has barely any semiconductors, fell from the 21st place in 2005 to 49th (115th to 171st), being unable to keep up with the rapid pace of digitization and price deterioration, as was the case with Japanese companies, and falling behind others in the launch of smartphones as well.

Deserving more attention than Samsung is Hyundai Motor Company, as more complex *suriawase*-type technologies are still required, though digitization has begun. Although Hyundai ranked 15th in Asia in 2005, it moved up to 12th place in 2011 (up from 92nd to 55th globally). It surpassed Ford in terms of the number of new vehicles sold worldwide in 2011, becoming the fifth most successful manufacturer following GM, VW, Toyota and Nissan Renault. The company has surfaced as the second most significant competitor after Samsung with an immense improvement in quality, as exemplified by the JD Power survey in the U.S. ranking Hyundai above Honda and Toyota at number one in terms of the quality of new cars in 2009, and with Hyundai MOBIS, an affiliated automotive parts manufacturer, now supplying parts to Japan.

Of greater importance when comparing companies ranking high on the Fortune list is the fact that the wide disparity between Japan and South Korea is attributable to the differences not only in sales growth but also in earning capacity. The profit to revenue ratios of companies representative of Japan and South Korea in the electrical and electronics industry are shown in Figure 1 and those of the automobile and the iron and steel industries are shown in Figure 2. The profit ratio of Samsung Electronics exceeds 10% at times, and the only time that it fell to 5% or less was in 2009 when Japanese general electrical manufacturers all posted enormous losses due to the Lehman shock. The only Japanese company that is maintaining a profit ratio close to that of Samsung is Canon, which mainly deals in cameras and multifunction office equipment involving extensive *suriawase* technology. Then again, even Canon is experiencing a downward trend in profit. However, it is suggestive that

Hitachi and Toshiba, which finally began to work on selection and concentration in 2009, have extensive *suriawase* technologies, and switched their focus to heavy electric machinery and infrastructure-related products not intended for consumer use, are seeing an improvement in profit ratio.

Figure 1 Changes in the profit ratios of major Japanese and South Korean companies (Electrical / Electronics)

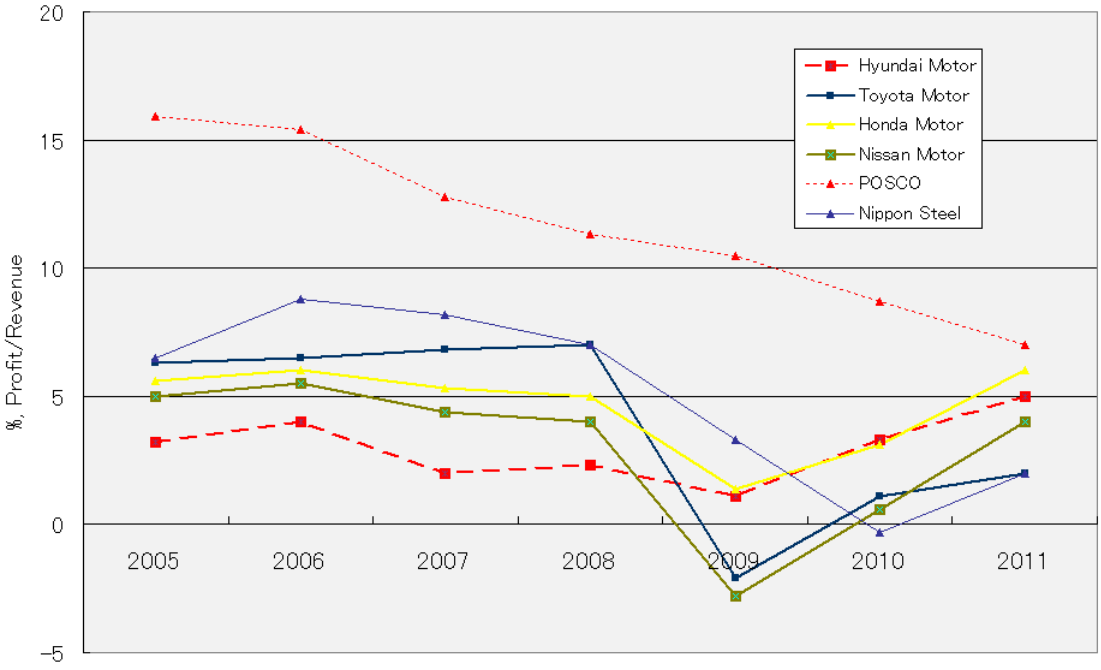


Source: Prepared based on the same resource as for Table 1

There is no significant change in the relationship between Japan and South Korea in Figure 2, either. Although the profit ratio of POSCO is on a downward trend, it still boasts a higher ratio than Nippon Steel Corporation, which is in the same line of business. As regards automobiles, it is worth noting that Hyundai Motor Corporation overtook and surpassed Toyota and Nissan Renault as of 2009 in terms of profit ratio. In the automobile industry, however, Hyundai's profit ratio in itself is not overly high like Samsung and has just barely reached Honda's level. Even with the percentage of Hyundai's overseas production finally having reached 50% in 2011, there is a notable gap between it and Toyota's nearly 70%. Moving forward, it is believed that the management ability necessary to place overseas production on track and the implementation of measures to address modularization, which is

progressing with the full-scale launch of electric vehicles, hold the key to increasing the profit ratio and will determine whether the discrepancy between the Japanese and South Korean profit ratios will expand to a level comparable to the electrical and electronics industry.

Figure 2 Changes in the profit ratios of major Japanese and South Korean companies
(Automobile / Iron and Steel)



Source: Same as for Figure 2

1.2.2. Decreasing technical disparity among Japanese, Chinese and South Korean companies

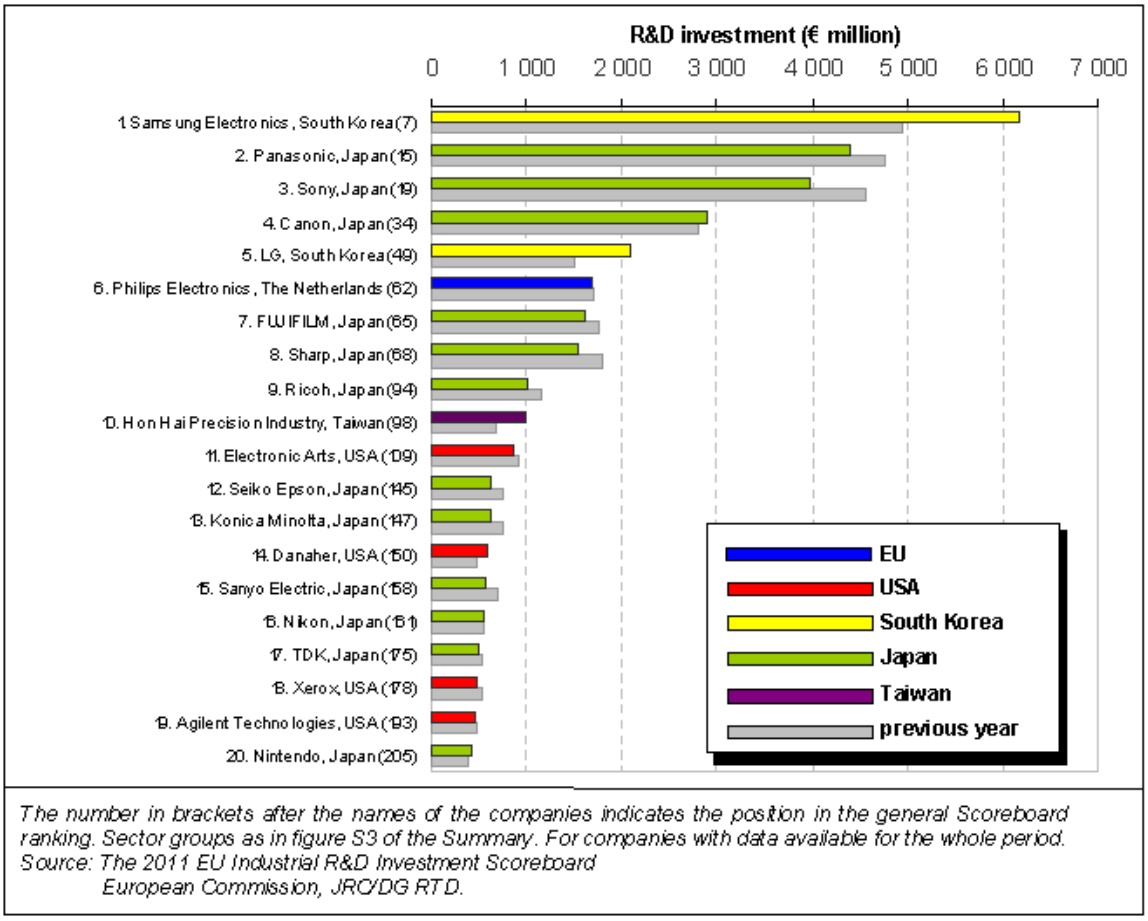
South Korean conglomerates prior to the currency crisis were relying heavily on loans in promoting extreme business diversification. Structural reforms following the crisis directed the companies' attention entirely to revenue and the permeation of MBA-type business management spurred this propensity, as can be seen from the example concerning Samsung described below. Business management in which wasteful research and development are cutback based on the idea that technologies can be purchased, companies specialize only in highly profitable business, and low profit businesses are eliminated within a relatively short period was commonly practiced.[2] This contrasted starkly with Japanese general electrical manufacturers that tend to put pressure on profit by continuing

with research and development for the purpose of maintaining a variety of technical seeds, being unable to make progress in narrowing down the scope of their business. Yet, it is also true that concentrated research and development is rendered possible by a high earning capacity.

The European Commission has been conducting a survey of the top 1,400 research and development companies around the world beginning in 2004 and releasing the results as the Industrial R&D Investment Scoreboard. Breakdown by country of the 2011 edition of the Scoreboard shows that Japan accounted for 22% (267 companies) of the total, following 35% for the United States and 29% for the EU. Although the breakdown as of the 2007 edition, which was the first year that the statistical survey was taken for the same number of companies, shows the United States at 40%, the EU at 32%, Japan at 18%, and "Other" comprising countries such as South Korea (25 companies), Taiwan (50 companies), China (19 companies) and India (18 companies) at 10%, the share of "Other" increased by 4 points in 2011, taking percentage points away from the United States and Europe.

The ranking list for the electrical and electronics segment shown in Figure 3 is characterized by the fact that, unlike the communications segment, it is dominated by Japanese and South Korean companies with only a few European and American companies. Samsung Electronics, which ranks seventh overall in the world, has an overwhelming presence in this field at 6.181 billion euros (approximately 650 billion yen), representing a significant increase in investment from the previous year. The research and development spending of Samsung Electronics has already exceeded that of GE and Intel overall, and there is an increasing difference in spending between Samsung and Japanese companies such as Panasonic and Sony, whose spending has decreased from the previous year, as well as Canon. As for companies other than Samsung, even LG Electronics (49th) has achieved a level exceeding Philips, Sharp and Ricoh. A major characteristic of South Korean investment in research and development is that it is attributable to a handful of large companies in reflection of the industry organization. Specifically, the aforementioned two companies and Hyundai Motor Corporation account for as much as 73% of the total investment. In this sense, there is a considerable gap between the situation of the large companies and that of the country overall, and the concentration of resources led to the strengthening of their competitive positions.

Figure 3 Corporate ranking of research and development investment in the electrical and electronic equipment segment



The number in brackets after the names of the companies indicates the position in the general Scoreboard ranking. Sector groups as in figure S3 of the Summary. For companies with data available for the whole period.
Source: The 2011 EU Industrial R&D Investment Scoreboard
European Commission, JRC/DG RTD.

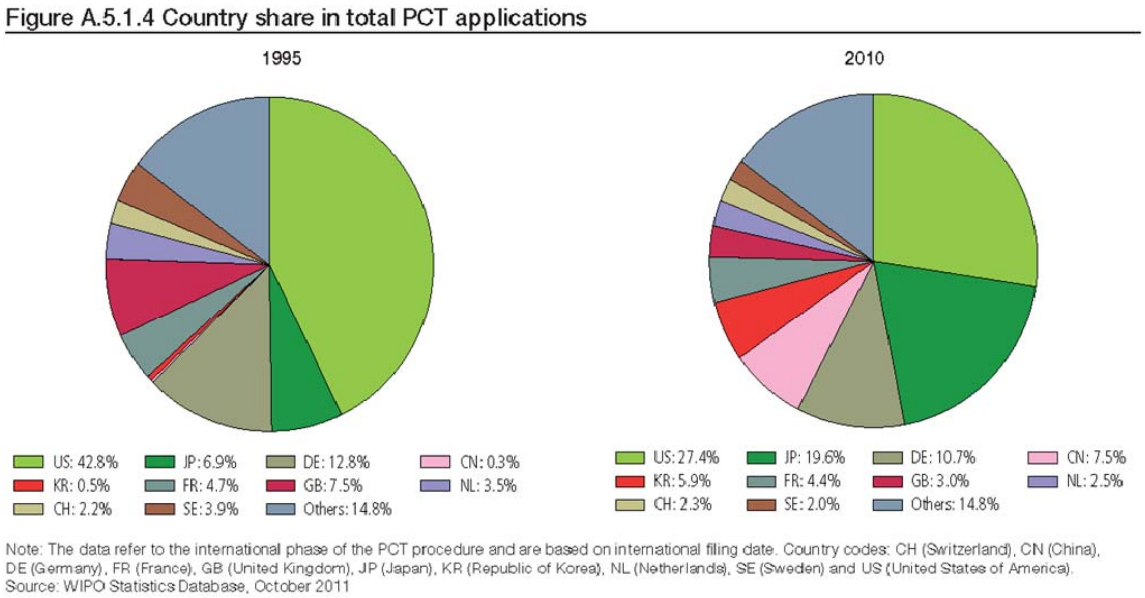
Source: European Commission (2012)

South Korea has been catching up rapidly also in terms of securing the fruits of research and development investment, supported by high earning capability, through patent applications and other means. Figure 4 is a comparison of the percentages of international patent[3] (PCT) applications filed by major companies in 1995 and 2010 (World Intellectual Property Organization: WIPO). The United States had an overwhelming presence in 1995 (42.8% share), followed by Germany, the United Kingdom and Japan (6.9%) in the upper ranks. Although it appears as if Japan, in second place in 2010, increased its share significantly to 19.6%, it has essentially remained flat since 2006 in reality, as is the same with Germany in third place. The only two countries that saw a significant increase in shares

during this period are China, which leaped into the fourth place (up from 0.3% to 7.5%), and South Korea in fifth place (0.5% to 5.9%), with little or no change in the shares of other countries. China and South Korea continued to record high increases in 2010 of 56.2% and 20.5%, respectively, while Japan recorded a 7.9% increase and the United States recorded a 1.7% decrease. China surpassed Japan for the first time in 2010 in terms of the numbers of patent applications filed on an office basis and by residents to become the second largest patent giant after the United States, resulting in a change that seemed to reflect the reversal in GDP ranking itself.

As show in Table 2, Panasonic and 17 other Japanese companies filed the most patent applications in the business segment in 2010 (top 50 companies), indicating the continuing effort to contain technologies in the form of patents. They were followed by 15 U.S. companies.[4] Only LG Electronics (seventh) and Samsung Electronics (17th) made the list from South Korea, and ZTE Corporation (second) and Huawei Technologies (fourth) were the only two companies from China. However, the number of applications filed by South Korean and Chinese companies are on the upward trend, and it can be said that a characteristic of PCT applications is that consolidated companies rank high in the number of filings.

Figure 4 Changes in the share of major patent applications



Source: WIPO (2011)

Table 2 Patent Application Ranking (2010) (Corporate Sector)

Overall Rank	Applicant's Name	Country of Origin	Number of PCT Applications		
			2008	2009	2010
1	PANASONIC CORPORATION	Japan	1,729	1,891	2,153
2	ZTE CORPORATION	China	329	517	1,868
3	QUALCOMM INCORPORATED	United States of America	907	1,280	1,675
4	HUAWEI TECHNOLOGIES CO., LTD.	China	1,737	1,847	1,527
5	KONINKLIJKE PHILIPS ELECTRONICS N.V.	Netherlands	1,551	1,295	1,433
6	ROBERT BOSCH CORPORATION	Germany	1,273	1,588	1,301
7	LG ELECTRONICS INC.	Republic of Korea	992	1,090	1,297
8	SHARP KABUSHIKI KAISHA	Japan	814	997	1,286
9	TELEFONAKTIEBOLAGET LM ERICSSON (PUBL)	Sweden	984	1,241	1,147
10	NEC CORPORATION	Japan	825	1,069	1,106
11	TOYOTA JIDOSHA KABUSHIKI KAISHA	Japan	1,364	1,068	1,095
12	SIEMENS AKTIENGESELLSCHAFT	Germany	1,089	932	830
13	BASF SE	Germany	721	739	817
14	MITSUBISHI ELECTRIC CORPORATION	Japan	503	569	726
15	NOKIA CORPORATION	Finland	1,005	663	632
16	3M INNOVATIVE PROPERTIES COMPANY	United States of America	663	688	586
17	SAMSUNG ELECTRONICS CO., LTD.	Republic of Korea	639	596	574
18	HEWLETT-PACKARD DEVELOPMENT COMPANY, L.P.	United States of America	496	554	564
19	SUMITOMO CHEMICAL COMPANY, LIMITED	Japan	371	452	484
20	FUJITSU LIMITED	Japan	984	817	475
21	MICROSOFT CORPORATION	United States of America	805	644	470
22	E.I. DUPONT DE NEMOURS AND COMPANY	United States of America	517	509	452
23	INTERNATIONAL BUSINESS MACHINES CORPORATION	United States of America	664	401	416
24	MITSUBISHI HEAVY INDUSTRIES, LTD.	Japan	215	373	391
25	CANON KABUSHIKI KAISHA	Japan	280	401	379
26	HITACHI, LTD.	Japan	112	190	372
27	BOSCH-SIEMENS HAUSGERATE GMBH	Germany	394	413	371
28	PROCTER & GAMBLE COMPANY	United States of America	412	341	359
29	SONY CORPORATION	Japan	307	328	347
30	NOKIA SIEMENS NETWORKS OY	Finland	68	313	345
31	NXP B.V.	Netherlands	407	596	320
32	KABUSHIKI KAISHA TOSHIBA	Japan	213	327	318
33	APPLIED MATERIALS, INC.	United States of America	197	296	313
34	THOMSON LICENSING	France	462	359	311
35	HONDA MOTOR CO., LTD.	Japan	193	318	309
37	BAKER HUGHES INCORPORATED	United States of America	296	375	307
38	MURATA MANUFACTURING CO., LTD.	Japan	239	254	305
40	NTT DOCOMO, INC.	Japan	226	249	298
42	MOTOROLA, INC.	United States of America	778	538	290
43	SONY ERICSSON MOBILE COMMUNICATIONS AB	Sweden	402	435	289
43	PIONEER CORPORATION	Japan	497	283	289
43	MEDTRONIC, INC.	United States of America	244	236	289
46	DOW GLOBAL TECHNOLOGIES INC.	United States of America	285	304	288
47	EASTMAN KODAK COMPANY	United States of America	299	311	284
48	KYOCERA CORPORATION	Japan	332	362	279
49	HENKEL KOMMANDITGESELLSCHAFT AUF AKTIEN	Germany	269	262	275
49	ALCATEL LUCENT	France	212	283	275
49	FUJIFILM CORPORATION	Japan	155	264	275
52	GENERAL ELECTRIC COMPANY	United States of America	326	307	274
53	CORNING INCORPORATED	United States of America	228	285	268

Note: Due to confidentiality requirements, the PCT data are based on the publication date. Top applicants are selected according to the 2010 total.
Source: WIPO Statistics Database, October 2011

Source: WIPO (2011)

1.2.3. Rapid progress in China's scientific and technological capabilities

What can be said about the overall scientific and technological capabilities that greatly impact the competitive position of companies? Table 3 shows university rankings for patent applications. Unlike the corporate sector, the U.S. has an overwhelming presence, accounting for 30 out of the top 50 universities. Although nine Japanese universities,[5] mainly national universities including the fourth-ranking Tokyo University, made the list, the difference between Japan and the United States increased further as compared with the corporate sector. In the case of South Korea, five universities made the list, led by Seoul National University in fifth place, and the gap between Tokyo University and Seoul National University is shrinking. Meanwhile, no Chinese universities made the list; it is highly likely that universities are not filing patent applications with the PCT and are still filing them via offices in the areas of residence.

In fact, China continues to expand its presence at a rapid pace in the area of scientific and technological papers. Figure 5 show excerpts of data compiled by the National Institute of Science and Technology Policy (2011) of the Ministry of Education, Culture, Sports, Science and Technology on the numbers of research papers published by major countries from 1981 through 2010 in the eight areas of chemistry, material science, physics, computer science and mathematics, engineering, environmental science and earth science, clinical medicine, and basic chemistry for life sciences using the Thomson Reuters Web of Science database. According to the database, while the United States remained dominant during the period from 2008 through 2010, accounting for 27.5% of the research papers published in the eight fields (three-year moving average), its share is on the downward trend. By contrast, China is rapidly expanding its share. China's share, which was no more than 3.6% in the period from 1998 through 2000, increased to 11.1% for the period from 2008 through 2010, pushing China up past the United Kingdom, Japan, Germany, Canada, Italy and Russia to second place. While South Korea also moved up in ranking from 16th to 11th, its share still remains at about 3.2%, placing it behind Canada with a smaller population and Spain with a comparable population. Japan was ranked fifth (6.8% share), overwhelmed by rapidly advancing China and surpassed also by Germany.

Incidentally, the Report also provides 10% adjusted share from the perspective of "quality", extracting research papers ranking in the top 10% of the most frequently cited papers and making adjustments so that they will account for 10% of the total number of research papers. The U.S. share thus obtained for the period from 2008 through 2010 is even higher at 42.3%, showing the country's strong ability to disseminate information. Moreover, China is also ranked fourth after the United Kingdom and Germany, securing a 7.4% share. It is worth noting that China's share of the adjusted

number of research papers increased by more than did the actual number, as compared with the period from 1998 through 2000. Japan, by contrast, saw a decrease not only in the actual number but also the adjusted number of research papers, with the drop in ranking being steeper for the latter. Japan has always been the only major developed country whose share of adjusted number of research papers was lower than the actual number to begin with, and the same configuration applies to both China and South Korea. Yet, compared to Germany, which had a similar tendency in the past but successfully reversed the relationship between the two shares, and the United Kingdom, which is further enhancing the quality of its papers, the improvement that Japan is making is minimal at most. It can be said that the loss to China in quantity and delay in the improvement of quality is accelerating the reduction of Japan's presence.

A point worth noting is that, as emphasized by the report, Japan has fallen behind in international co-authorship, which is a global trend. Although internationally co-authored papers account for only about 20.7% of the total worldwide even for the period from 2008 through 2010, it is on the upward trend, as there is a relatively strong positive correlation between international co-authorship and the frequency of citation. While it is a matter of course the United States and the United Kingdom are in the lead in this area, given that globalization of universities began early in the two countries due in part to the language advantage, the percentage is high also for France and Germany at more or less 50%. Meanwhile, the rate of increase in Japan's international co-authorship is also slow and is still at 25.8%, which is no different from the levels of China and South Korea. This is an indication that the issue comprises not only the research and development activities in themselves, but also globalization of the activities and the ability to disseminate information thereon.

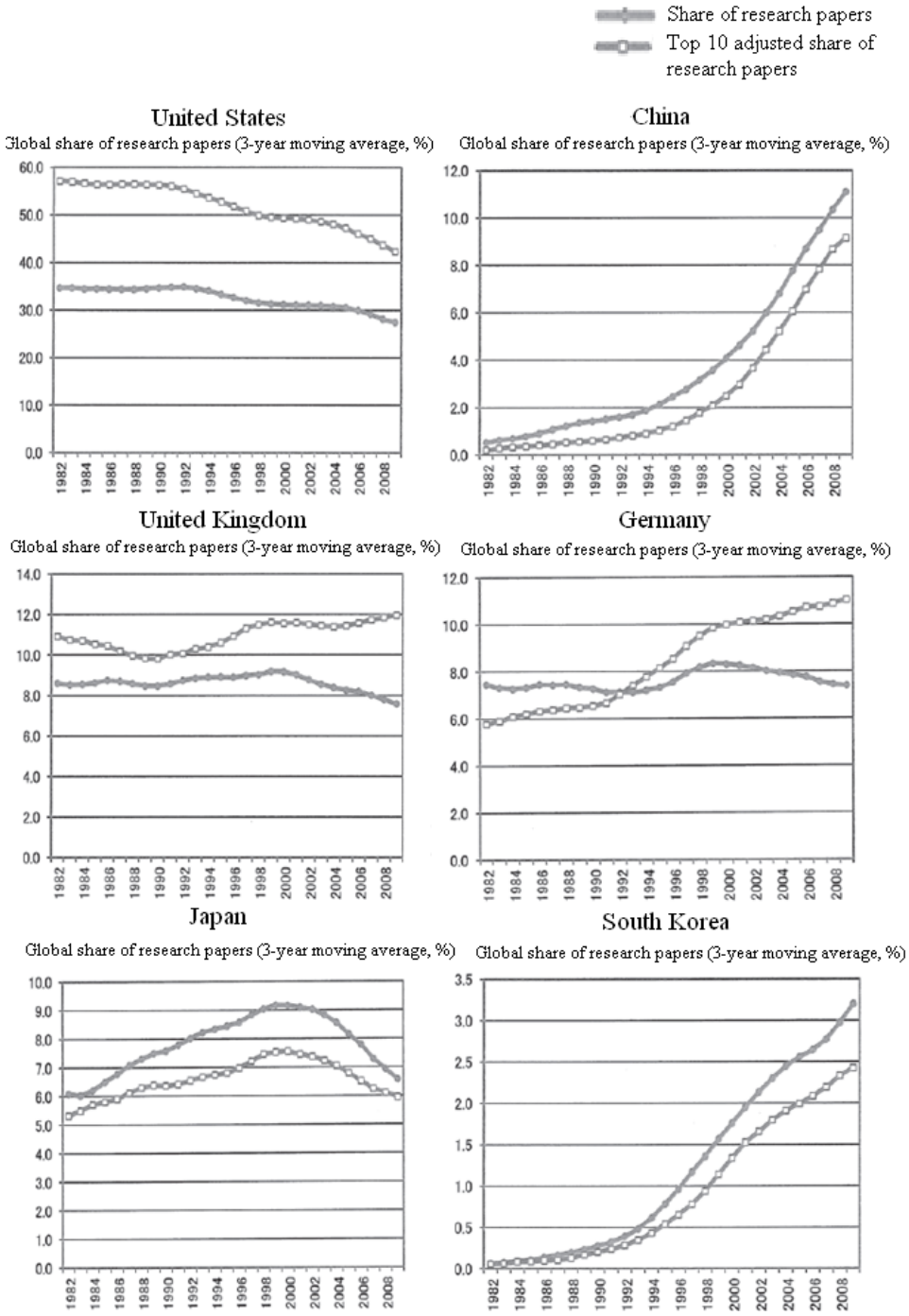
Table 3 Patent Application Ranking (2010) (Universities)

Overall Rank	Applicant's Name	Country of Orign	Number of PCT Applications		
			2008	2009	2010
39	UNIVERSITY OF CALIFORNIA	United States of America	347	321	304
100	MASSACHUSETTS INSTITUTE OF TECHNOLOGY	United States of America	189	145	146
115	UNIVERSITY OF TEXAS SYSTEM	United States of America	159	126	129
143	UNIVERSITY OF FLORIDA	United States of America	127	111	107
144	UNIVERSITY OF TOKYO	Japan	71	94	105
156	SEOUL NATIONAL UNIVERSITY	Republic of Korea	72	76	97
167	COLUMBIA UNIVERSITY	United States of America	130	110	91
167	HARVARD UNIVERSITY	United States of America	110	109	91
176	JOHNS HOPKINS UNIVERSITY	United States of America	81	87	89
198	CORNELL UNIVERSITY	United States of America	49	70	81
205	UNIVERSITY OF MICHIGAN	United States of America	70	61	79
211	UNIVERSITY OF PENNSYLVANIA	United States of America	99	80	76
284	OSAKA UNIVERSITY	Japan	57	38	60
284	ARIZONA STATE UNIVERSITY	United States of America	31	37	60
289	UNIVERSITY OF UTAH	United States of America	60	66	59
289	UNIVERSITY OF ILLINOIS	United States of America	68	52	59
325	LELAND STANFORD JUNIOR UNIVERSITY	United States of America	83	67	54
344	KOREA ADVANCED INSTITUTE OF SCIENCE AND TECHNOLOGY	Republic of Korea	24	43	51
349	CALIFORNIA INSTITUTE OF TECHNOLOGY	United States of America	82	52	50
349	PURDUE UNIVERSITY	United States of America	36	45	50
366	DUKE UNIVERSITY	United States of America	46	38	48
375	WISCONSIN ALUMNI RESEARCH FOUNDATION	United States of America	89	64	47
375	UNIVERSITY OF SOUTHERN CALIFORNIA	United States of America	59	64	47
375	KYOTO UNIVERSITY	Japan	44	44	47
384	ISIS INNOVATION LIMITED	United Kingdom	35	45	46
384	HANYANG UNIVERSITY	Republic of Korea	19	27	46
402	UNIVERSITY OF MARYLAND	United States of America	47	36	44
413	HEBREW UNIVERSITY OF JERUSALEM	Israel	44	33	43
421	UNIVERSITY OF NORTH CAROLINA	United States of America	37	38	42
429	TOHOKU UNIVERSITY	Japan	34	39	41
442	SWISS FEDERAL INSTITUTE OF TECHNOLOGY	Switzerland	26	36	40
447	TEL AVIV UNIVERSITY	Israel	41	47	39
460	YONSEI UNIVERSITY	Republic of Korea	43	51	38
460	UNIVERSITY OF MASSACHUSETTS	United States of America	44	41	38
460	NORTHWESTERN UNIVERSITY	United States of America	49	32	38
460	HOKKAIDO UNIVERSITY	Japan	35	33	38
460	KEIO UNIVERSITY	Japan	28	34	38
483	UNIVERSITY OF WASHINGTON	United States of America	52	52	37
483	INDIANA UNIVERSITY	United States of America	22	24	37
496	OKAYAMA UNIVERSITY	Japan	26	24	36
496	MIAMI UNIVERSITY	United States of America	20	30	36
514	CAMBRIDGE UNIVERSITY	United Kingdom	28	27	35
525	UNIVERSITY OF COLORADO	United States of America	29	38	34
525	EMORY UNIVERSITY	United States of America	40	24	34
525	UNIVERSITY OF QUEENSLAND	Australia	33	29	34
525	NAGOYA UNIVERSITY	Japan	28	27	34
559	STATE UNIVERSITY OF NEW YORK	United States of America	51	39	32
559	OHIO STATE UNIVERSITY RESEARCH FOUNDATION	United States of America	40	43	32
577	ISRAEL INSTITUTE OF TECHNOLOGY	Israel	45	66	31
577	POSTECH FOUNDATION	Republic of Korea	32	39	31
577	NIHON UNIVERSITY	Japan	21	22	31

Note: Due to confidentiality requirements, the PCT data are based on the publication date. Top applicants are selected according to the 2010 total. University applicants include applications from all types of academic institutions.
Source: WIPO Statistics Database, October 2011

Source: Same as for Table 2

Figure 5 Changes in numbers of Japanese, South Korean and Chinese scientific and technological papers



Source: National Institute of Science and Technology Policy of the Ministry of Education, Culture, Sports, Science and Technology (2011)

2. Competitive relationships and human resource problems among Japanese, Chinese and South Korean companies

2.1. Renovation of business management by South Korean companies and measures implemented by Japanese companies

The framework for discussions thus far has mainly been "major companies" rather than "countries". Although the World Competitiveness Yearbook of the IMD and the ranking provided by the World Economic Forum are primarily taken up from the perspective of the competitive positions of "countries", neither is entirely objective in that both are combinations of economic indices and information from questionnaires. As long as an entity is a "country", a country with respect to which an "average value" is essentially meaningless, such as China, and a city state, such as Luxemburg, are uniformly compared. On the other hand, the ranking of globally operating "major companies" is a "result" of the performance of organizations that consolidated the business resources present in their own countries and major markets, regardless of the size of the countries, and succinctly represent a part of the competitive positions of the relevant countries. Meanwhile, "major companies" have numerous business partners within the country, though there may be some differences in the size and depth of supporting industries, and their performance ultimately impact the "countries" overall as well. This influence path appeared particularly important to the Japanese business community, whose development centered on the assembly-type machinery industry as a result of having few resources.

Going back to the ranking in Table 1, all companies listed are regional companies of Japan, South Korea and China, with the exception of Taiwanese and Hong Kong companies, one Indian, one Malaysian and one Thai petroleum refining company, and one Indian IT company. Yet, when looking at the overall picture, it can be pointed out that, from the perspective of Japanese "major companies", competition with South Korean companies differ from that with Chinese companies.

For Japan, direct global competitors in the electrical and electronics industry and the automobile industry are primarily South Korean companies, which also are the cause of Japanese companies falling in rank compared to 2005. However, a close look at the ranking list reveals that it does not include any South Korean company that is not a manufacturer, such as a financial, trading, energy or communications company. It is highly likely that global manufacturing conglomerates have the propensity to internalize only the functions necessary, either within itself or within its group, to reduce transactions expenses and secure high earning capacity. Following the Asian currency crisis in 1997, a vast majority of large conglomerates moved on to the issuance of corporate bonds as means of low cost fund procurement, and the more than ample liquidity on hand led to the weakening of ties with banks.

Although not much can be expected of trading companies in terms of risk-related financial functions and logistics functions compared to Japanese companies, the conduct of marketing activities and the establishment of a sales network by manufacturers themselves at their own risk enabled "reverse engineering", which involves the detection of consumer needs and prompt reflection thereof in product planning, and this became a strong advantage in emerging market strategies. On the other hand, the machinery industry has specialized in the manufacture of hardware and is yet unable to gain adequate advantage with regard to "package-type" products that comprise software or a system. In spite of becoming the largest cell phone manufacturer in the world, Samsung Electronics had minimal success in the global popularization of its proprietary OS for smartphones ("BADA"). It also failed to make a preemptive move similar to Apple's iPhone with respect to the application business, and it is now mutually engaged in a worldwide patent infringement litigation battle with Apple. In the automobile industry, South Korea is five years behind Japan in the development of hybrid vehicles and has some weaknesses left in the area of interface between hardware and software, such as energy regulation technologies.

Looking at it from a different perspective, it probably means that the competitiveness of South Korean companies is attributable to their avoiding risks to the extent possible in the research and development of original products and, in the case of semiconductors, liquid crystal panels or the like, largely focusing investments on research and development relating to the linear enhancement of next-generation functions and specifications, as well as on large-scale production, thereby increasing their global share, reducing their competitors and ensuring tremendous profit. In a sense, this method is a secondary strategy based on the assumption that Japanese companies, which are their competitors, will continue to take research and development risks to make original products while wearing themselves out, and the extent of commitment South Korean companies are willing to make is still unclear as regards basic development in areas where they are in the lead. While they have a high earning capability, the number of their patent applications is smaller than that of Japanese or Chinese companies, and even deterioration of quality is observed in the area of scientific and technological papers as the actual number of research papers increases but the adjusted number, which takes into consideration the frequency of citation of the papers, falls further behind. It can be said that South Korea's competitive strategy is characterized by the practical acceptance of the fact that its business environment is different from that of U.S., Chinese and Japanese companies, which are able to rely on the domestic market and take risks, and in specializing in making profit.

As opposed to the focus placed by Japanese companies on research and development based on the principle that the development of cutting edge technologies leads to the generation of markets, reverse engineering by South Korean companies involves the manufacture only of products that will sell. Various things have already been pointed out in connection with the comparison of the two approaches (Hayashi (2007), Iizuka (2009), Senoh (2009), Chang (2009), etc.). While research and development strategies are important, they are not everything in terms of competitive strategy. South Korean companies began to place the utmost priority on earnings as a result of a major change in business management methods following the currency crisis.

The biggest difference with Japanese companies here is that the business management of a vast majority of large companies[6] in South Korea are still controlled by their respective owners, and drastic reforms were rendered possible under their command. The "*zaibatsu*" style of business management that places priority on the expansion of market share rather than earnings and competing to diversify business through external loans, along with the rule-and-govern structure, were highly criticized. In response, owners underwent a dramatic change in management awareness to place priority on earnings rather than "industrial patriotism", which involved tangible and intangible government support in difficult times. The drastic change was made by steering away from the Japanese-style management learning and towards U.S.-style business management overall through, among other things, (1) enhancement of the influence of financial affairs and business management with emphasis on stock price, (2) thorough implementation of the merit-based system through the adoption mainly of the annual salary system and stock options, and (3) broadening of the authorities of expert managers and thorough enforcement of the principle of rewarding good work and punishing bad work. Structural reforms following the currency crisis had a large impact, including changes in the provision of funds by banks to the capital market, added flexibility of the labor market due in part to the implementation of the system of dismissal for reorganization purposes, and strengthening of shareholder rights.

As a matter of course, business reforms of companies affiliated with conglomerates were conducted by the business owners and did not signify U.S.-style corporate governance premised on the separation of ownership and business management. Owners continued to monitor internal affairs through the corporate secretariat and the strategy office and controlled personnel affairs relating to the top management. Even the overwhelming swiftness in decision making, as compared with Japanese companies, is ultimately attributable to the difference in ownership structure. Additionally, the first establishment of the merit-based system resulted in the provision of sufficient annual salaries to competent expert managers to enable them to put their positions on line in making a decision; thus,

accelerating the decision making. The recruitment and accordance of adequate treatment to external, particularly foreign, human resources was facilities by the transition of South Korean personnel to the annual salary system, as well as the essential requirement of English as a foreign language. South Korean companies began to spend their earnings on the acquisition of human resources from top-ranking universities worldwide,[7] and U.S. MBA-type thought patterns began to function as a common platform between South Koreans and foreigners. Because of the economic crisis in Europe and the United States, this trend is becoming even more prominent due to the intensification of competition for employment as a result of large South Korean companies becoming the only potential employers, once again, of the numerous South Korean students who studied abroad

What is of interest is that the traditions of discipline at production sites, assignment of importance to creativity, and long-term perspective, along with adequate internal training and education, which were all learned from Japanese corporations, are still retained and the number of internal promotions remains large. In the end, it should be said that the source of the competitiveness of South Korean companies is the achievement of balance between "*monozukuri* (manufacturing)" and "earnings" through the combination of South Korean-style ownership, U.S.-style financial management, marketing, advertising, localized business management, and Japanese-style site management (Chang (2009), Fukagawa (2011), etc.) As is described below, it is believed that the foregoing is an indication that it will not be easy for Japanese companies to follow suit in achieving the strong momentum and the flexibility in dealing with the market that the South Korean companies have, unless Japanese companies go beyond requiring a certain level of English fluency or otherwise increasing the level of interest for the acquisition of global human resources and make the switch to a business management system adequate for globalization.

2.2. Chinese companies and Japanese companies aiming for U.S.-type business management

Meanwhile, competition with regional Chinese companies does not appear to have reached the level of that with South Korea. While Chinese companies account for the top three in Table 1, an overwhelming majority of Chinese companies are infrastructure related as previously mentioned, and their main market is the huge domestic market that is fiercely protected by extensive regulations, with the exception of resource development and economic cooperation-type participation in some developing markets. Both of the two manufacturers are in the automotive business. While they have begun exporting to some developing markets armed with low prices, their respective share in developed markets is still limited. Due in part to the appreciation of the renminbi, competition with

Japanese companies will likely take place first in the Chinese market, which is the largest in the world, and competition on a global scale, as with South Korean companies, presumably will not be for a while longer. Interestingly enough, while China is literally a "global manufacturing plant" in electronics and electrical goods, there is no regional company that can make the ranking list shown in Table 1, as a majority of the manufacturers are foreign-funded companies that export their products or manufacture on an OEM basis. Although banks, insurance companies and the like also made the ranking list, they are protected by regulations in the domestic market with little exposure to competition from foreign-affiliated companies and have also yet to make a full entry into the global megabank competition.

While there is seemingly less direct competition with Chinese companies as compared with South Korean companies, China appears to be striving for a U.S.-style industrial society as it steadily promotes the development of basic technologies in the domestic market through means that involve non-civilian sectors, such as industry-government-academia collaboration in Zhong Guan Cun, and encourages the venture startups. The result is the earlier mentioned second highest share in scientific and technological research papers. Broken down by area, China differs significantly from the United Kingdom and the United States, being strong in materials, computer science and engineering, but weak in life sciences, earth and environmental sciences and clinical medicine. Its share structure is closer to that of South Korea than Japan, which has a relatively well balanced share structure. However, given the financial position of the central government, not to mention the political inclinations, it is possible for China to concentrate its investment in space engineering, communications and other areas of national pride. Accordingly, future investment should be expected to be better balanced as it continues to increase. Since many of the infrastructure-related companies are still state run, there is ample room for technology development pursuant to orders from above.

If the strength of South Korean companies lies in the balance between its technical capabilities and global business management skills, then the competition against Chinese companies will differ from the competition against the South Koreans in a number of ways, One is that China, like the United States, has a much stronger orientation towards basic research as a result of having an enormous national defense department. Although it still lacks the abilities to build a business model that would tie such research into civilian needs and demands, there is a possibility that a framework will eventually be established to render it possible to seek outlets for spillover technology not only overseas, but also within the country. China, in particular, has a far greater potential for technological capacities than Japan or South Korea, with its still abundant supply of engineers in terms absolute number, in spite of the anticipated progress in the decline in birthrate and increase in the proportion of the elderly, and its

apparent freedom from the issue of "avoiding science and engineering" that is surfacing in Japan and South Korea,

The second difference is that M&A has already become a dominant means of acquiring technologies and brands, given that the government is already implementing aggressive M&A promotion policies due in part to the sterilization of the large foreign reserve and the funding abilities of higher ranking banks. According to an announcement of the Ministry of Commerce of the People's Republic of China, China's direct external investment (actual) increased by 21.7% from the previous year to $68.81 billion in 2010, pushing the country past Japan and the United Kingdom to make it the fifth largest investor in the world. Attributable in part to problems with the global business management skills of Chinese companies, there are a few apparently failed M&As. Either way, there is no doubt that the competitive conditions of Chinese companies differ from those of South Korean companies which, like Japanese companies, are not so aggressive or enthusiastic with regard to M&As due to the still weak won, although they may consider green field investment in themselves.

The third difference is that unlike Japan, which ultimately did not take action to globalize the yen, China is aspiring to globalize the renminbi. The Asian market, where the first globalization attempt is taking place, there are high expectations for the renminbi with countries accepting the currency for trade payments regardless of the limitation on exchangeability. In 2012, even Japan addressed the situation by deciding to purchase Chinese national bonds. The settlement currency in Asia is the dollar more often than not, and yen-based settlement is adopted only for some transactions of capital goods and intermediate goods, with respect to which Japan has a large share. Progress in renminbi settlement implies that Japanese companies, which bear foreign exchange risks with respect to both the United States and China, will be competing in the Asian market in the future with Chinese companies which do not bear any foreign exchange risks.

As described above, the main issue in the competition between South Korean and Japanese companies is the delay on the part of Japan in renovating business management rather than technical strength itself. On the other hand, competition with Chinese companies will, for the time being, be a matter of contending against their abundant financial power or of friction relating to the protection of intellectual property, such as trademarks. However, it should be anticipated that the "difference in national power" will become increasingly more prominent, with China eventually closing in and overtaking Japan in the area of basic technological capabilities.

2.3. Global human resources strategy of Japanese companies for countering South Korean and Chinese companies

2.3.1. Global competition with South Korean companies and relevant global human resources

Though there are differences in competitive conditions, what do Japanese Companies need in order to succeed in the gradually intensifying competition against South Korean and Chinese companies? The issue is examined below from the perspective of human resources.

A dominant aspect of the competition against South Korea is that Japanese companies are adhering to the principle of procuring everything internally, whether it be human resources, objects, technologies or funds, whereas South Korean companies are not. Bae (2012) used the data from the IMD World Competitiveness Yearbook to prepare a matrix involving the utilization of own countrymen as core human resources relating to technology and the level of attraction towards adoption of external resources. Based on the matrix, Pei classified the United States and Singapore as the type that secures human resources externally, China and India as the combination type (including own countrymen hired in from the outside), and South Korea, Germany, Israel and Japan as the domestic type. Of those, Japan was rated the highest, aside from Israel and, moreover, the least inclined to adopted external resources. The study implies a shift toward the combination type as a future path to be taken by South Korea; however, companies such as Samsung have already taken the lead in making such a shift. As previously stated, major companies in South Korea are able to switch expeditiously to the combination type pursuant to the command of the owner manager. South Korean companies' utilization of human resources in global business management is not yet at a diversity level comparable to European and U.S. multinational companies, where the nationality or gender of human resources is never an issue at any level, and is indeed a combination type where global human resources are functionally recruited in accordance with the current conditions of the country. Even so, given that some of the human resources are literally sought and utilized on a global scale, South Korean companies have made more quantitative progress in the globalization of human resources than Japanese companies that are practicing the principle of internal procurement. While there may be cultural differences depending on the company, it is generally said that South Korea's strengths in business management are (1) the speed in decision making, (2) the ability to implement and execute, and (3) flexibility to changes in the market (op. cit. Chang (2009), etc.) and are integrally tied into the combination-type human resources and organization.

In the South Korean "combination type", the top management assisting the business owner is essentially comprised entirely of South Koreans with a large majority having been with the companies

since graduation from universities or graduate schools and having made their way up through the internal promotion system. This is because experience is needed more than anything else in order to correctly surmise the intentions of the business owner in operating a gigantic organization. Another characteristic is that the manufacturing departments, which comprise the foundation of a business, and sales and marketing departments, which drive a business, are largely staffed by South Koreans employees who have always been with the companies and into whom loyalty to the relevant organization and achievement of goals have been imprinted through training programs and the like.

On the other hand, relatively large numbers of external human resources, including foreigners, are recruited for research and development, financial affairs, legal affairs, IR, marketing, design and other highly specialized staff departments. The nationalities of human resources working in the research and development departments of Samsung Electronics number more than forty. Many companies, including Samsung, required high English language proficiency and a second foreign language (formerly Japanese) at the time of initial recruitment to begin with. The number of South Korean employees who had studied abroad or are children of immigrants also began to increase when the level of English required was raised higher following the currency crisis, resulting in the lowering of the hurdle for recruitment of foreigners. Moreover, while it is true that many of the management have always been with the respective companies and nowhere else, the reality is that only those who survive the intense competition under the merit-based annual salary system are promoted to the director level. The fact that human resources have always been highly liquid overall, due in part to the selection of individuals for promotion to the director level at a younger age (up to about the mid-40s) as compared with Japanese companies, is contributing to the adoption of the practice of recruiting foreigners and external human resources.

Characteristics (1) through (3) above allowed South Korean companies to go global and pose a threat to Japanese companies by providing the speed necessary to capture emerging markets, enabling them to plan products and services that address consumer needs, and imparting strong sales capabilities and quality assurance skills. Given that ownership is separate from business management in most cases and "cloister government" structures comprising former CEOs remain, large Japanese companies will not be able to renovate business management in the same way that South Korean companies did. However, because Japanese companies have a far longer history of global business management than South Korea and have also been engaging actively in M&As, they have a reasonable stock of non-Japanese human resources and networks. Companies with a foreigner serving as the CEO, such as Nissan Motor Co., Ltd., or as a business division director as a result of an acquisition, such as Asahi Glass Co., Ltd.,

are no longer a novelty. In truth, large Japanese companies may find it more attractive to operate as a domestic type, like Germany, rather than a combination type, like South Korea, and focus on basic research, avoiding price competition with emerging companies in the consumer products segment. However, since the competition with South Korea is already spreading out from the consumer products segment of home appliances and automobiles to cover a broad range of segments, including intermediate goods, capital goods and engineering, it can be said that securing and appropriately allocating human resources capable of countering (1) through (3), regardless of nationality, sex or age, is a pressing issue. Global competition with South Korea suggests the following to Japanese companies:

(1) Improvement of English language proficiency: It can be said that this is the simplest, yet most urgent task on hand. Because the number of South Korean students of the high school age or younger studying abroad surged after the currency crisis and individuals who completed undergraduate and/or graduate level education in the United States or United Kingdom began to enter the labor market in larger numbers, the English proficiency of new recruits in South Korea improved by leaps and bounds. Those who were educated within South Korea were also required to study English beginning in elementary school and have had opportunities to study abroad as a part of cram school programs, independent summer programs, short-term overseas training and the like. The TOEIC cutoff score for new recruits of global companies is about 800, which is far higher than Japan's average level of 480 (according to ETS, 2010).
(2) Utilization of graduate degree holders in the humanities: Because Japanese companies have traditionally been enthusiastic about securing human resources with engineering degrees, there are many graduate degree holders in engineering. However, there is little awareness regarding graduate degree holders in the humanities and they are not accorded high premium either in terms of position or treatment within large companies, be they degrees from business, law or accounting schools. Furthermore, there is limited hiring in the case of holders of degrees from general graduate schools. By contrast, in South Korean companies the premium value of a master's degree is broadly recognized, with master's degree holders often being assigned to a department reasonably suitable for the area of specialty. This is true also of foreigners.
(3) Hiring method: In the case of global human resources, Japanese companies are also regularly hiring students studying abroad through such venues as the Boston Career Forum. However, South Korean companies that do not have such group opportunities available are reaching out directly to

top class graduate schools worldwide by offering a course specifically on the company or by utilizing alumnae networks. In particular, because they have been hiring top ranking students from business schools, they are successfully building a platform that they share with top class companies worldwide. This recruitment method is not unique to South Korea and is commonly practiced by emerging countries. The lack of such platforms on the part of top executives who came up through the internal promotion process with only undergraduate degrees may prove to be a disadvantage in conducting global business.

(4) Review of internal and external training systems: Although many companies in Japan enhanced internal training programs and had study abroad programs where employees were sent to well-known graduate schools overseas during the economic bubble, there has been a tendency to downsize training systems due in part to the decline in global business during the "lost two decades" following the collapse of the bubble economy. By contrast, South Korean companies have been pouring their ample earnings into employee training, in addition to encouraging employees to take advantage of opportunities to receive graduate level education through evening courses or weekend management courses. In fact, employees themselves are extremely eager and diligent about proactively acquiring opportunities for education and forming the "next" career, due to the collapse of the long-term employment practice. Curriculums offered inside and outside of the companies are extremely diverse, and curriculums offered by universities for cultural refinement are also receiving reasonably positive feedback.

(5) Presentation of career paths and improvement of work environment: The retention of competent human resources has become a global competition, where annual salaries are viewed in terms of the market rate. Accordingly, it is necessary to offer to external human resources recruited treatment that is adequate enough to retain them and yet still acceptable to domestic employees, as well as be able to present to the human resources hired career paths that they find satisfactory. South Korean companies transitioned to the annual salary system with respect to white collar workers on the occasion of the currency crisis and made considerable progress in the clarification of the scope of duties and performance standards. This facilitates envisioning of the future on the part also of external human resources hired as well. Moreover, environmental considerations are given also with respect to family members (educating children in English, medical facilities, housing, etc.) residing with the employees, and there are also plans for the government to provide some level of aid through special zones or other entities. Should the conditions relating to the

foregoing points drift further apart, Japanese companies will be placed at an even greater disadvantage in the competition to acquire global human resources.

2.3.2. The rise of Chinese companies and measures implemented by Japanese companies

Since South Korean companies are focusing on high profitability areas when investing in research and development, competition against them can be better described as a competition of global business management capabilities, rather than technological capabilities. "Combination type" business management involving the intake of external human resources is inevitable for South Korea, which has a limit on human resources with a natural science or engineering background. In contrast, how should the competition with China be viewed?

First of all, among the regional companies of the Chinese civilian sector, infrastructure-related state-run companies have an overwhelming presence. China weathered the so called Lehman Shock by increasing public investments, and infrastructure-related companies were able to achieve a large growth. Infrastructure-related companies are showing strong interest in overseas advances as well in areas such as high-speed railways and highway construction, and the support of the government, which is enthusiastic about economic cooperation, can also be expected. However, it was not long ago that the focus was on hardware in aspiring for growth, and there still is a limit to its ability to provide overseas packaged infrastructure incorporating software as well. Although the derailment of the high speed train in 2011 was a domestic incident, it verified the lack of adequate software, such as driver work shifts, equipment and materials on hand, and the ability to deal with accidents. Accordingly the Chinese government announced that it will refrain from the export of high-speed railways for the time being. In this respect, China still is not a country that Japan must compete directly with in the export of packaged infrastructure, which Japan is proposing as the key to economic reconstruction.

However, in terms of research and development, it is highly likely that state-run infrastructure giants, like NTT and JR in the past, will seek to strengthen their basic research work, as well as research relating to matters with policy needs, and build up their strength in this respect moving forward. These companies have stable sources of revenue from the huge domestic market, and the Chinese government is also keenly aware of the importance of making improvements to the infrastructure with a view to redressing disparities. China is expected to continue to work on basic research due to its strong enthusiasm for the adoption of Chinese standards as international standards, backed by the tremendous size of its market. China's strength lies in its ability to secure an overwhelmingly large supply, as compared with Japan and South Korea, of human resources with a natural science or engineering

background. The supply of human resources with a master's or a higher degree in natural sciences or engineering numbers 180,000 annually and has doubled since 2005 (2010 China Statistical Yearbook on Science and Technology), The number of researchers per 1,000 employees is still low at only about 2.5 as opposed to 13.7 in Japan and 12.5 in South Korea. However, in terms of the absolute number (actual figures for 2008) of individuals with a doctorate in the natural sciences, China ranks second at 28,000 after the United States with 33,000 according to Science and Engineering Indicators of the United Sates. Moreover, it has by far exceeded the number of U.S. citizens, excluding foreigners, with the degree since 2003. This supply is a full digit larger than the 8,000 of Japan or the 3,500 of South Korea. Under the university and research institution advancement project ("Project 985") dating back to 1998, more than 360 billion yen continues to be allocated each year. In addition, numerous human resource development programs are in progress, including the Program for Hi-Tech Research and Development ("Program 863") and the National Basic Research Program (the "973 Program").

Another key element in the competition against Chinese companies is the increase in M&As as was previously mentioned. Chinese companies are more actively engaging in M&As globally. However, the greater the involvement of important areas of basic research, the greater the possibility that the deal will not necessarily work out smoothly for "security reasons", mainly in Europe and the United States. Further, China still has not reached the level of Japan (25%) in its share of internationally co-authored science and technology research papers. In this respect, China may continue to work on research and development on its own, led by infrastructure-related companies. Still, regular companies are aggressively conducting M&As for purposes such as the acquisition of technology and/or brands as exemplified by the purchase of IBM's computer division. The strategy of taking in foreign companies together with their human resources through M&As, along with the Chinese human resources returning after studying abroad the United States and other countries, is not observed much in South Korean companies and can be said to be a more open Chinese-style "combination-type" strategy. The competition against Chinese companies with an overwhelming ability to supply human resources and funding is, for Japanese companies, a competition of technical capabilities, unlike the competition against South Korean companies of business management capabilities. It can be said that, in this respect as well, there is a need to promptly establish a Japanese style "combination type" method.

(1) Securing human resources with a science or engineering background: The number of students in Japan advancing into doctoral programs in the natural sciences peaked out at 13,200 in 2003 and decreased to as few as about 11,000 in 2009. In the case of science and agriculture, the percentage

of students proceeding from a master's program onto a doctoral program is declining The delay in the resolution of problems such as finding employment following completion of the doctoral programs and long-term excess in the number of PhD holders is resulting in a vicious cycle with an inhibitory effect on efforts to secure a quantity of human resources. As the Council on Competitiveness - Nippon (2011) pointed out, the failure of the business community and academia to depart from the old image that doctorate holders are researchers has had a significant negative effect. It is necessary for the business community to prepare broader career paths that are not limited to technical research, and for academia to promptly devise curriculums, based on dialogues with the business community, that address the abilities to detect and resolve problems and incorporate a broad range of general education and ethics, all of which are necessary in the real world.

(2) Recruitment and utilization of students who studied abroad: In order for Japanese companies to counter the Chinese-style open combination strategy, it is naturally important for them to endeavor to absorb human resources from companies that were acquired and merged. Additionally, the head office necessarily must hire and utilize students who studied abroad, understand the way Japanese people think, and have little language barrier, as contributing forces in global business. The recruitment of students who have studied abroad has been on the rise since the late 2000s, due in part to the recent emerging market boom and the tendency of Japanese students to avoid overseas assignment. However, since the image of indefinite career paths, delayed promotion, and the weak result-based compensation system continues to exist among Chinese students who have studied abroad in Japan (according a questionnaire-based survey conducted by the Ministry of Economy, Trade and Industry (2007)), efforts to retain competent human resources are necessary. Further, as hiring such people at the head office begins to take root, it is becoming increasingly more necessary to address new problems, such as the assignment to the head office of employees who were hired by the head office and subsequently sent to China, as well as the assignment of competent local employees to the head office.

(3) Promotion of joint international studies: If one of the weaknesses of South Korean and Chinese companies is joint international studies, Japanese companies should place emphasis on international joint studies, including academia-industry join studies, given that they are not subject to structural disadvantages and have been building a certain level of research network together with European and U.S. companies. Joint international studies are being emphasized in scientific papers as well. However, of greater importance is the fact that a larger number of opportunities to conduct

joint international studies, which lead to career paths, will attract and help retain highly motivated external human resources and students who have studied abroad. With the globalization of the recruitment of human resources, it is believed that not only compensation and other elements but also job fairs at prominent graduate schools and other such opportunities will increase in importance.

(4) Enhancement of intellectual property management and security: The hiring of external human resources and students who have studies abroad signifies a serious need for a system premised on the mobility of human resources, unlike the days when there was little mobility, mainly with respect to the Japanese. Particularly since China is head hunting entire teams of people and taking other personnel actions comparable to those of the United States in level and frequency, the strengthening of intellectual property management is an urgent task in terms of ensuring that the movement of people does not translate into the movement of technical information. Given the cyber attacks on Japanese manufacturers priding themselves in their technical capabilities, as well as the information leakage incident (2011), more specialized efforts and reinforcement of employee education and training are indispensable in information security. In this respect, Japan should learn from South Korean companies, which have established specialized systems surpassing those of Japanese companies.

(5) Utilization of new regional experts: There is history behind the exchange between Japanese and Chinese business communities, and many companies had special "China Schools" in-house at one point in time. As China's open-door policy progressed and Chinese economy underwent globalization, China Schools disappeared and Chinese businesses sought their human resources on a global level. Yet, China still is under a regime of a different nature, and it has various information not available in English. With China Schools now gone, Japanese companies have had the illusion of having a vague advantage over Europe and the United States in terms of access to information, due in part to the closely similar language and culture. However, European and U.S. multinational companies maintain and utilize "China Hands" comprising individuals from their own country, along with Chinese human resource networks. This is especially true of those with longer experience in international business management. "Regional experts" who stay in major markets for nearly 10 years to analyze the situation and environment are utilized not only by China but also South Korean companies such as Samsung, which is undertaking the internal development of such experts, and this is another area that could be considered an issue in the cultivation of professional human resources in Japan.

3. Rebuilding Japan's international competitiveness and acquiring global human resources

3.1. Re-examination of the industry-government-academia framework and comprehensive reduction of the gap

While it goes without saying that Japanese companies are in the midst of global competition, they are not competing with South Korea and China in every segment of every market. However, South Korea and China have been impacted strongly by changes in the Japanese industrial structure in the course of their economic development. In their relationship with Japanese companies, South Korea has been the recipient of technologies and China has been the source of direct investment. It can be said that major Japanese companies have long served as benchmarks, and the two countries sought measures for addressing changes in the terms of global competition by observing the strengths and weaknesses of the companies. The framework of the discussion in the previous chapter was that Japanese companies might therefore be able to identify the causes of their delay in implementing globalization measures by analyzing their competitive relationships with South Korean and Chinese companies. As opposed to Japanese corporations that succeeded based mainly on analog and *suriawase* technologies, sought to protect their technologies by the black box method and adhered to the principle of developing their own technologies, South Korean and Chinese companies challenged the black box method by moving quickly to take advantage of the open use of technologies and digitization.

However, there naturally is a difference in "national power" between the companies in South Korea, with a small domestic market attributable to a population of about one third that of Japan, and those in China, which is aspiring to become a super power. South Korea has been endeavoring to transition from the "domestic type", which was even more closed than that of Japan, to a "combination type" through globalization of business management. On the other hand, China is seeking to establish an open, yet broad and deep foundation for research and development, through the aggressive acceptance of direct investments, external M&As and intake of the reflux of domestic human resources. As a result, it became clear that Japanese companies are facing two issues: a delay in the globalization of business management (op. cit. survey of Ministry of Economy, Trade and Industry (2007), etc.) and the relative deterioration of technological capabilities, particularly the foundation of basic technologies. Although South Korean companies have long feared being caught between Japan and China, with the two attacking from both sides, it may be Japanese companies that could get caught between China and South Korea in the future, as a result of delay on the part of both the country and major companies in taking globalization measures.

Japan has always been conscious of Europe and the United States as regards the industry-government-academia framework. However, the reality of Japan is that its rate of reform is too slow for achieving the "open type" of the United Kingdom and the United States, which have the advantage of being English speaking countries, it is no longer able to maintain the "domestic type" like that of Germany, and it has gradually been exposed to competition from South Korea and China, each of which has realized its own "combination type". It is essential for the rebuilding of international competitiveness to close the gap comprehensively, with the business community and academia working on respective reforms in collaboration with each other, by coming first to a consensus on the overall industry-government-academia framework and, in particular, the extent of the openness thereof. In fact, there have been almost an excessive number of policy recommendations on the industry-government-academia framework and the acquisition of global human resources, such as those of the Cabinet Office (2011), the Ministry of Economy, Trade and Industry and the Ministry of Education, Culture, Sports, Science & Technology (2010), the Ministry of Education, Culture, Sports, Science & Technology (2011), Keidanren (2011), the Council on Competitiveness - Nippon (2011(a)) (2011(b)) and Higuchi and the Ministry of Finance (2012). If the challenges from the perspective of competition with South Korean and Chinese companies are to be consolidated, organized and added to the foregoing, the following can be suggested.

3.2 Challenges for the business community

(1) Commitment to diversity: There is an aspect to the combination-type strategies of South Korea and China that indicates the lack of successful experiences in the 20th century rendered drastic globalization measures possible. On the other hand, they are still behind in terms of diversifying their overseas business and multinationalizing, the domestic percentage of their business still being high. Meanwhile, there was a period when the low cost of information sharing in a homogeneous group of Japanese males served as the source of the competitiveness of Japanese companies, and large companies, in particular, adhered for a long time to their success in this respect. Japanese companies also fell behind the trend when European and U.S. companies shifted to diversity management[8] as they globalized and are now at a disadvantage not only in the competition with European and U.S. companies for human resources, but also in the competition with Asian companies.[9] In order to secure competent global human resources, it is necessary to strongly set forth, implement and communicate externally the commitment that global business management is

intrinsically based on the diversity (i.e., not limited by nationality, sex or age) and management of human resources in terms of corporate philosophy, organization, personnel systems and facilitation of communication. The commitment of Japanese companies to diversity has not been communicated adequately to South Korean and Chinese students, who are the most promising candidates as global human resources, owing in part to the minimal cultural and language obstacles from the Japanese perspective. Furthermore, a fact that cannot be overlooked is that the lack of diversity and career paths involving forced long-term "volunteer" work in return for long-term employment are driving highly enthusiastic and ambitious Japanese students to foreign-funded companies.

(2) Clear definition of "global human resources": It is fairly recent that the need for global human resources surfaced and the inward focus of youths came under criticism. While there are significant differences depending on company and industry, there still are many large companies that do not have a specific awareness of exactly what global human resources are. Likewise, companies that can present specific examples of global career paths are few, the shift to diversity management having taken place only a short while ago. This being the case, universities cannot go beyond the level of enhancing their English language and cross-cultural communication courses. The number of "practical" courses taught by instructors sent by companies is increasing, and internships and other exchanges between the business community and academia are progressing. However, there also areas of disconnect, with the few people who have had successful global careers being too busy to share the experience with university students or not being able to do much more than add to the list of "easy A" courses in spite of practical competence, due to the lack of skill and/or training necessary to speak at a level that the students are able to understand. Internship-based exchanges between the business community and academia will end as a mere observation of personality if the desired qualities are not clearly defined. It is necessary to have even clearer quality "specifications" when securing global human resources for future leadership.

(3) Lack of industry-academia communication: As is later described, Japanese universities undertook a major reform in the 2000s as a result of increased difficulty in securing competent students upon entering an era where all high school students move on to universities, and exposure to global competition. However, it cannot be said that the actual state of university reform is being conveyed accurately to the business community. In particular, even if the personnel staff in charge of hiring are well aware of the situation, the top management, who should show interest in hiring potential global leaders, are obstructing the smooth collaboration between the business community and

academia through their inability to depart from the recruitment images dating back to their day, when only a small percentage of high school graduates moved on to universities and university graduates were regularly hired in large numbers as leader candidates. In the Japanese business community where a vast majority of the management is salaried employees, responsible involvement of the top management is important in the selection of and investment in global human resources, particularly leaders who are to be appointed as central figures in corporate business management. Accordingly, the level of industry-academia communication must be expended to include everyone from the staff in charge of day to day operations to the top management. Universities, mainly private, also began to focus on providing career-related support to students, since employment rates are now affecting the number of applicants. Yet, the support extended to the numerous undergraduates and graduates does not go beyond general advice with little, if any, implementation of measures based on the intent to send out competent students as leadership candidates. Hence, it is necessary to offer more detailed support based on collaboration with the business community.

3.3. Challenges for the academic community

(1) Break from standardization: Globalization of universities progressed at a rapid pace in the 2000s. As shown in Figure 6, the number of foreign students studying in Japan more than doubled from the mere 64,000 in 2000 to 138,000 in academic year 2011. The number of classes offered in English increased with the implementation of the Global COE Program (FY2007 through FY2013) aimed at enhancing education functions followed by the Project for Establishing University Network for Internationalization (Global 30: FY 2009 through FY2013) focused on the development of global human resources, and the countries of origin of the students also diversified rapidly from the traditional China, South Korea and Taiwan to include others. Universities increased the numbers of affiliates, established the double degree system,[10] and enhanced their scholarships to promote the international exchange of students and faculty. There also was a large significance to the increase in the freedom of national universities as a result of becoming independent corporations. Universities equipped with an environment suitable for the development of global human resources, particularly leaders, are being appropriately selected, with the number of universities covered by the programs having been reduced from the 140 under Global COE to 30 under Global 30. Still, it cannot be said that the inefficiency of dispersion attributable to

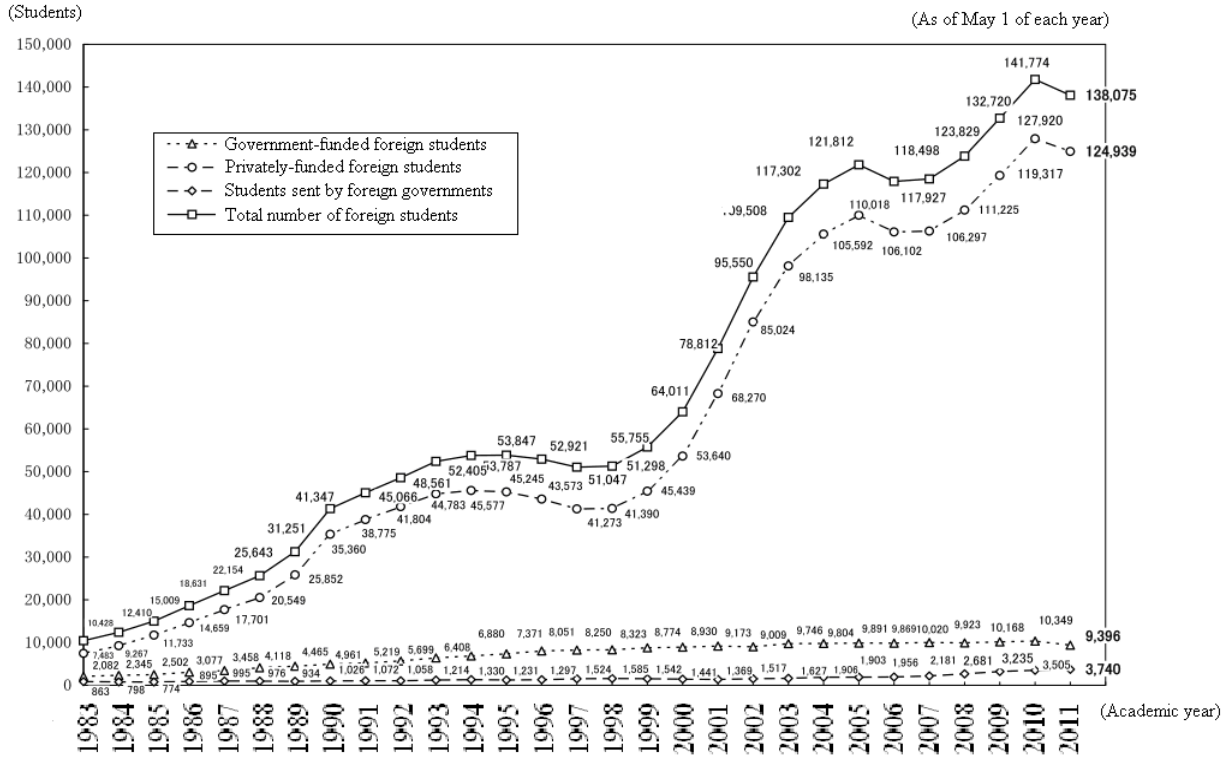
standardization has been eliminated, given that the differentiation between private universities and national universities, where the ratio of aid per student is as high as 1:17, or between the former imperial universities and municipal universities within the public university grouping, is not clear not only in terms of research work but also education. Implementation of the so-called relaxed education led not only to an overall decline in the academic abilities of the students as of the time of acceptance, but also to a larger variance in subjects requiring gradual build up, such as mathematics and English. The time has come for universities to reach a consensus on which universities are going to take what type of students to develop them in what way, since there is no need for all universities to be besotted with the development of global human resources, especially leaders.

(2) Prioritization of curriculum reform: Universities are facing numerous and varied demands other than globalization. Instructors in charge of English classes must have "lived abroad for at least one year as an exchange student or otherwise" (example of an actual requirement specified by Waseda University). For faculty members who had never lived in English speaking countries, the requirement is a heavy burden in and of itself. Additionally, the business community is seeking emphasis on liberal art and practical education, both of which lead to the development of global human resources. Furthermore, as the admission of the relaxed-education generation began picking up, the educational burden increased to a never-before level with even engineering universities finding the provision of supplementary math classes necessary. Regardless, it is difficult to renovate the curriculum by replacing faculty under the current system, where all faculty members of a certain generation or older are essentially guaranteed tenure.

Moreover, U.S.-style emphasis on liberal arts is precondition for intensive specialized education at the graduate school level. The majority of Asian countries are leaning toward this system; even China is no longer an exception. In the case of Japan, however, going on to a graduate school will involve the risk of becoming unemployable, unless the business community works on the proactive recruitment of graduate degree holders. It became possible to take graduate-level courses at the undergraduate level in recent years to obtain a master's degree by adding one year onto the undergraduate program. Based on the assumption that a large number of students will not proceed beyond the undergraduate level, universities cannot afford the luxury of spending all four years on liberal arts education only and must concurrently provide some specialized education that is far from being complete. In the end, because changes to the undergraduate curriculum involve external factors, such as the way education through high school is designed and reform of graduate schools,

it appears that the only thing that can be done at this stage is to prioritize and specialize in basic education necessary for the development of global human resources.

Figure 6: Changes in foreign students accepted into Japan



Source: Japan Student Services Organization

(3) Re-examination of the roles of graduate schools: Graduate schools have been more directly exposed to the impact of globalization than universities. Given that Japan is about the only Asian country where a master's degree is not accorded a premium by the business community and that students elsewhere are therefore highly motivated to study abroad, there has been an increase in the number of graduate schools where a majority of the students are from overseas. It can be said that the active recruitment of study-abroad students by companies has been positive for graduate schools, at least for the time being. Yet, the fact that the business community still perceives Japanese graduate degree holders as being research oriented and still has a tendency to avoid them, particularly those with degrees in the humanities, is a major factor inhibiting the utilization of law schools and accounting schools. Graduate schools should play a larger role than universities in

supplying global human resources and may need to appeal to the business community about their curriculum reform, as well as make efforts to hold dialogues with the business community, considering the shaping of careers for their students to be synonymous with the generation of their own assets.

Even if students find employment once after completing their undergraduate program, they often find the need for graduate level education due to business reasons or for personal career development. Many companies enhanced their training and education systems during the bubble, resulting in an increase in the number of employees sent overseas by their companies for MBA programs. However, it is said that the number of Japanese, including businessmen, studying at top-class graduate schools in the United States has declined in recent years. Since it is believed that there is a large potential demand for opportunities to receive graduate-level education while working, not necessarily overseas, it can be said that, in terms of developing global human resources, it is indispensable for graduate schools to work on the recurrent education of Japanese employees.

3.4 Policy Recommendations

(1) Continued expansion and improvement of efficiency of public investments: External factors are involved in tertiary education, though not to the same extent as primary education. The qualitative improvement of human resources does not only connect directly to the global competitiveness of industries and companies, but also affects the image, brand name value and even the diplomatic power of a country (the Akashi Report from the Cabinet Office (2011)). Drastic government support is necessary in cases where there is a limit to what can be accomplished through efforts by individual companies and/or universities, with tertiary education being one field where such support is justifiable. Looking at the government expenditure on institutions of higher education by OECD countries (2010), one can see that Japan is on the bottom end within the OECD at about a mere 0.5% of the total, ranking even below South Korea. Japan is clearly behind the global trend, with its expenditure barely making the average of 1.5% including personal expenditures.

Although there was criticism of the implementation of COE and other competitive funding as a waste of money, there is no denying that they provided a great deal of momentum to globalization efforts. A sizable investment in infrastructure is required in order to develop global human resources, including arrangements for housing the large numbers of foreign students, enhancement

of the communication abilities of service staff who provide assistance with visas, etc., preparation of English language information not only on classes but also to the necessities of life on campus (including earthquake and other disaster-related information), and enhancement of websites. Costs that are not required by universities of English speaking countries are also incurred, such as the cost of sending faculty members to universities in the United Kingdom or the United States under faculty development programs in order to improve the quality of courses offered by those whose first language is not English. It can be said that government support has played a big enough role that globalization efforts have accelerated, as exemplified by Tokyo University raising the question of admitting students in September. In addition to research work conducted by faculty members, which are taken into consideration as a matter of course, globalization measures, including the presence of foreign students and faculty members, is one important factor that is taken into account in world university rankings. If a favorable rating cannot be obtained and the ranking drops, it will become even harder to secure global human resources. There is enormous significance in realizing support of a level comparable to that of other OECD countries, and universities must not cease to work on the business community, the government and even the Japanese public through the efficient use of funding and dissemination of information their positive achievements.

(2) Preparation of a road map and mutual check on progress in reform through industry-government-academia dialogues: It is clear also from the numerous reports previously cited that the sense of crisis on the lack of global human resources is shared by many. There is now a consensus with each report stressing the need for dialogues and collaboration between the business community and academia. However, there is a notable structural difference between companies that are able to make drastic changes to the allocation of business resources and universities that cannot. Furthermore, it will take a long time before the experiences accumulated by the students will be recognized as fruits of the reform through their social success. It will be difficult to ensure steady progress in a time-consuming reform merely through temporary reflection of concerns regarding declining competitiveness on the budgets of individual government offices.

It may not be possible to secure global human resources at the pace the Japanese market is hoping without efforts that would at least involve the preparation of a road map by the business community and academia, and a process involving the government, business community and academia through which the progress and consistency of the reform are checked every year. The pushing back of recruitment by companies and the admission of students in September are no more than strategy-level adjustments. More urgently needed are dialogues concerning the details of

education and environment. There are significant setbacks to attempts to achieve U.K./U.S.-type development from the beginning and, assuming that competition with South Korea and China has already begun, it seems that working out a Japanese-style combination type market value through the aforementioned check system is more realistic in the current situation than endeavoring for the German type.

(3) Promotion of mobility of human resources among business community, government and academia: Lastly, the business community points out that flexibly addressing completely different environments and situations is one condition for the globalization of human resources. Certain levels of contribution may indeed be expected from education, particularly liberal arts education and the broadening of horizons, on the university and graduate school levels. Naturally, such abilities to address differences cannot be developed only within the school environment, and therefore there is a large significance to the provision of various opportunities to acquire experience. Although the impact of bringing in foreign students is far smaller than going abroad to study, it still provides the meaningful experience of studying in a cross-cultural environment. Given that many awaken to the desire to study abroad as a result of this experience, there is a need to establish a career path that will lead from the study abroad to internship at a domestic or an overseas company, and opportunities to go overseas after employment on business trips or assignment while still young. Of importance are the opportunities for diverse experiences suitable for the relevant area of specialty in the course of the career path, and increasing the mobility of human resources among the business community, government and academia will be highly meaningful in this respect. The inability to send people to positions within international organizations has long been a disadvantage for Japan. It will also be helpful to provide support that will allow universities, companies and the government to send people out to international organizations or establish a system where temporary assignments or transfers among the business community, government and academia will not adversely affect the relevant individuals. While the unemployment rate is high, a society consisting mainly of generalists lacks specialists in a wide variety of areas, not only in the business community but also policy making entities and academia, to where it almost seems like an exception to the rule among developed countries. It appears that there is a need to compensate for the shortage of specialists by promoting mobility for the time being and work towards a next generation of global human resources.

Conclusion

Subordination of Japanese companies in the global competition has been prominent in recent years, with the quantitative and qualitative deficiency of global human resources being loudly declared as the cause. This is attributable to the failure of Japanese companies to adapt to the rapidly progressing global competition on both the business management and the technology fronts. On the other hand, the astounding advancement of Korean companies is due mainly to the establishment of a business management system of rapidly combining together the necessary human resources, cash, goods and technologies without adhering to the concept of procuring everything internally. Further, China has been strengthening its proprietary technologies through a combination of its enormous market and quantitative and qualitative improvement in engineering human resources. Unless the industry-government-academia framework is re-established with a clear idea of the extent to which global human resources are to be developed within Japan and to what extent they are going to be sought efficiently from around the world, Japan's competitive position will continue to deteriorate. Japan will not be able to avoid conducting a review of the overall framework, since business management must be renovated suitably for Japanese companies in order to take on Korea's challenge, and the technology strategy must be re-examined in order to counter China's challenge.

As it transitions towards diversity management, an urgent task of the business community is to accord global human resources appropriate treatment and develop global human resources jointly with academia. Meanwhile, academia must depart from standardization to allow the various universities to revise their own curriculum to address complex social needs, promote globalization with respect to both research and education, and proceed further with the reform of graduate schools, including reinforcement of recurrent education. The review of the industry-government-academia framework being a long-term project, it is necessary for the government to continue to ensure and expand investment in human resources, have the business community and academia continue to engage patiently in dialogues and prepare a road map for the reform, and provide a venue for checking the progress in reform efforts.

(Reference Literature)

Iizuka, Mikio (2009) "To Japan which Has Forgotten How to Develop Markets", Shoin Co., Ltd.

Senoh, Ken'ichiro (2009) "Why is Japan Losing in Business Even With its Superior Technology? – Reasons Why New Breakthrough Products are Losing Out", Diamond, Inc.

Sonoda, Shigeto (2010) "What Should Be Done to Secure Asian Brains: Strategic Findings From the 2008 Asian Student Survey", Hiroshi Takeuchi, Akira Suehiro, Hiroyuki Fujimura, "Competition to Secure Human Resources", Gakuseisha, 2010

Chang, Sea-Jin (2009) "Sony vs Samsung", Nikkei, Inc.

Negishi, Masamitsu (2010) "Quantitative Analysis of the Positioning of Japanese Academic Papers and Journals", National Institute of Informatics

Sawaragi, Tetsuo (2011) "World University Ranking: Recent Trends and Problems", Presentation Material for Kinki District Conference Lecture Meeting, Science Council of Japan

Hayashi, Hiroshige (2007) "Japan-Korea Corporate War", Hankyu Communications Co., Ltd.

Higuchi, Yoshio, written and edited by Policy Research Institute of the Ministry of Finance (2012) "Development and Utilization of Human Resources in Global Society", Keiso Shobo

Fukagawa, Yukiko (2011) "Trade Policies of Korea and Competitive Positions of Japanese and Korean Industries", "Best Partner" April Edition, Hamagin Research Institute, Ltd.

Louis V. Gerstner (2002) "Who Says Elephants Can't Dance?", Nikkei Inc.

Council on Competitiveness – Nippon (COCN) (2011), "Interim Report of the Research Group on Development and Utilization of Global Leader Resources"

――― (2010) Research Group on Development of Human Resources that Support Growth [Measures and Recommendations on Preventing Alienation of Children from the Sciences]

――― (2009) Report of Research Council on Development of Human Resources and Education of Engineers that Support the Industrial Foundation [Developing Advanced Engineering Human Resources to Succeed in the Global Competition]

Keidanren (Japan Business Federation) (2011), "Proposal on Development of Global Human Resources"

――― (2009) "Report on Qualitative and Quantitative Improvement of Foreign Engineering Students"

Ministry of Economy, Trade and Industry and Ministry of Education, Culture, Sports, Science and Technology (2010) "Develop Global Human Resources through Industry-Academia-Government

Collaboration: Global Human Resource Development Committee of the Industry-Academia Partnership for Human Resource Development."
(http://www.meti.go.jp/press/20100423007/20100423007.html)
――――― (2007) "Report of Global Human Resource Management Study Group"
(http://www.meti.go.jp/press/20070524002/globaljinzai-houkokusho.pdf)
Cabinet Office (2011) "Global Human Resource Promotion Council"
(http://www.kantei.go.jp/jp/singi/global/kanjikai/dai2/siryou3.pdf)
Ministry of Education, Culture, Sports, Science and Technology (2011) "Report by Industry-Academia Collaboration Council on Global Human Resource Development"
(http://www.mext.go.jp/component/a_menu/education/detail/__icsFiles/afieldfile/2011/06/01/1301460_1.pdf)
――― (2010) "Current Progress in the Educational Reform of Graduate Schools – Results and Issues Observed from Verification"
National Institute of Science and Technology Policy of the Ministry of Education, Culture, Sports, Science and Technology (2011), "Benchmarking Scientific Research 2011: Bibliometric Analysis on Dynamic Alteration of Research Activity in the world and Japan"
(http://www.nistep.go.jp/achiev/ftx/jpn/mat204j/idx204j.html)
Ryu Ji-Seong (2011) "Comparative Study of Korea-China Competition in Human Resources", Samsung Economic Research Institute (Korean)
――――― (2011) "Tasks for Korean Universities in IT Talent Cultivation", Samsung Economic Research Institute (Korean)
Bae Seong-O (2012) "Top Scientists, Engineers Need to be Groomed: Plan for 100,000-plus", Samsung Economic Research Institute (Korean)
(All of the above from http://www.cocn.jp/report/index.html0
European Commission (2011) The 2011 EU Industrial R&D Investment Scoreboard
(http://iri.jrc.es/research/docs/2011/SB2011.pdf)
OECD, Education at a glance, 2010
(http://www.oecd.org/document/35/0,3746,en_2649_39263238_45897844_1_1_1_1,00.html)
WIPO (2011) World Intellectual Property Indicators
(http://www.wipo.int/ipstats/en/statistics/patents/)

―Notes―

[1] The largest trade deficit ever in trade with Japan was recorded in 2010 at $36.12 billion. Temporary demand relating to the Great East Japan Earthquake and the demand for supplies to supplement the collapsed supply chains in Japan resulted in an increase in export in 2011, causing the trade balance to peak out at $28.64 billion. However, it is not believed that this trend will take root.

[2] Although Japanese manufacturers posted sizable losses due to the full-scale price deterioration of liquid crystal panels beginning in 2011, Samsung Electronics made a decision by early 2012 to spin off the panel business and specialize in organic EL.

[3] This is a mechanism based on an international agreement where one patent ensures relevant rights worldwide.

[4] According to a WIPO flash report, ZTE surpassed Panasonic and ranked in at number one in 2011, with Huawei Technologies ranking in at number three.

[5] The only private universities ranking in are Keio University and Nihon University, both of which have a large medical school.

[6] Because POSCO started out as a state-run company, it is an exception to the rule in that it is not managed by the owner even though it is a global company.

[7] For example, Samsung is testing various approaches, such as hiring many graduate degree holders and MBA holders from top ranking graduate schools of the world and having them make suggestions on Samsung's business and brand strategies.

[8] A typical example is the renovation of business management by IBM in the 1990s (Louis Gerstner (2002)).

[9] Japanese companies were not only ranked lower than European and U.S. companies, but also lower than Korean companies at one point in a Chinese preferred employer ranking (White Paper on International Economy and Trade (2008)).

[10] This is a system where an undergraduate degree is obtained from both universities based on a mutual credit certification of the credits earned while studying abroad. Waseda University participates in this system with Peking University, Tsinghua University, National University of Singapore and other influential universities.

"Study Group on Policies Needed to Ensure Japan's International Competitiveness"

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