

# The Reasons Why Japan's Local Communities Need Employment Strategies

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### Expansion of Regional Differences in Employment

There are significant regional differences in labor supply and demand. As the economy recovers, the number of job offers in the Kanto and Tokai regions is rising considerably. The ratio of job offers to applicants is greater than 1, and it appears there is now labor shortage in these regions. In comparison, job offers have not shown a significant rise in Hokkaido, Tohoku and Shikoku regions, where the ratio of job offers to applicants is still far below 1. In some prefectures in rural areas, the job offers to applicants ratio has even gone down.

The effect of economy spreads at different speeds in different regions. It manifests itself quickly in Tokyo and other large cities, but becomes evident more slowly in rural areas. Undeniably, there is a possibility that the current regional differences in labor conditions merely reflect the differences in how the effect of economy spreads, and that as the economy enters a phase of real recovery, labor market conditions may dramatically improve in rural areas. It is clear, however, that the spillover of economic recovery from large cities to rural areas is slowing down than in the past. Formerly, employment in rural areas began to increase after a time lag of about a year. This time, however, employment in rural areas has not shown notable improvement even though more than three years have passed since employment in Tokyo began increasing.

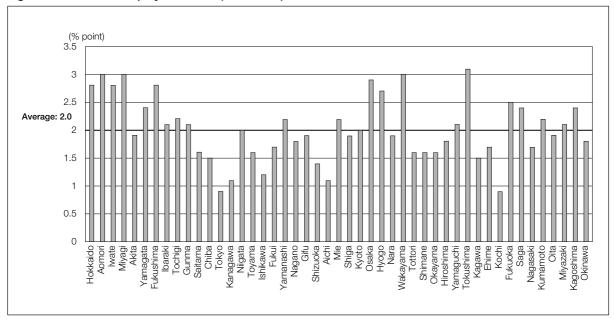
The labor market in Japan has been deteriorating since the 1990s. In particular, it showed a sharp decline in 1997 when the financial crisis hit. Since then, regional differences in the unemployment rate and number of workers have been widening. Figure 1 shows the rise in

unemployment rate from 1997 to 2003. During this time, the unemployment rate of Japan as a whole rose by 1.9 points from 3.4 percent to 5.3 percent. In Tokyo Metropolis, however, the rise was only 0.9 percentage points. In other prefectures constituting the greater Tokyo area, such as Kanagawa, Chiba and Saitama prefectures, the increase was much smaller than the national average. In Aichi and Shizuoka prefectures in the Tokai region, the rise was also small at around 1.1 percent to 1.4 percent. In contrast, the unemployment rate increased sharply in Hokkaido and in prefectures in the Tohoku, Kansai and Kyushu regions, indicating further deterioration in employment in rural areas.

The decline in employment in rural areas can also be confirmed by the number of workers. Figure 2 shows the changes in the number of workers from 1997 to 2003. For all of Japan, the number of workers declined by 4.9 percentage points during this period. In comparison, the number of workers hardly declined in the greater Tokyo area. In fact, it increased slightly. The decline in Aichi and Shizuoka prefectures was also below the national average. On the other hand, there were marked decreases in prefectures in Tohoku, Kansai and Shikoku regions, which were far greater than the national average.

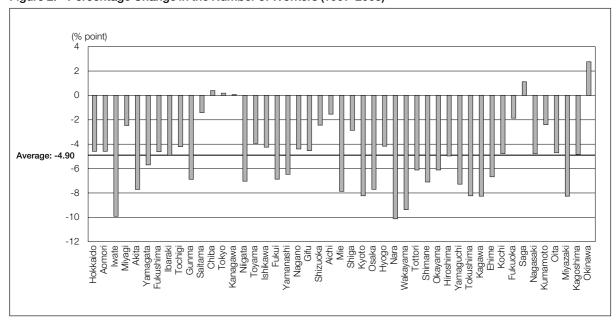
It can be assumed that the significant deterioration of employment in rural areas can be attributed to the temporary factor of a recession as well as to structural factors. For instance, reduction in public works, globalization of the economy, and ageing population may have brought changes to both the labor supply and demand, creating substantial regional differences in employment. In the sections below, we will look at these factors, consider how they have affected regional employment, and examine the reasons that local communities need their own employment strategies.

Figure 1. Rise in Unemployment Rate (1997-2003)



Source: Statistics Bureau, Ministry of Internal Affairs and Communications, Labour Force Survey.

Figure 2. Percentage Change in the Number of Workers (1997-2003)



Source: Statistics Bureau, Ministry of Internal Affairs and Communications, Labour Force Survey.

### 2. The Impact of Public Works Reduction on Regional Employment

Looking at the labor market conditions by region in the early 1990s immediately after the burst of the bubble economy, we find that unemployment rates in rural areas were lower compared to those of large cities and employment in rural areas was stable. Whereas there were major cutbacks in jobs and a rise in unemployment rates in large cities, reduction in jobs was minor in rural areas. One of the reasons the effect of the recession was limited in rural areas was that an increase in public works created jobs in the construction industry and other related industries.

For example, employed labor force in all industries in Hokkaido prefecture in the first half of the 1990s grew 5.6 percent in just five years (*Establishment and Enterprise Census*). Employment increased in spite of the collapse of the bubble economy. During the latter half of the 1990s, however, employed labor force decreased by 5.9 percent. The increase in the first half of the 1990s was brought about by more than eight percent increase in employment in the construction industry. The situation reversed itself in the latter half of the 1990s, however, as employment in the construction industry, which had created jobs for the prefecture, declined as much as 14 percent.

A similar trend can be observed in Yamagata prefecture. During the first half of the 1990s, employed labor force increased by 17,000 workers, of which some 10,000 were jobs in the construction industry. Already employment was diminishing in the manufacturing and wholesaling industries. During the second half of the 1990s, employment continued to decrease in these industries, while there was a steep decline in employment in the construction industry as well. As employment in rural areas depended largely on the construction industry, the decline in employment in the construction industry had a significant impact.

It has been a common policy in Japan to increase public works to create jobs at a time of deteriorating labor market conditions. Essentially, the objectives of public works projects are to maintain and preserve the national land and improve people's lives by building dams and other public infrastructures as well as to build up the nation's and its regional areas' industrial com-

petitiveness by improving economic efficiency through the use of roads, bridges, and railroads. In addition to reinforcing supply, public works projects are also carried out in many countries including Japan to reduce regional divergences by creating jobs and expanding demand in each regional area. It can be said that this trend has been particularly marked in Japan.

The effective demand policy based on increasing public works spending is effective in supplementing temporary shortage of demand brought about by recession. But as a recession is prolonged, its effectiveness is gradually diminished. At times, it can even be harmful. A long-term increase in fiscal spending will create enormous fiscal deficits and generate concern among the people about the possibility of future tax hikes and reduction in fiscal spending to reduce the deficits. A chronic increase in public works spending may also make people habitually dependent on the government and impede gains in regional communities' competitiveness.

Some people liken the drawbacks of chronic expansion in public works spending to drug addiction: "It gives relief when things are tough, but as soon as its effect wears out, you want more. And as you continue to take it, you can no longer stand on your own feet." Public works may be useful as a temporary remedy, but it does not have the efficacy to make the body sound when its effect wears out. For a complete cure, we will need to change our lifestyles, exercise daily, and promote structural reform for improvement in one's constitution.

In addition to an increase in public works spending, the government in recent years is playing a greater role in creating jobs by increasing social security benefits, such as pensions and health care and nursing care benefits, which also help increase regional consumer demand. In the sections below, we will consider the government's role in creating jobs in regional areas by examining data on prefectures in Japan.

### 2.1. The Large Size of Japan's Public Works Compared to Other Countries

The percentage of workers employed in the construction industry in Japan is higher than in other countries. Table 1 shows the percentage of workers in the construction industry in 21 countries, among which

Table 1. Percentage of Workers in the Construction Industry (%)

	1980	1990	1999	2000
Japan	9.9	9.4	10.2	10.1
U.S.	6.3	6.5	6.7	7
Canada	5.8	6.3	5.3	5.2
U.K.	6.5	8	7.1	7.2
Germany	8	6.6	8.7	9
France	8.6	_	_	_
Italy	10	8.8	7.7	7.8
Sweden	6.8	7	5.5	5.4
Russia	8.9	10.8	5.7	_
China	_	3.8	4.8	5
Hong Kong	_	8.3	9.2	9.4
South Korea	6.2	7.4	7.9	7.5
Singapore	5.4	_	6.9	13.1
Malaysia	5.7	6.3	8.2	8.6
Thailand	1.9	3.3	4	_
Indonesia	_	2.7	4	3.8
Philippines	3.5	4.3	5.2	6.1
India	5.1	_	_	_
Australia	7.7	7.5	7.7	7.9
New Zealand	7.1	6.2	6.3	6.3
Brazil	_	6.2	7.1	_

Source: OECD. Labour Force Statistics and ILO. Yearbook of Labour Statistics.

Japan has the highest percentage of workers in the construction industry.

One of the reasons for this is undoubtedly the effect of vast public works spending. Demand in the construction industry is made up of private investments in construction of factories and housing (private expenditures on gross fixed capital formation) and public investments in public works (gross fixed capital formation of government). Compared with other advanced countries, the percentage of public investments is particularly high in Japan. Figure 3 shows the changes in public works spending as percentage of the gross domestic product in the U.K., the U.S., Germany, France and Japan. The figures for recent years clearly indicate that the percentage of public works spending is noticeably higher in Japan compared to other four countries.

At the beginning of the 1970s, Japan did not stand out compared to other countries. The U.K. and Germany were above four percent, and France was higher than 3.5 percent. Only the U.S., even with federal, state, and county governments combined, had low percentage. The

percentage of public works spending in the U.K. and Germany, however, began to decline in the latter half of the 1970s and through the 1980s. During the 1980s, Japan's figures became particularly noticeable.

The decline in the percentage of public works spending in Europe can be attributed to greater awareness of the drawbacks and fading effect of public works spending on economic recovery as mentioned above. In Japan, the percentage of public works spending was temporarily reduced in the latter half of the 1980s as a shortage of demand in the private sector was resolved and the economy was overheating due to the bubble economy. Even then Japan continued to have a higher percentage compared with other advanced countries, as it was believed that social infrastructures were still lacking. In the early 1990s, after the burst of the bubble economy, the percentage was raised even higher. As calls for fiscal consolidation grew stronger in 1995, the percentage was pushed down slightly.

Figure 4 shows the changes in nonfarm/nonforestry and construction payrolls when the payrolls in 1985 are

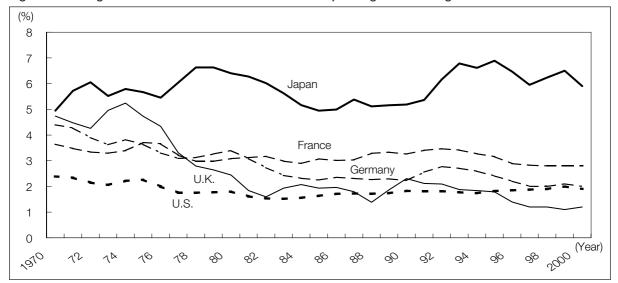


Figure 3. Changes in Advanced Countries' Public Works Spending as Percentage of GDP

Source: Japan: Economic Planning Agency of Japan, *Annual Report on National Accounts* (fiscal year). Other countries: OECD, *National Accounts 2005*.

Note: Figures for Germany before 1990 are those of the former West Germany.

Public works spending is indicated by gross domestic fixed capital formation of general governments.

100. Comparing this figure with Figure 3, which shows the changes in the percentage of public works spending in our country, we find that construction payrolls correspond remarkably with the trends of public works spending. With the exception of the latter half of the 1980s, when construction payrolls grew due to increases in private capital investment and housing investment during the period of the bubble economy, the trends of construction payrolls followed the trends of public works spending with a time lag of about two years.

For instance, the percentage of public works spending trended downwards during the first half of the 1980s, during which period construction payrolls also decreased. After construction payrolls increased in the second half of the 1980s, the bubble burst in the early 1990s, and the government increased the public works budget as part of a stimulus package. Consequently, construction payrolls continued to grow even though the growth of nonfarm/nonforestry payrolls decelerated considerably during the same period. And when public works spending was suppressed after 1996 for fiscal consolidation, construction payrolls also began to decline after their peak in 1997.

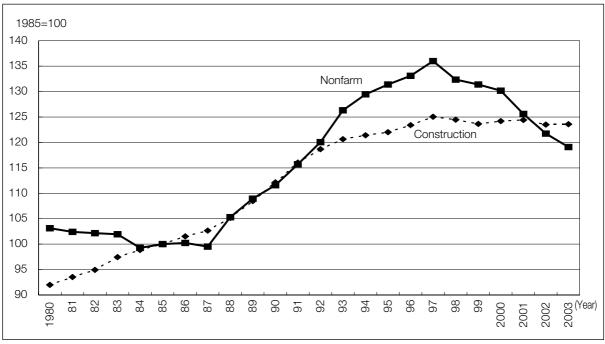
A comparison of per-capita public works spending

in metropolises (Tokyo, Nagoya and Osaka) and in rural areas show that public works spending has been consistently higher in rural areas for the purpose of diminishing regional divergences (Figure 5). Until around 1995, the two were mostly in parallel, and the differences between the two remained fairly even. After spending cut was introduced in 1996, however, public works spending was reduced in metropolitan areas, while public works spending in rural areas was suppressed but remained flat. As a result, the differences between the two widened.

### 2.2. Rural Areas' Increased Employment Dependency on Public Works

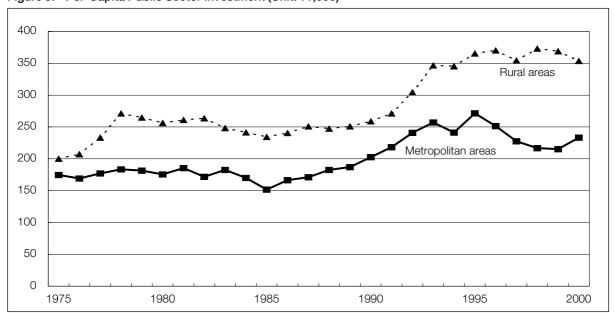
Reflecting the above changes, what role has public works played in creating jobs in different prefectures? Expansion in public works increases construction demand as well as demand for raw materials and other intermediate materials used in the construction industry. It increases the number of workers in the construction industry and by raising employment incomes, it leads to greater consumer spending in particular regions. This, in turn, creates more job opportunities for retailers and

Figure 4. Changes in Contstruction Payrolls (1985=100)



Source: Statistics Bureau, Ministry of Internal Affairs and Communications, Labour Force Survey.

Figure 5. Per-Capita Public Sector Investment (Unit: ¥1,000)



Source: Compiled from Annual Report on Prefectural Accounts, Population Census, and Population Estimates as of October 1st, except for 2000, for which figures are based on Revised SNA (93 SNA).

manufacturers. With these spillovers taken into consideration, what percentage of workers in each prefecture is created by central and local governments' public works spending? Using various statistics, including interindustry relations table (noncompetitive interindustry relations table showing outflows of demand to other prefectures and exports in the appendix), wage statistics and consumer statistics, an estimate was made on employment dependency on public works (for more details, see Higuchi *et al.* (2001)).

The estimate is shown on Table 2. Among all workers, the percentage of workers who found jobs created directly or indirectly by public works, on average in 47 prefectures, was 8.5 percent in 1990 and 11.0 percent in 1999. In other words, dependency on public works rose about 2.5 percentage points in ten years. A comparison between metropolitan and rural areas shows that employment dependency in large cities remained at low levels at 6.6 percent in 1990 and 8.2 percent in 1999, a small rise of 1.6 percentage points. On the other hand, dependency in rural areas is high. It was already 10.3 percent in 1990 and rose further 3.5 percentage points to 13.8 percent in 1999.

Let us examine the figures by prefecture. In 1999, Okinawa prefecture had the highest percentage of jobs created by public works: 23.3 percent of all workers were employed in jobs that were directly or indirectly created by public works. Next to Okinawa prefecture, Kochi, Shimane and Hokkaido prefectures had strong dependency on public works. In each of these prefectures, more than 20 percent of all workers, including farmers who are self-employed, were employed in jobs generated by public works. Moreover, the dependency is rising in these prefectures compared with 10 years ago: in Okinawa it rose 5.2 percentage points, Kochi by 7.2 percentage points, Shimane 6.4 percentage points, and Hokkaido 4.1 percentage points. Reflecting the expansion of public works spending in rural areas, dependency on public works in these prefectures grew much more than the national average of 2.5 percentage points. As a result, the number of workers employed in jobs created by public works was about three times as many as the number of such workers in Tokyo metropolis and Kanagawa and Shizuoka prefectures.

#### 2.3. Rise in Government Debt

In the past, employment in rural areas was made secure through public works. In particular, the decrease in private demand after the burst of the bubble economy was supplemented by jobs generated by public works. If we look at construction investment in terms of private investment (residential and nonresidential investment) and government investment, private investment, which in fiscal 1990 was \\$55.7 trillion, declined to \\$49.2 trillion in fiscal 1996. During the same period, the government's construction investment rose from \\$25.7 trillion to \\$34.6 trillion, more than offsetting the decline in private investment. As a result, the overall construction investment increased by \\$1.4 trillion.

As seen above, the decrease in private construction investment was offset by government investment, and jobs were generated. The government, however, cannot perpetuate this. As of the end of fiscal 2003, the government had accumulated debt of ¥686 trillion, which amounts to \\$5.38 million for each Japanese citizen. Since fiscal 1998, the government began reducing construction investment. In fiscal 2002, construction investment was \forall 25.1 trillion, a decline of 27 percent in six years. Public works spending (expenses), after it peaked in fiscal 1996 at \forall 23 trillion, was also cut back to \forall 18.7 trillion by fiscal 2002, which was about the same amount as in fiscal 1990. Consequently, the number of construction jobs is rapidly shrinking in recent years, and with no jobs created in rural areas, there are growing concerns about an employment crisis.

### 2.4. Social Infrastructures That Do Not Improve the Economic Efficiency of Regional Areas

Another reason for reduction in public works spending is the judgment that an increase in spending does not result in improving economic efficiency in regional areas. An increase in public works spending leads to development of social infrastructures. Social infrastructures can be divided into life-related infrastructures, such as water and sewer systems, public housing, and parks, and industry-related infrastructures, such as roads, harbors, and airports. Development of industry-related infrastructures, in particular, is expected to improve economic efficiency of particular regions and

Table 2. Workers Employed in Jobs Created by Public Works as Percentage of All Workers in Each Prefecture

	1985(%)	1990(%)	1995(%)	1999(%)	change during 1990-1999 (% point)
Hokkaido	17.5	16.8	20.6	20.9	4.1
Aomori	14.7	11.2	15.2	15.6	4.4
Iwate	10.9	10.3	13.6	14.0	3.6
Miyagi	10.0	9.5	12.3	12.7	3.2
Akita	12.6	13.5	18.2	18.0	4.4
Yamagata	10.0	10.2	14.1	14.4	4.1
Fukushima	8.9	8.0	10.8	11.5	3.5
Niigata	11.6	10.9	14.8	15.2	4.3
Ibaraki	6.9	7.6	10.7	10.9	3.3
Tochigi	_	5.7	8.2	8.4	2.7
Gunma	_	5.9	8.6	8.8	2.9
Saitama	6.3	6.3	8.5	8.7	2.4
Chiba	8.4	7.8	9.9	8.3	0.5
Tokyo	5.7	5.6	7.6	7.2	1.5
Kanagawa	7.6	5.9	8.1	7.2	1.3
Yamanashi	8.8	7.4	12.2	11.5	4.2
Nagano	9.0	7.8	11.1	8.7	1.0
Shizuoka	6.2	5.4	7.4	7.2	1.8
Toyama	9.2	8.4	12.8	13.9	5.5
Ishikawa	9.7	8.0	13.0	13.9	5.9
Gifu	7.9	7.5	10.2	10.7	3.2
Aichi	6.2	6.2	8.2	7.8	1.7
Mie	7.6	7.4	9.7	9.6	2.2
Fukui	10.8	11.8	11.7	12.1	0.3
Shiga	_	5.9	7.5	7.2	1.3
Kyoto	7.4	8.1	10.9	9.9	1.8
Osaka	6.2	7.1	9.9	8.5	1.4
Hyogo	7.7	7.9	11.8	9.2	1.2
Nara	10.4	9.7	11.2	10.3	0.7
Wakayama	8.8	8.5	13.4	16.3	7.8
Tottori	_	11.3	15.7	17.0	5.6
Shimane	15.9	14.8	17.4	21.2	6.4
Okayama	10.3	9.0	14.0	13.8	4.8
Hiroshima	8.6	9.1	11.9	12.2	3.1
Yamaguchi	10.4	11.4	13.7	15.3	3.9
Tokushima	12.1	12.5	16.4	17.1	4.7
Kagawa	11.9	8.2	10.2	10.6	2.5
Ehime	9.8	10.8	13.8	14.1	3.4
Kochi	14.2	15.0	19.4	22.2	7.2
Fukuoka	11.0	9.1	11.4	12.2	3.0
Saga	11.8	12.5	16.0	15.5	3.0
Nagasaki	12.5	17.4	16.8	16.4	-1.0
Kumamoto	12.0	12.2	16.1	15.0	2.8
Oita	11.8	11.4	15.3	14.2	2.8
Miyazaki	13.4	13.0	18.3	18.8	5.8
Kagoshima	13.3	13.1	17.7	18.1	5.0
Okinawa	20.9	18.1	22.8	23.3	5.2

	1985(%)	1990(%)	1995(%)	1999(%)	change during 1990-1999 (% point)
Nationwide	8.9	8.5	11.3	11.0	2.5
Metropolitan areas	6.7	6.6	9.0	8.2	1.6
Greater Tokyo	6.5	6.1	8.2	7.6	1.5
Greater Nagoya	6.8	6.6	8.8	8.6	2.0
Greater Osaka	7.0	7.6	10.6	9.0	1.4
Rural areas	11.3	10.3	13.6	13.8	3.5

Source: Policy Research Institute, Ministry of Finance, Roles of Government in Economic Revitalization in Each Prefecture.

reinforce firms' competitiveness. For instance, if a highway is built to ease traffic congestion, a time it takes to travel to a destination can be shortened. As a result, a person would be able to work with greater productivity over the same duration of time. How much does an increase in public works spending contribute to enhancing economic efficiency of prefectures? And how has it changed from the past?

Economic efficiency of each prefecture can be estimated by subtracting inputs, such as labor, capital and raw materials, from outputs, which are the same as total production. In economics, this is called "total factor productivity." In the past, labor productivity was often used as an indicator of production efficiency. But because labor productivity rises, even when the actual economic efficiency is not improved, when investment in capital is increased and capital equipment ratio per worker is raised, labor productivity was recently replaced as an indicator of economic efficiency by total factor productivity, in which an increase in capital is also subtracted. Therefore, we estimated the annual total factor productivity of each prefecture and measured the percentage that total factor productivity rises with an increase in social infrastructures by ¥1 million (for details, see Higuchi et al. (2002)).

Figure 6-1 shows the percentage of improvement made to economic efficiency by an increase in social infrastructures by ¥1 million in real terms in each prefecture in 1975. Clearly, additional investment in social infrastructures improves economic efficiency more in metropolitan areas and less in rural areas.

Figure 6-2 shows the improvement in economic efficiency in 1998. The graduations of the vertical axis are the same as in Figure 6-1, which shows the figures for 1975. A comparison of the two at once indicates that improvement in economic efficiency in 1998 is significantly smaller than in 1975. In most prefectures, the improvement is half the level in 1975. This decline can also be observed when estimates are taken by extracting data only on industry-related social infrastructures.

In the past, public spending for development of social infrastructures led to considerable improvement in economic efficiency and enhanced competitiveness in each region. In recent times, however, as most social infrastructures have already been introduced, new public works projects are less likely to have the same effect in improving regional supply efficiency.

Considered together with greater dependency on public works for employment, these changes signify that the objectives of public works have changed substantially. In the past, the primary objective of public works was improvement of economic efficiency in each region. In other words, it was for using the roads built through public works. In recent years, however, the objective of public works is shifting from improving economic efficiency as in the past to creating jobs. In other words, it is now building the roads that is the objective.

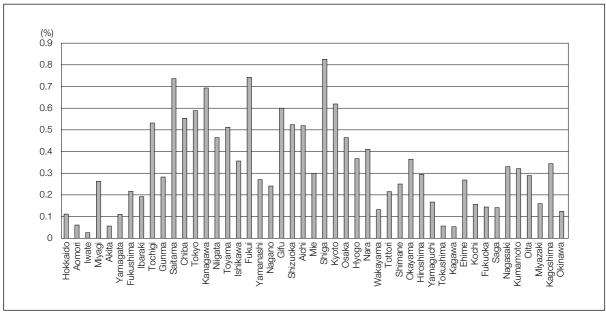
If the social infrastructures that are being built through public works projects can benefit the future generations, there would at least be a plausible rationale for the future generations to pay for the costs by financing government debt. If, however, the infrastructures are not beneficial to them, there can be no rational reason for them to pay the costs. In that case, it can only be said that using public works to create jobs and reduce unemployment can no longer be continued. To change this, what mechanism will we need?

### 2.5. Percentage of Workers Employed in Jobs Created by Pension Benefits in Prefectures

Besides public works, there are many other employment opportunities that the government provides. At times in the past when the government used to determine rice prices, there was a back spread where producer's prices were higher than consumer's prices, and the government could transfer incomes to rural areas through its rice price policies. This provided farmers in rural areas with opportunities to earn incomes and reduced regional divergences. Today, some say that instead of rice prices, social security benefits lessen regional differences.

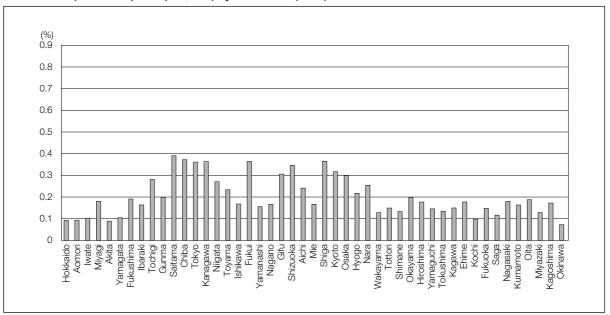
In areas where there is a large population of senior citizens, payment of pension benefits is clearly higher than premiums paid. Pensioners use the benefits for consumption, and as a result, demand in the locality is increased. Obviously, not all pensioners will be purchasing in retail stores in the local area. Some items may be produced in other areas so that the purchase will go to expanding demand elsewhere and not in the area where benefits were paid. With the exception of these purchases, how much do pension benefits contribute to expanding demand for products and services in local

Figure 6-1. TFP Growth through an Increase in Infrastructure Investments (¥1 million per capita, real) by Prefecture (1975)



Source: Policy Research Institute, Ministry of Finance, Roles of Government in Economic Revitalization in Each Prefecture, 2002.

Figure 6-2. TFP Growth through an Increase in Infrastructure Investments (¥1 million per capita, real) by Prefecture (1998)



Source: Policy Research Institute, Ministry of Finance, Roles of Government in Economic Revitalization in Each Prefecture, 2002.

areas and to creating jobs in those areas? Using interindustry relations tables of individual prefectures, we made an estimate on the effect of pension benefits as well as the repercussion effect of employment insurance's unemployment benefits.

The results are shown on Table 3. The national average in 1999 was 2.9 percent of all workers. In other words, 1.9 million jobs were created by pension benefits and unemployment benefits. By prefecture, Yamaguchi prefecture had the highest percentage with 4.9 percent, followed by Kochi, Shimane and Kumamoto prefectures. In contrast, the percentage in Tokyo metropolis is low at 1.6 percent. The divergences in these percentages are not as wide as in the percentage of recipients in the population in each prefecture. This is because the number of contributors to employees' pensions, which provide more benefits than national pensions, is relatively small in rural areas as there are more selfemployed workers than employees. It is also because contributors to employees' pensions in rural areas receive less benefits per person as premiums are linked to salaries. Nevertheless, pension benefits and employment insurance benefits create large number of jobs, and moreover, their effectiveness in creating jobs rose by more than one percentage point from ten years ago. Even though ageing of the population will advance further in the future, should pension benefits be reduced, it would deal a serious blow to regional economy.

### 2.6. Percentage of Civil Servants among Workers in Prefectures

Another area in which the government is playing an important role in generating jobs in regional areas is that of civil servants. As of 2000, there are some 800,000 national civil servants and 3.2 million local civil servants, who together make up 6.2 percent of all workers. An international comparison shows France has 104 civil servants for every 1,000 people of its population, the U.K., 83 civil servants, the U.S., 80, Germany, 68, and Japan, 40. Apparently, the number of civil servants in Japan is comparatively small, but since the percentage of work commissioned to the private sector and the number of people considered as quasi civil servants in public agencies differ from country to country, it cannot be concluded based on the above figures alone that the number of civil servants in Japan is small.

What then are the number of civil servants and the scope of job opportunities created by civil servants who receive their salaries and use them for consumption in each prefecture? What percentage of all workers in each prefecture is employed in jobs generated by employment of civil servants? Table 4 shows the results of our estimates.

In 1999, 8.7 percent of all workers in Japan were civil servants or employed in jobs created by employment of civil servants in a repercussion effect. By prefecture, Hokkaido prefecture had the largest percentage with 12.6 percent, followed by Shimane, Okinawa, Aomori and Kochi prefectures, which had more than 12 percentage points each. The number of civil servants continued to grow until 1994 but was subsequently cut back, reflecting financial difficulties. As a result, employment dependency on civil servant employment, including its repercussion effect, hardly changed from ten years ago.

#### 2.7. Rising Employment Dependency on the Government in Rural Areas

As employment opportunities created by the government, we have considered public works, social security, civil servants, and their repercussion effect. In aggregate, what percentage of all workers in each prefecture is generated by the government? On Table 5, we combined the results of our last three tables.

The percentage of workers employed in jobs created by the government among all workers, which was 18.9 percent (national average) in 1990, rose to 22.5 percent in 1999. Moreover, the percentage is particularly high in a number of prefectures. For instance, in Kochi prefecture, dependency on the government for employment opportunities grew 9.2 percentage points during this period to mark a record 38.9 percent in 1999. This meant that close to 40 percent of all workers, which also included farmers and self-employed, were engaged in jobs generated by government spending. Kochi prefecture was followed by Okinawa prefecture with 38.4 percent and Shimane and Hokkaido prefectures with 37.5 percent. As many as 12 prefectures out of 47 had more than 30 percentage points.

What would happen if fiscal spending is cut because of financial pressures? Suppose fiscal spending is reduced 10 percent across-the-board on all items in all

Table 3. Workers Employed in Jobs Created by Government Activities as Percentage of All Workers in Each Prefecture (jobs created by rise in consumption from payment of public pension and employment insurance benefits)

Hokkaido		1985(%)	1990(%)	1995(%)	1999(%)	change during 1990-1999 (% point)
Name	Hokkaido	2.9	2.9	3.1		1.1
Miyagi	Aomori	2.7	2.1	2.1	2.6	0.5
Akita         2.5         2.7         3.1         3.9         1.2           Yamagata         2.1         2.1         2.5         3.1         1.0           Fukushima         2.1         1.8         1.9         2.5         0.6           Niigata         2.6         2.6         2.9         3.7         1.1           Ibaraki         1.2         1.4         1.7         2.2         0.9           Tochigi         -         1.3         1.6         2.0         0.7           Gumma         -         1.5         1.8         2.3         0.8           Saitama         1.4         1.4         2.0         2.8         1.4           Chiba         1.6         1.5         1.8         2.3         0.8           Saitama         1.4         1.4         2.0         2.8         1.4           Chiba         1.6         1.5         1.8         2.3         0.8           Saitama         1.4         1.4         2.1         2.8         1.4           Vamanashi         1.6         1.5         1.8         2.3         0.8           Nagano         1.8         1.7         1.9         2.5 <td>Iwate</td> <td>1.9</td> <td>2.0</td> <td>2.3</td> <td>3.0</td> <td>1.1</td>	Iwate	1.9	2.0	2.3	3.0	1.1
Akita         2.5         2.7         3.1         3.9         1.2           Yamagata         2.1         2.1         2.5         3.1         1.0           Fukushima         2.1         1.8         1.9         2.5         0.6           Niigata         2.6         2.6         2.9         3.7         1.1           Ibaraki         1.2         1.4         1.7         2.2         0.9           Tochigi         -         1.3         1.6         2.0         0.7           Gumma         -         1.5         1.8         2.3         0.8           Saitama         1.4         1.4         2.0         2.8         1.4           Chiba         1.6         1.5         1.8         2.3         0.8           Saitama         1.4         1.4         2.0         2.8         1.4           Chiba         1.6         1.5         1.8         2.3         0.8           Saitama         1.5         1.4         2.1         2.8         1.4           Vamanashi         1.6         1.5         1.8         2.3         0.8           Nagano         1.8         1.7         1.9         2.5 <td>Miyagi</td> <td>1.6</td> <td>1.6</td> <td>2.0</td> <td>2.8</td> <td>1.1</td>	Miyagi	1.6	1.6	2.0	2.8	1.1
Yamagata         2.1         2.1         1.0           Fukushima         2.1         1.8         1.9         2.5         0.6           Niigata         2.6         2.6         2.9         3.7         1.1           Ibaraki         1.2         1.4         1.7         2.2         0.9           Tochigi         -         1.3         1.6         2.0         0.7           Gunna         -         1.5         1.8         2.3         0.8           Saitama         1.4         1.4         2.0         2.8         1.4           Chiba         1.6         1.5         1.8         2.3         0.8           Saitama         1.4         1.4         2.0         2.8         1.4           Chiba         1.6         1.5         1.8         2.3         0.8           Saitama         1.4         1.0         0.9         1.3         1.6         0.7           Kanagawa         1.5         1.4         2.1         2.8         1.4           Yamanshi         1.6         1.5         1.8         2.3         0.8           Niganon         1.8         1.7         1.9         2.5         0.9		2.5	2.7	3.1	3.9	1.2
Fukushima         2.1         1.8         1.9         2.5         0.6           Niigata         2.6         2.6         2.9         3.7         1.1           Ibaraki         1.2         1.4         1.7         2.2         0.9           Tochigi         -         1.3         1.6         2.0         0.7           Gunma         -         1.5         1.8         2.3         0.8           Saitama         1.4         1.4         2.0         2.8         1.4           Chiba         1.6         1.5         1.8         2.5         1.0           Tokyo         1.0         0.9         1.3         1.6         0.7           Kanagawa         1.5         1.4         2.1         2.8         1.4           Yamanashi         1.6         1.5         1.8         2.3         0.8           Nizuoka         1.7         1.6         1.9         2.5         0.8           Shizuoka         1.7         1.6         1.9         2.5         0.9           Toyama         2.3         2.3         3.1         3.9         1.6           Ishikawa         2.2         2.0         2.6         3.	Yamagata	2.1	2.1	2.5	3.1	1.0
Ibaraki		2.1	1.8	1.9	2.5	0.6
Tochigi	Niigata	2.6	2.6	2.9	3.7	1.1
Tochigi		1.2	1.4	1.7	2.2	0.9
Gunma         -         1.5         1.8         2.3         0.8           Saitama         1.4         1.4         2.0         2.8         1.4           Chiba         1.6         1.5         1.8         2.5         1.0           Tokyo         1.0         0.9         1.3         1.6         0.7           Kanagawa         1.5         1.4         2.1         2.8         1.4           Yamanashi         1.6         1.5         1.8         2.3         0.8           Nagano         1.8         1.7         1.9         2.5         0.8           Shizuoka         1.7         1.6         1.9         2.5         0.9           Toyama         2.3         2.3         3.1         3.9         1.6           Ishikawa         2.2         2.0         2.6         3.3         1.3           Gifu         1.9         1.8         2.3         2.9         1.1           Aichi         1.5         1.6         2.0         2.5         1.0           Mie         1.8         1.7         2.1         2.6         0.9           Fukui         2.1         2.0         2.8         3.5	Tochigi	_	1.3	1.6		
Saitama         1.4         1.4         2.0         2.8         1.4           Chiba         1.6         1.5         1.8         2.5         1.0           Tokyo         1.0         0.9         1.3         1.6         0.7           Kanagawa         1.5         1.4         2.1         2.8         1.4           Yamanashi         1.6         1.5         1.8         2.3         0.8           Nagano         1.8         1.7         1.9         2.5         0.8           Shizuoka         1.7         1.6         1.9         2.5         0.9           Toyama         2.3         2.3         3.1         3.9         1.6           Ishikawa         2.2         2.0         2.6         3.3         1.3           Gifu         1.9         1.8         2.3         2.9         1.1           Aichi         1.5         1.6         2.0         2.5         1.0           Mile         1.8         1.7         2.1         2.6         0.9           Fukui         2.1         2.0         2.8         3.5         1.5           Shiga         -         1.5         1.9         2.4		_	1.5	1.8	2.3	0.8
Chiba         1.6         1.5         1.8         2.5         1.0           Tokyo         1.0         0.9         1.3         1.6         0.7           Kanagawa         1.5         1.4         2.1         2.8         1.4           Yamanashi         1.6         1.5         1.8         2.3         0.8           Nagano         1.8         1.7         1.9         2.5         0.9           Toyama         2.3         2.3         3.1         3.9         1.6           Ishikawa         2.2         2.0         2.6         3.3         1.3           Gifu         1.9         1.8         2.3         2.9         1.1           Aichi         1.5         1.6         2.0         2.6         3.3         1.3           Gifu         1.9         1.8         2.3         2.9         1.1           Aichi         1.5         1.6         2.0         2.5         1.0           Mie         1.8         1.7         2.1         2.6         0.9           Fukui         2.1         2.0         2.8         3.5         1.5           Shiga         -         1.5         1.9 <th< td=""><td></td><td>1.4</td><td></td><td>2.0</td><td></td><td>1.4</td></th<>		1.4		2.0		1.4
Tokyo         1.0         0.9         1.3         1.6         0.7           Kanagawa         1.5         1.4         2.1         2.8         1.4           Yamanashi         1.6         1.5         1.8         2.3         0.8           Nagano         1.8         1.7         1.9         2.5         0.8           Shizuoka         1.7         1.6         1.9         2.5         0.9           Toyama         2.3         2.3         3.1         3.9         1.6           Ishikawa         2.2         2.0         2.6         3.3         1.3           Gifu         1.9         1.8         2.3         2.9         1.1           Aichi         1.5         1.6         2.0         2.5         1.0           Mie         1.8         1.7         2.1         2.6         0.9           Fukui         2.1         2.0         2.8         3.5         1.5           Shiga         -         1.5         1.9         2.4         0.9           Kyoto         2.0         2.3         2.4         3.1         0.8           Osaka         1.5         1.8         2.3         2.9		1.6	1.5	1.8		1.0
Kanagawa         1.5         1.4         2.1         2.8         1.4           Yamanashi         1.6         1.5         1.8         2.3         0.8           Nagano         1.8         1.7         1.9         2.5         0.8           Shizuoka         1.7         1.6         1.9         2.5         0.9           Toyama         2.3         2.3         3.1         3.9         1.6           Ishikawa         2.2         2.0         2.6         3.3         1.3           Gifu         1.9         1.8         2.3         2.9         1.1           Aichi         1.5         1.6         2.0         2.5         1.0           Mie         1.5         1.6         2.0         2.5         1.0           Mie         1.8         1.7         2.1         2.6         0.9           Fukui         2.1         2.0         2.8         3.5         1.5           Shiga         -         1.5         1.9         2.4         0.9           Kyoto         2.0         2.3         2.4         3.1         0.8           Osaka         1.5         1.8         2.3         2.9         <	Tokyo	1.0		1.3		0.7
Yamanashi         1.6         1.5         1.8         2.3         0.8           Nagano         1.8         1.7         1.9         2.5         0.8           Shizuoka         1.7         1.6         1.9         2.5         0.9           Toyama         2.3         2.3         2.3         3.1         3.9         1.6           Ishikawa         2.2         2.0         2.6         3.3         1.3           Gifu         1.9         1.8         2.3         2.9         1.1           Aichi         1.5         1.6         2.0         2.5         1.0           Mie         1.5         1.6         2.0         2.5         1.0           Mie         1.8         1.7         2.1         2.6         0.9           Fukui         2.1         2.0         2.8         3.5         1.5           Shiga         -         1.5         1.9         2.4         0.9           Kyoto         2.0         2.3         2.4         3.1         0.8           Osaka         1.5         1.8         2.3         2.9         1.1           Hyogo         2.1         2.1         2.7						
Nagano						0.8
Shizuoka         1.7         1.6         1.9         2.5         0.9           Toyama         2.3         2.3         3.1         3.9         1.6           Ishikawa         2.2         2.0         2.6         3.3         1.3           Gifu         1.9         1.8         2.3         2.9         1.1           Aichi         1.5         1.6         2.0         2.5         1.0           Mie         1.5         1.6         2.0         2.5         1.0           Mie         1.8         1.7         2.1         2.6         0.9           Fukui         2.1         2.0         2.8         3.5         1.5           Shiga         -         1.5         1.9         2.4         0.9           Kyoto         2.0         2.3         2.4         3.1         0.8           Osaka         1.5         1.8         2.3         2.9         1.1           Hyogo         2.1         2.7         3.3         1.2           Nara         2.2         2.3         2.8         3.7         1.4           Wakayama         2.3         2.9         3.5         1.3           Totto		1.8		1.9		
Toyama         2.3         2.3         3.1         3.9         1.6           Ishikawa         2.2         2.0         2.6         3.3         1.3           Gifu         1.9         1.8         2.3         2.9         1.1           Aichi         1.5         1.6         2.0         2.5         1.0           Mie         1.8         1.7         2.1         2.6         0.9           Fukui         2.1         2.0         2.8         3.5         1.5           Shiga          1.5         1.9         2.4         0.9           Kyoto         2.0         2.3         2.4         3.1         0.8           Osaka         1.5         1.8         2.3         2.9         1.1           Hyogo         2.1         2.1         2.7         3.3         1.2           Nara         2.2         2.3         2.8         3.7         1.4           Wakayama         2.3         2.3         2.9         3.5         1.3           Tottori         -         2.5         3.1         4.0         1.4           Shimane         2.6         3.0         3.4         4.2         1			1.6			
Shikawa						
Gifu         1.9         1.8         2.3         2.9         1.1           Aichi         1.5         1.6         2.0         2.5         1.0           Mie         1.8         1.7         2.1         2.6         0.9           Fukui         2.1         2.0         2.8         3.5         1.5           Shiga         -         1.5         1.9         2.4         0.9           Kyoto         2.0         2.3         2.4         3.1         0.8           Osaka         1.5         1.8         2.3         2.9         1.1           Hyogo         2.1         2.1         2.7         3.3         1.2           Nara         2.2         2.3         2.8         3.7         1.4           Wakayama         2.3         2.9         3.5         1.3           Tottori         -         2.5         3.1         4.0         1.4           Wakayama         2.2         2.5         3.1         4.0         1.4           Shimane         2.6         3.0         3.4         4.2         1.2           Okayama         2.2         2.5         3.2         4.1         1.6						
Aichi         1.5         1.6         2.0         2.5         1.0           Mie         1.8         1.7         2.1         2.6         0.9           Fukui         2.1         2.0         2.8         3.5         1.5           Shiga         -         1.5         1.9         2.4         0.9           Kyoto         2.0         2.3         2.4         3.1         0.8           Osaka         1.5         1.8         2.3         2.9         1.1           Hyogo         2.1         2.1         2.7         3.3         1.2           Nara         2.2         2.3         2.8         3.7         1.4           Wakayama         2.3         2.9         3.5         1.3           Tottori         -         2.5         3.1         4.0         1.4           Shimane         2.6         3.0         3.4         4.2         1.2           Okayama         2.2         2.5         3.2         4.1         1.6           Hiroshima         2.3         2.4         2.9         3.7         1.3           Yamaguchi         2.8         3.6         3.9         4.9         1.3 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>						
Mie         1.8         1.7         2.1         2.6         0.9           Fukui         2.1         2.0         2.8         3.5         1.5           Shiga         -         1.5         1.9         2.4         0.9           Kyoto         2.0         2.3         2.4         3.1         0.8           Osaka         1.5         1.8         2.3         2.9         1.1           Hyogo         2.1         2.1         2.7         3.3         1.2           Nara         2.2         2.3         2.8         3.7         1.4           Wakayama         2.3         2.3         2.9         3.5         1.3           Tottori         -         2.5         3.1         4.0         1.4           Shimane         2.6         3.0         3.4         4.2         1.2           Okayama         2.2         2.5         3.2         4.1         1.6           Hiroshima         2.3         2.4         2.9         3.7         1.3           Yamaguchi         2.8         3.6         3.9         4.9         1.3           Tokushima         2.4         2.7         3.0         3.7						
Fukui         2.1         2.0         2.8         3.5         1.5           Shiga         -         1.5         1.9         2.4         0.9           Kyoto         2.0         2.3         2.4         3.1         0.8           Osaka         1.5         1.8         2.3         2.9         1.1           Hyogo         2.1         2.1         2.7         3.3         1.2           Nara         2.2         2.3         2.8         3.7         1.4           Wakayama         2.3         2.3         2.9         3.5         1.3           Tottori         -         2.5         3.1         4.0         1.4           Shimane         2.6         3.0         3.4         4.2         1.2           Okayama         2.2         2.5         3.1         4.0         1.4           Shimane         2.6         3.0         3.4         4.2         1.2           Okayama         2.2         2.5         3.2         4.1         1.6           Hiroshima         2.3         2.4         2.9         3.7         1.3           Yamaguchi         2.8         3.6         3.9         4.9						
Shiga         -         1.5         1.9         2.4         0.9           Kyoto         2.0         2.3         2.4         3.1         0.8           Osaka         1.5         1.8         2.3         2.9         1.1           Hyogo         2.1         2.7         3.3         1.2           Nara         2.2         2.3         2.8         3.7         1.4           Wakayama         2.3         2.3         2.9         3.5         1.3           Tottori         -         2.5         3.1         4.0         1.4           Shimane         2.6         3.0         3.4         4.2         1.2           Okayama         2.2         2.5         3.2         4.1         1.6           Hiroshima         2.3         2.4         2.9         3.7         1.3           Yamaguchi         2.8         3.6         3.9         4.9         1.3           Tokushima         2.4         2.7         3.0         3.7         1.0           Kagawa         2.3         2.2         2.3         2.9         0.8           Ehime         2.6         2.8         3.5         4.2         1.4						
Kyoto         2.0         2.3         2.4         3.1         0.8           Osaka         1.5         1.8         2.3         2.9         1.1           Hyogo         2.1         2.1         2.7         3.3         1.2           Nara         2.2         2.3         2.8         3.7         1.4           Wakayama         2.3         2.3         2.9         3.5         1.3           Tottori         -         2.5         3.1         4.0         1.4           Shimane         2.6         3.0         3.4         4.2         1.2           Okayama         2.2         2.5         3.2         4.1         1.6           Hiroshima         2.3         2.4         2.9         3.7         1.3           Yamaguchi         2.8         3.6         3.9         4.9         1.3           Tokushima         2.4         2.7         3.0         3.7         1.0           Kagawa         2.3         2.2         2.3         2.9         0.8           Ehime         2.6         2.8         3.5         4.2         1.4           Kochi         2.9         3.2         3.8         4.6 <td>Shiga</td> <td></td> <td></td> <td></td> <td></td> <td></td>	Shiga					
Osaka         1.5         1.8         2.3         2.9         1.1           Hyogo         2.1         2.1         2.7         3.3         1.2           Nara         2.2         2.3         2.8         3.7         1.4           Wakayama         2.3         2.3         2.9         3.5         1.3           Tottori         -         2.5         3.1         4.0         1.4           Shimane         2.6         3.0         3.4         4.2         1.2           Okayama         2.2         2.5         3.2         4.1         1.6           Hiroshima         2.3         2.4         2.9         3.7         1.3           Yamaguchi         2.8         3.6         3.9         4.9         1.3           Tokushima         2.4         2.7         3.0         3.7         1.0           Kagawa         2.3         2.2         2.3         2.9         0.8           Ehime         2.6         2.8         3.5         4.2         1.4           Kochi         2.9         3.2         3.8         4.6         1.4           Fukuoka         2.8         2.8         2.8         3.5 </td <td></td> <td>2.0</td> <td></td> <td></td> <td></td> <td></td>		2.0				
Hyogo         2.1         2.1         2.7         3.3         1.2           Nara         2.2         2.3         2.8         3.7         1.4           Wakayama         2.3         2.3         2.9         3.5         1.3           Tottori         -         2.5         3.1         4.0         1.4           Shimane         2.6         3.0         3.4         4.2         1.2           Okayama         2.2         2.5         3.2         4.1         1.6         Hiroshima         2.3         2.4         2.9         3.7         1.3           Yamaguchi         2.8         3.6         3.9         4.9         1.3           Tokushima         2.4         2.7         3.0         3.7         1.0           Kagawa         2.3         2.2         2.3         2.9         0.8           Ehime         2.6         2.8         3.5         4.2         1.4           Kochi         2.9         3.2         3.8         4.6         1.4           Fukuoka         2.8         2.8         2.8         3.5         0.7           Saga         2.4         2.6         2.8         3.5         0.8<						
Nara         2.2         2.3         2.8         3.7         1.4           Wakayama         2.3         2.3         2.9         3.5         1.3           Tottori         -         2.5         3.1         4.0         1.4           Shimane         2.6         3.0         3.4         4.2         1.2           Okayama         2.2         2.5         3.2         4.1         1.6           Hiroshima         2.3         2.4         2.9         3.7         1.3           Yamaguchi         2.8         3.6         3.9         4.9         1.3           Tokushima         2.4         2.7         3.0         3.7         1.0           Kagawa         2.3         2.2         2.3         2.9         0.8           Ehime         2.6         2.8         3.5         4.2         1.4           Kochi         2.9         3.2         3.8         4.6         1.4           Fukuoka         2.8         2.8         2.8         3.5         0.7           Saga         2.4         2.6         2.8         3.5         0.8           Nagasaki         2.8         2.9         3.2         3.8						
Wakayama         2.3         2.9         3.5         1.3           Tottori         -         2.5         3.1         4.0         1.4           Shimane         2.6         3.0         3.4         4.2         1.2           Okayama         2.2         2.5         3.2         4.1         1.6           Hiroshima         2.3         2.4         2.9         3.7         1.3           Yamaguchi         2.8         3.6         3.9         4.9         1.3           Tokushima         2.4         2.7         3.0         3.7         1.0           Kagawa         2.3         2.2         2.3         2.9         0.8           Ehime         2.6         2.8         3.5         4.2         1.4           Kochi         2.9         3.2         3.8         4.6         1.4           Fukuoka         2.8         2.8         2.8         3.5         0.7           Saga         2.4         2.6         2.8         3.5         0.8           Nagasaki         2.8         2.9         3.2         3.8         0.9           Kumamoto         2.7         2.8         3.4         4.2 <td< td=""><td></td><td></td><td>2.3</td><td></td><td></td><td></td></td<>			2.3			
Tottori         -         2.5         3.1         4.0         1.4           Shimane         2.6         3.0         3.4         4.2         1.2           Okayama         2.2         2.5         3.2         4.1         1.6           Hiroshima         2.3         2.4         2.9         3.7         1.3           Yamaguchi         2.8         3.6         3.9         4.9         1.3           Tokushima         2.4         2.7         3.0         3.7         1.0           Kagawa         2.3         2.2         2.3         2.9         0.8           Ehime         2.6         2.8         3.5         4.2         1.4           Kochi         2.9         3.2         3.8         4.6         1.4           Fukuoka         2.8         2.8         2.8         3.5         0.7           Saga         2.4         2.6         2.8         3.5         0.8           Nagasaki         2.8         2.9         3.2         3.8         0.9           Kumamoto         2.7         2.8         3.4         4.2         1.5           Oita         2.2         2.4         2.8         3.5	Wakayama					
Shimane         2.6         3.0         3.4         4.2         1.2           Okayama         2.2         2.5         3.2         4.1         1.6           Hiroshima         2.3         2.4         2.9         3.7         1.3           Yamaguchi         2.8         3.6         3.9         4.9         1.3           Tokushima         2.4         2.7         3.0         3.7         1.0           Kagawa         2.3         2.2         2.3         2.9         0.8           Ehime         2.6         2.8         3.5         4.2         1.4           Kochi         2.9         3.2         3.8         4.6         1.4           Fukuoka         2.8         2.8         2.8         3.5         0.7           Saga         2.4         2.6         2.8         3.5         0.8           Nagasaki         2.8         2.9         3.2         3.8         0.9           Kumamoto         2.7         2.8         3.4         4.2         1.5           Oita         2.2         2.4         2.8         3.5         1.1           Miyazaki         2.6         2.8         3.1	Tottori				4.0	
Okayama         2.2         2.5         3.2         4.1         1.6           Hiroshima         2.3         2.4         2.9         3.7         1.3           Yamaguchi         2.8         3.6         3.9         4.9         1.3           Tokushima         2.4         2.7         3.0         3.7         1.0           Kagawa         2.3         2.2         2.3         2.9         0.8           Ehime         2.6         2.8         3.5         4.2         1.4           Kochi         2.9         3.2         3.8         4.6         1.4           Fukuoka         2.8         2.8         2.8         3.5         0.7           Saga         2.4         2.6         2.8         3.5         0.8           Nagasaki         2.8         2.9         3.2         3.8         0.9           Kumamoto         2.7         2.8         3.4         4.2         1.5           Oita         2.2         2.4         2.8         3.5         1.1           Miyazaki         2.6         2.8         3.1         3.9         1.1           Kagoshima         2.7         2.8         3.2 <t< td=""><td>Shimane</td><td>2.6</td><td></td><td></td><td></td><td></td></t<>	Shimane	2.6				
Hiroshima         2.3         2.4         2.9         3.7         1.3           Yamaguchi         2.8         3.6         3.9         4.9         1.3           Tokushima         2.4         2.7         3.0         3.7         1.0           Kagawa         2.3         2.2         2.3         2.9         0.8           Ehime         2.6         2.8         3.5         4.2         1.4           Kochi         2.9         3.2         3.8         4.6         1.4           Fukuoka         2.8         2.8         2.8         3.5         0.7           Saga         2.4         2.6         2.8         3.5         0.8           Nagasaki         2.8         2.9         3.2         3.8         0.9           Kumamoto         2.7         2.8         3.4         4.2         1.5           Oita         2.2         2.4         2.8         3.5         1.1           Miyazaki         2.6         2.8         3.1         3.9         1.1           Kagoshima         2.7         2.8         3.2         3.9         1.1           Okinawa         1.9         2.0         2.4 <t< td=""><td>Okayama</td><td>2.2</td><td>2.5</td><td>3.2</td><td>4.1</td><td>1.6</td></t<>	Okayama	2.2	2.5	3.2	4.1	1.6
Yamaguchi         2.8         3.6         3.9         4.9         1.3           Tokushima         2.4         2.7         3.0         3.7         1.0           Kagawa         2.3         2.2         2.3         2.9         0.8           Ehime         2.6         2.8         3.5         4.2         1.4           Kochi         2.9         3.2         3.8         4.6         1.4           Fukuoka         2.8         2.8         2.8         3.5         0.7           Saga         2.4         2.6         2.8         3.5         0.8           Nagasaki         2.8         2.9         3.2         3.8         0.9           Kumamoto         2.7         2.8         3.4         4.2         1.5           Oita         2.2         2.4         2.8         3.5         1.1           Miyazaki         2.6         2.8         3.1         3.9         1.1           Kagoshima         2.7         2.8         3.2         3.9         1.1           Okinawa         1.9         2.0         2.4         3.0         1.1	Hiroshima	2.3	2.4	2.9	3.7	1.3
Tokushima         2.4         2.7         3.0         3.7         1.0           Kagawa         2.3         2.2         2.3         2.9         0.8           Ehime         2.6         2.8         3.5         4.2         1.4           Kochi         2.9         3.2         3.8         4.6         1.4           Fukuoka         2.8         2.8         2.8         3.5         0.7           Saga         2.4         2.6         2.8         3.5         0.8           Nagasaki         2.8         2.9         3.2         3.8         0.9           Kumamoto         2.7         2.8         3.4         4.2         1.5           Oita         2.2         2.4         2.8         3.5         1.1           Miyazaki         2.6         2.8         3.1         3.9         1.1           Kagoshima         2.7         2.8         3.2         3.9         1.1           Okinawa         1.9         2.0         2.4         3.0         1.1	Yamaguchi	2.8				
Kagawa         2.3         2.2         2.3         2.9         0.8           Ehime         2.6         2.8         3.5         4.2         1.4           Kochi         2.9         3.2         3.8         4.6         1.4           Fukuoka         2.8         2.8         2.8         3.5         0.7           Saga         2.4         2.6         2.8         3.5         0.8           Nagasaki         2.8         2.9         3.2         3.8         0.9           Kumamoto         2.7         2.8         3.4         4.2         1.5           Oita         2.2         2.4         2.8         3.5         1.1           Miyazaki         2.6         2.8         3.1         3.9         1.1           Kagoshima         2.7         2.8         3.2         3.9         1.1           Okinawa         1.9         2.0         2.4         3.0         1.1						
Ehime         2.6         2.8         3.5         4.2         1.4           Kochi         2.9         3.2         3.8         4.6         1.4           Fukuoka         2.8         2.8         2.8         3.5         0.7           Saga         2.4         2.6         2.8         3.5         0.8           Nagasaki         2.8         2.9         3.2         3.8         0.9           Kumamoto         2.7         2.8         3.4         4.2         1.5           Oita         2.2         2.4         2.8         3.5         1.1           Miyazaki         2.6         2.8         3.1         3.9         1.1           Kagoshima         2.7         2.8         3.2         3.9         1.1           Okinawa         1.9         2.0         2.4         3.0         1.1						
Kochi         2.9         3.2         3.8         4.6         1.4           Fukuoka         2.8         2.8         2.8         3.5         0.7           Saga         2.4         2.6         2.8         3.5         0.8           Nagasaki         2.8         2.9         3.2         3.8         0.9           Kumamoto         2.7         2.8         3.4         4.2         1.5           Oita         2.2         2.4         2.8         3.5         1.1           Miyazaki         2.6         2.8         3.1         3.9         1.1           Kagoshima         2.7         2.8         3.2         3.9         1.1           Okinawa         1.9         2.0         2.4         3.0         1.1						
Fukuoka         2.8         2.8         2.8         3.5         0.7           Saga         2.4         2.6         2.8         3.5         0.8           Nagasaki         2.8         2.9         3.2         3.8         0.9           Kumamoto         2.7         2.8         3.4         4.2         1.5           Oita         2.2         2.4         2.8         3.5         1.1           Miyazaki         2.6         2.8         3.1         3.9         1.1           Kagoshima         2.7         2.8         3.2         3.9         1.1           Okinawa         1.9         2.0         2.4         3.0         1.1						
Saga         2.4         2.6         2.8         3.5         0.8           Nagasaki         2.8         2.9         3.2         3.8         0.9           Kumamoto         2.7         2.8         3.4         4.2         1.5           Oita         2.2         2.4         2.8         3.5         1.1           Miyazaki         2.6         2.8         3.1         3.9         1.1           Kagoshima         2.7         2.8         3.2         3.9         1.1           Okinawa         1.9         2.0         2.4         3.0         1.1						
Nagasaki         2.8         2.9         3.2         3.8         0.9           Kumamoto         2.7         2.8         3.4         4.2         1.5           Oita         2.2         2.4         2.8         3.5         1.1           Miyazaki         2.6         2.8         3.1         3.9         1.1           Kagoshima         2.7         2.8         3.2         3.9         1.1           Okinawa         1.9         2.0         2.4         3.0         1.1						-
Kumamoto         2.7         2.8         3.4         4.2         1.5           Oita         2.2         2.4         2.8         3.5         1.1           Miyazaki         2.6         2.8         3.1         3.9         1.1           Kagoshima         2.7         2.8         3.2         3.9         1.1           Okinawa         1.9         2.0         2.4         3.0         1.1		2.8				0.9
Oita         2.2         2.4         2.8         3.5         1.1           Miyazaki         2.6         2.8         3.1         3.9         1.1           Kagoshima         2.7         2.8         3.2         3.9         1.1           Okinawa         1.9         2.0         2.4         3.0         1.1	Kumamoto					
Miyazaki         2.6         2.8         3.1         3.9         1.1           Kagoshima         2.7         2.8         3.2         3.9         1.1           Okinawa         1.9         2.0         2.4         3.0         1.1						
Kagoshima         2.7         2.8         3.2         3.9         1.1           Okinawa         1.9         2.0         2.4         3.0         1.1						
Okinawa         1.9         2.0         2.4         3.0         1.1						
					3.0	
		-				

	1985(%)	1990(%)	1995(%)	1999(%)	change during 1990-1999 (% point)
Nationwide	1.9	1.9	2.3	2.9	1.0
Metropolitan areas	1.4	1.5	1.9	2.5	1.0
Greater Tokyo	1.2	1.1	1.6	2.2	1.0
Greater Nagoya	1.6	1.6	2.1	2.6	1.0
Greater Osaka	1.8	2.0	2.4	3.1	1.1
Rural areas	2.3	2.3	2.6	3.3	1.0

Source: Policy Research Institute, Ministry of Finance, Roles of Government in Economic Revitalization in Each Prefecture, 2002.

Table 4. Workers Employed in Jobs Created by Government Activities as Percentage of All Workers in Each Prefecture (percentage of civil servants)

Hokkaido		1985(%)	1990(%)	1995(%)	1999(%)	change during 1990-1999 (% point)
Neste	Hokkaido				12.6	-0.2
Miyagi         10.3         9.9         9.8         9.9         -0.1           Akita         10.5         10.3         10.7         0.4           Yamagata         9.4         9.5         10.0         10.1         0.5           Fukushima         8.4         8.3         8.3         8.7         0.3           Ibaraki         8.8         8.8         8.6         8.6         0.1         0.3           Ibaraki         8.8         8.6         8.6         8.6         0.1         0.3           Ibaraki         8.8         8.6         8.6         8.6         0.1         0.1           Tochigi         -         7.8         8.0         7.9         0.2         0.1           Guma         -         7.8         8.0         7.9         0.2         0.1           Ghiba         10.0         9.2         9.1         8.9         -0.3           Tokyo         7.3         6.7         6.8         6.7         0.1           Kanagawa         8.7         8.0         7.9         7.7         -0.3           Yamanashi         9.2         9.1         9.2         9.3         0.2	Aomori	12.2	12.3	12.1	12.0	-0.3
Miyagi         10.3         9.9         9.8         9.9         -0.1           Akita         10.5         10.3         10.7         0.4           Yamagata         9.4         9.5         10.0         10.1         0.5           Fukushima         8.4         8.3         8.3         8.7         0.3           Ibaraki         8.8         8.8         8.6         8.6         0.1         0.3           Ibaraki         8.8         8.6         8.6         8.6         0.1         0.3           Ibaraki         8.8         8.6         8.6         8.6         0.1         0.1           Tochigi         -         7.8         8.0         7.9         0.2         0.1           Guma         -         7.8         8.0         7.9         0.2         0.1           Ghiba         10.0         9.2         9.1         8.9         -0.3           Tokyo         7.3         6.7         6.8         6.7         0.1           Kanagawa         8.7         8.0         7.9         7.7         -0.3           Yamanashi         9.2         9.1         9.2         9.3         0.2	lwate	9.9	10.3	10.2	10.4	0.2
Yamagata         9.4         9.5         10.0         10.1         0.5           Fukushima         8.4         8.3         8.3         8.7         0.3           Niigata         8.8         8.8         8.8         8.8         9.1         0.3           Ibaraki         8.8         8.8         8.6         8.6         0.1         0.1           Tochigi         -         7.8         8.0         7.9         0.2         0.1           Guma         -         7.8         8.0         7.9         0.2         0.2           Saitama         8.3         7.7         7.8         7.8         0.1         0.1           Chiba         10.0         9.2         9.1         8.9         0.3         0.2           Saitama         8.3         7.7         7.8         7.8         0.1         0.1           Kanagawa         8.7         8.0         7.9         7.7         -0.3         0.2           Yamanashi         9.2         9.1         9.2         9.3         0.2         0.1           Shizuoka         7.0         6.9         6.9         7.0         0.1         1         9.5         0.5         6<	Miyagi	10.3	9.9	9.8	9.9	-0.1
Fukushima	Akita	10.5	10.3	10.3	10.7	0.4
Fukushima	Yamagata	9.4	9.5	10.0	10.1	0.5
Ibaraki		8.4	8.3	8.3	8.7	0.3
Ibaraki	Niigata	8.8	8.8		9.1	0.3
Gumma         -         7.8         8.0         7.9         0.2           Saitama         8.3         7.7         7.8         7.8         0.1           Chiba         10.0         9.2         9.1         8.9         -0.3           Tokyo         7.3         6.7         6.8         6.7         0.1           Kanagawa         8.7         8.0         7.9         7.7         -0.3           Yamanashi         9.2         9.1         9.2         9.3         0.2           Nagano         7.9         8.0         8.2         8.3         0.3           Shizuoka         7.0         6.9         6.9         7.0         0.1           Toyama         8.6         8.4         8.2         8.4         0.1           Ishikawa         9.3         9.0         9.1         9.5         0.5           Gifu         8.1         7.9         8.4         8.6         0.7           Aichi         8.1         7.9         8.4         8.6         0.7           Aichi         8.1         7.9         8.4         8.6         0.7           Fukui         8.7         9.1         9.4         9.6		8.8	8.6	8.6	8.6	0.1
Gumma         -         7.8         8.0         7.9         0.2           Saitama         8.3         7.7         7.8         7.8         0.1           Chiba         10.0         9.2         9.1         8.9         -0.3           Tokyo         7.3         6.7         6.8         6.7         0.1           Kanagawa         8.7         8.0         7.9         7.7         -0.3           Yamanashi         9.2         9.1         9.2         9.3         0.2           Nagano         7.9         8.0         8.2         8.3         0.3           Shizuoka         7.0         6.9         6.9         7.0         0.1           Toyama         8.6         8.4         8.2         8.4         0.1           Ishikawa         9.3         9.0         9.1         9.5         0.5           Gifu         8.1         7.9         8.4         8.6         0.7           Aichi         8.1         7.9         8.4         8.6         0.7           Aichi         8.1         7.9         8.4         8.6         0.7           Fukui         8.7         9.1         9.4         9.6	Tochigi	_	7.3	7.2	7.2	-0.1
Saitama         8.3         7.7         7.8         7.8         0.1           Chiba         10.0         9.2         9.1         8.9         -0.3           Tokyo         7.3         6.7         6.8         6.7         0.1           Kanagawa         8.7         8.0         7.9         7.7         -0.3           Yamanashi         9.2         9.1         9.2         9.3         0.2           Nagano         7.9         8.0         8.2         8.3         0.3           Shizuoka         7.0         6.9         6.9         7.0         0.1           Toyama         8.6         8.4         8.2         8.4         0.1           Ishikawa         9.3         9.0         9.1         9.5         0.5           Gifu         8.1         7.9         8.4         8.6         0.7           Aichi         7.1         6.9         6.7         6.8         -0.1           Mile         8.9         8.8         8.8         9.0         0.2           Fukui         8.7         8.7         9.1         9.4         0.6           Shiga         -         9.1         8.8         8.8		_	7.8	8.0	7.9	0.2
Chiba         10.0         9.2         9.1         8.9         -0.3           Tokyo         7.3         6.7         6.8         6.7         0.1           Kanagawa         8.7         8.0         7.9         7.7         -0.3           Yamanashi         9.2         9.1         9.2         9.3         0.2           Nagano         7.9         8.0         8.2         8.3         0.3           Shizuoka         7.0         6.9         6.9         7.0         0.1           Toyama         8.6         8.4         8.2         8.4         0.1           Ishikawa         9.3         9.0         9.1         9.5         0.5           Gifu         8.1         7.9         8.4         8.6         0.7           Aichi         7.1         6.9         6.7         6.8         -0.1           Mie         8.9         8.8         8.8         9.0         0.2           Fukui         8.7         8.7         9.1         9.4         0.6           Shiga         -         9.4         9.3         9.1         -0.3           Kyoto         9.1         8.8         8.8         9.1	Saitama	8.3	7.7	7.8		0.1
Tokyo         7.3         6.7         6.8         6.7         0.1           Kanagawa         8.7         8.0         7.9         7.7         -0.3           Yamanashi         9.2         9.1         9.2         9.3         0.2           Nagano         7.9         8.0         8.2         8.3         0.3           Shizuoka         7.0         6.9         6.9         7.0         0.1           Toyama         8.6         8.4         8.2         8.4         0.1           Ishikawa         9.3         9.0         9.1         9.5         0.5           Gifu         8.1         7.9         8.4         8.6         0.7           Aichi         7.1         6.9         6.7         6.8         -0.1           Mie         8.9         8.8         8.8         9.0         0.2           Fukui         8.7         8.7         9.1         9.4         9.6           Shiga         -         9.4         9.3         9.1         -0.3           Kyoto         9.1         8.8         8.8         9.1         0.3           Osaka         7.0         6.6         6.6         6.8	Chiba		9.2	9.1		-0.3
Kanagawa         8.7         8.0         7.9         7.7         -0.3           Yamanashi         9.2         9.1         9.2         9.3         0.2           Nagano         7.9         8.0         8.2         8.3         0.3           Shizuoka         7.0         6.9         6.9         7.0         0.1           Toyama         8.6         8.4         8.2         8.4         0.1           Ishikawa         9.3         9.0         9.1         9.5         0.5           Gifu         8.1         7.9         8.4         8.6         0.7           Aichi         7.1         6.9         6.7         6.8         -0.1           Mie         8.9         8.8         8.8         9.0         0.2           Fukui         8.7         8.7         9.1         9.4         0.6           Shiga         -         9.4         9.3         9.1         -0.3           Kyoto         9.1         8.8         8.8         9.1         0.3           Osaka         7.0         6.6         6.6         6.8         0.2           Hyogo         9.4         9.1         9.1         9.2	Tokyo	7.3	6.7	6.8		
Yamanashi         9.2         9.1         9.2         9.3         0.2           Nagano         7.9         8.0         8.2         8.3         0.3           Shizuoka         7.0         6.9         6.9         7.0         0.1           Toyama         8.6         8.4         8.2         8.4         0.1           Ishikawa         9.3         9.0         9.1         9.5         0.5           Gifu         8.1         7.9         8.4         8.6         0.7           Aichi         7.1         6.9         6.7         6.8         -0.1           Mie         8.9         8.8         8.8         9.0         0.2           Fukui         8.7         8.7         9.1         9.4         0.6           Shiga         -         9.4         9.3         9.1         -0.3           Kyoto         9.1         8.8         8.8         9.1         0.3           Osaka         7.0         6.6         6.6         6.8         0.2           Hyogo         9.4         9.1         9.1         9.2         0.1           Nara         11.7         11.9         91.5         11.5			8.0	7.9	7.7	-0.3
Nagano   7.9						0.2
Shizuoka         7.0         6.9         6.9         7.0         0.1           Toyama         8.6         8.4         8.2         8.4         0.1           Ishikawa         9.3         9.0         9.1         9.5         0.5           Gifu         8.1         7.9         8.4         8.6         0.7           Aichi         7.1         6.9         6.7         6.8         -0.1           Mie         8.9         8.8         8.8         9.0         0.2           Fukui         8.7         8.7         9.1         9.4         0.6           Shiga         -         9.4         9.3         9.1         -0.3           Kyoto         9.1         8.8         8.8         9.1         0.3           Osaka         7.0         6.6         6.6         6.8         0.2           Hyogo         9.4         9.1         9.1         9.2         0.1           Nara         11.7         11.9         11.5         11.5         -0.4           Wakayama         10.1         10.0         10.1         10.8         0.8           Tottori         -         10.3         10.7         11.2		7.9	8.0	8.2	8.3	0.3
Toyama         8.6         8.4         8.2         8.4         0.1           Ishikawa         9.3         9.0         9.1         9.5         0.5           Gifu         8.1         7.9         8.4         8.6         0.7           Aichi         7.1         6.9         6.7         6.8         -0.1           Mie         8.9         8.8         8.8         9.0         0.2           Fukui         8.7         8.7         9.1         9.4         0.6           Shiga         -         9.4         9.3         9.1         -0.3           Kyoto         9.1         8.8         8.8         9.1         0.3           Osaka         7.0         6.6         6.6         6.8         0.2           Hyogo         9.4         9.1         9.1         9.2         0.1           Nara         11.7         11.9         11.5         11.5         -0.4           Wakayama         10.1         10.0         10.1         10.8         0.8           Tottori         -         10.3         10.7         11.2         0.9           Shimane         10.6         10.9         11.4         12.1 </th <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>						
Shikawa   9.3   9.0   9.1   9.5   0.5     Gifu   8.1   7.9   8.4   8.6   0.7     Aichi   7.1   6.9   6.7   6.8   -0.1     Mile   8.9   8.8   8.8   9.0   0.2     Fukui   8.7   8.7   9.1   9.4   0.6     Shiga   -   9.4   9.3   9.1   -0.3     Kyoto   9.1   8.8   8.8   9.1   0.3     Osaka   7.0   6.6   6.6   6.6   6.8   0.2     Hyogo   9.4   9.1   9.1   9.2   0.1     Nara   11.7   11.9   11.5   11.5   -0.4     Wakayama   10.1   10.0   10.1   10.8   0.8     Tottori   -   10.3   10.7   11.2   0.9     Shimane   10.6   10.9   11.4   12.1   1.2     Okayama   8.6   8.4   8.6   8.9   0.5     Hiroshima   9.3   9.1   9.3   9.6   0.4     Yamaguchi   10.0   10.0   10.1   10.6   0.6     Tokushima   10.6   11.2   11.4   11.9   0.7     Kagawa   9.9   9.9   9.8   10.1   0.2     Ehime   8.8   8.8   9.2   9.5   0.7     Kochi   11.7   11.5   11.6   12.0   0.6     Fukuoka   9.6   8.7   8.5   8.4   -0.3     Saga   10.3   10.5   10.5   10.5   0.0     Nagasaki   11.5   11.2   11.5   11.7   0.4     Kumamoto   10.1   10.1   10.0   10.2   0.1     Okinawa   13.5   13.4   13.3   12.1   -1.4						
Gifu         8.1         7.9         8.4         8.6         0.7           Aichi         7.1         6.9         6.7         6.8         -0.1           Mie         8.9         8.8         8.8         9.0         0.2           Fukui         8.7         8.7         9.1         9.4         0.6           Shiga         -         9.4         9.3         9.1         -0.3           Kyoto         9.1         8.8         8.8         9.1         0.3           Osaka         7.0         6.6         6.6         6.8         0.2           Hyogo         9.4         9.1         9.1         9.2         0.1           Nara         11.7         11.9         11.5         11.5         -0.4           Wakayama         10.1         10.0         10.1         10.8         0.8           Tottori         -         10.3         10.7         11.2         0.9           Shimane         10.6         10.9         11.4         12.1         1.2           Okayama         8.6         8.4         8.6         8.9         0.5           Hiroshima         9.3         9.1         9.3         9.6						
Aichi         7.1         6.9         6.7         6.8         -0.1           Mie         8.9         8.8         8.8         9.0         0.2           Fukui         8.7         8.7         9.1         9.4         0.6           Shiga         -         9.4         9.3         9.1         -0.3           Kyoto         9.1         8.8         8.8         9.1         0.3           Osaka         7.0         6.6         6.6         6.8         0.2           Hyogo         9.4         9.1         9.1         9.2         0.1           Nara         11.7         11.9         11.5         11.5         -0.4           Wakayama         10.1         10.0         10.1         10.8         0.8           Tottori         -         10.3         10.7         11.2         0.9           Shimane         10.6         10.9         11.4         12.1         1.2           Okayama         8.6         8.4         8.6         8.9         0.5           Hiroshima         9.3         9.1         9.3         9.6         0.4           Yamaguchi         10.0         10.0         10.1						
Mie         8.9         8.8         8.8         9.0         0.2           Fukui         8.7         8.7         9.1         9.4         0.6           Shiga         -         9.4         9.3         9.1         -0.3           Kyoto         9.1         8.8         8.8         9.1         0.3           Osaka         7.0         6.6         6.6         6.8         0.2           Hyogo         9.4         9.1         9.1         9.2         0.1           Nara         11.7         11.9         11.5         11.5         -0.4           Wakayama         10.1         10.0         10.1         10.8         0.8           Tottori         -         10.3         10.7         11.2         0.9           Shimane         10.6         10.9         11.4         12.1         1.2           Okayama         8.6         8.4         8.6         8.9         0.5           Hiroshima         9.3         9.1         9.3         9.6         0.4           Yamaguchi         10.0         10.0         10.1         10.6         0.6           Tokushima         10.6         11.2         11.4	Aichi			6.7		-0.1
Fukui         8.7         8.7         9.1         9.4         0.6           Shiga         -         9.4         9.3         9.1         -0.3           Kyoto         9.1         8.8         8.8         9.1         0.3           Osaka         7.0         6.6         6.6         6.8         0.2           Hyogo         9.4         9.1         9.1         9.2         0.1           Nara         11.7         11.9         11.5         11.5         -0.4           Wakayama         10.1         10.0         10.1         10.8         0.8           Tottori         -         10.3         10.7         11.2         0.9           Shimane         10.6         10.9         11.4         12.1         1.2           Okayama         8.6         8.4         8.6         8.9         0.5           Hiroshima         9.3         9.1         9.3         9.6         0.4           Yamaguchi         10.0         10.0         10.1         10.6         0.6           Tokushima         10.6         11.2         11.4         11.9         0.7           Kagawa         9.9         9.9         9.8 </th <th></th> <th></th> <th></th> <th>8.8</th> <th></th> <th></th>				8.8		
Shiga         -         9.4         9.3         9.1         -0.3           Kyoto         9.1         8.8         8.8         9.1         0.3           Osaka         7.0         6.6         6.6         6.8         0.2           Hyogo         9.4         9.1         9.1         9.2         0.1           Nara         11.7         11.9         11.5         11.5         -0.4           Wakayama         10.1         10.0         10.1         10.8         0.8           Tottori         -         10.3         10.7         11.2         0.9           Shimane         10.6         10.9         11.4         12.1         1.2           Okayama         8.6         8.4         8.6         8.9         0.5           Hiroshima         9.3         9.1         9.3         9.6         0.4           Yamaguchi         10.0         10.0         10.1         10.6         0.6           Tokushima         10.6         11.2         11.4         11.9         0.7           Kagawa         9.9         9.9         9.8         10.1         0.2           Ehime         8.8         8.8         9.2<						
Kyoto         9.1         8.8         8.8         9.1         0.3           Osaka         7.0         6.6         6.6         6.6         6.8         0.2           Hyogo         9.4         9.1         9.1         9.2         0.1           Nara         11.7         11.9         11.5         11.5         -0.4           Wakayama         10.1         10.0         10.1         10.8         0.8           Tottori         -         10.3         10.7         11.2         0.9           Shimane         10.6         10.9         11.4         12.1         1.2           Okayama         8.6         8.4         8.6         8.9         0.5           Hiroshima         9.3         9.1         9.3         9.6         0.4           Yamaguchi         10.0         10.0         10.1         10.6         0.6           Tokushima         10.6         11.2         11.4         11.9         0.7           Kagawa         9.9         9.9         9.8         10.1         0.2           Ehime         8.8         8.8         9.2         9.5         0.7           Kochi         11.7         11						
Osaka         7.0         6.6         6.6         6.8         0.2           Hyogo         9.4         9.1         9.1         9.2         0.1           Nara         11.7         11.9         11.5         11.5         -0.4           Wakayama         10.1         10.0         10.1         10.8         0.8           Tottori         -         10.3         10.7         11.2         0.9           Shimane         10.6         10.9         11.4         12.1         1.2           Okayama         8.6         8.4         8.6         8.9         0.5           Hiroshima         9.3         9.1         9.3         9.6         0.4           Yamaguchi         10.0         10.0         10.1         10.6         0.6           Tokushima         10.6         11.2         11.4         11.9         0.7           Kagawa         9.9         9.9         9.8         10.1         0.2           Ehime         8.8         8.8         9.2         9.5         0.7           Kochi         11.7         11.5         11.6         12.0         0.6           Fukuoka         9.6         8.7         <		9.1				
Hyogo         9.4         9.1         9.1         9.2         0.1           Nara         11.7         11.9         11.5         11.5         -0.4           Wakayama         10.1         10.0         10.1         10.8         0.8           Tottori         -         10.3         10.7         11.2         0.9           Shimane         10.6         10.9         11.4         12.1         1.2           Okayama         8.6         8.4         8.6         8.9         0.5           Hiroshima         9.3         9.1         9.3         9.6         0.4           Yamaguchi         10.0         10.0         10.1         10.6         0.6           Tokushima         10.6         11.2         11.4         11.9         0.7           Kagawa         9.9         9.9         9.8         10.1         0.2           Ehime         8.8         8.8         9.2         9.5         0.7           Kochi         11.7         11.5         11.6         12.0         0.6           Fukuoka         9.6         8.7         8.5         8.4         -0.3           Saga         10.3         10.5	<u>,                                      </u>	7.0		6.6	6.8	
Nara         11.7         11.9         11.5         11.5         -0.4           Wakayama         10.1         10.0         10.1         10.8         0.8           Tottori         -         10.3         10.7         11.2         0.9           Shimane         10.6         10.9         11.4         12.1         1.2           Okayama         8.6         8.4         8.6         8.9         0.5           Hiroshima         9.3         9.1         9.3         9.6         0.4           Yamaguchi         10.0         10.0         10.1         10.6         0.6           Tokushima         10.6         11.2         11.4         11.9         0.7           Kagawa         9.9         9.9         9.8         10.1         0.2           Ehime         8.8         8.8         9.2         9.5         0.7           Kochi         11.7         11.5         11.6         12.0         0.6           Fukuoka         9.6         8.7         8.5         8.4         -0.3           Saga         10.3         10.5         10.5         10.5         0.0           Nagasaki         11.5         11.2						
Wakayama         10.1         10.0         10.1         10.8         0.8           Tottori         -         10.3         10.7         11.2         0.9           Shimane         10.6         10.9         11.4         12.1         1.2           Okayama         8.6         8.4         8.6         8.9         0.5           Hiroshima         9.3         9.1         9.3         9.6         0.4           Yamaguchi         10.0         10.0         10.1         10.6         0.6           Tokushima         10.6         11.2         11.4         11.9         0.7           Kagawa         9.9         9.9         9.8         10.1         0.2           Ehime         8.8         8.8         9.2         9.5         0.7           Kochi         11.7         11.5         11.6         12.0         0.6           Fukuoka         9.6         8.7         8.5         8.4         -0.3           Saga         10.3         10.5         10.5         10.5         0.0           Nagasaki         11.5         11.2         11.5         11.7         0.4           Kumamoto         10.1         10.1 <th></th> <th>11.7</th> <th></th> <th></th> <th></th> <th></th>		11.7				
Tottori         -         10.3         10.7         11.2         0.9           Shimane         10.6         10.9         11.4         12.1         1.2           Okayama         8.6         8.4         8.6         8.9         0.5           Hiroshima         9.3         9.1         9.3         9.6         0.4           Yamaguchi         10.0         10.0         10.1         10.6         0.6           Tokushima         10.6         11.2         11.4         11.9         0.7           Kagawa         9.9         9.9         9.8         10.1         0.2           Ehime         8.8         8.8         9.2         9.5         0.7           Kochi         11.7         11.5         11.6         12.0         0.6           Fukuoka         9.6         8.7         8.5         8.4         -0.3           Saga         10.3         10.5         10.5         10.5         0.0           Nagasaki         11.5         11.2         11.5         11.7         0.4           Kumamoto         10.1         10.1         10.0         10.2         0.1           Oita         10.6         10.4						
Shimane         10.6         10.9         11.4         12.1         1.2           Okayama         8.6         8.4         8.6         8.9         0.5           Hiroshima         9.3         9.1         9.3         9.6         0.4           Yamaguchi         10.0         10.0         10.1         10.6         0.6           Tokushima         10.6         11.2         11.4         11.9         0.7           Kagawa         9.9         9.9         9.8         10.1         0.2           Ehime         8.8         8.8         9.2         9.5         0.7           Kochi         11.7         11.5         11.6         12.0         0.6           Fukuoka         9.6         8.7         8.5         8.4         -0.3           Saga         10.3         10.5         10.5         10.5         0.0           Nagasaki         11.5         11.2         11.5         11.7         0.4           Kumamoto         10.1         10.1         10.0         10.2         0.1           Oita         10.6         10.4         10.4         10.5         0.1           Miyazaki         10.2         10.0 <th></th> <th>_</th> <th>10.3</th> <th>10.7</th> <th>11.2</th> <th></th>		_	10.3	10.7	11.2	
Okayama         8.6         8.4         8.6         8.9         0.5           Hiroshima         9.3         9.1         9.3         9.6         0.4           Yamaguchi         10.0         10.0         10.1         10.6         0.6           Tokushima         10.6         11.2         11.4         11.9         0.7           Kagawa         9.9         9.9         9.8         10.1         0.2           Ehime         8.8         8.8         9.2         9.5         0.7           Kochi         11.7         11.5         11.6         12.0         0.6           Fukuoka         9.6         8.7         8.5         8.4         -0.3           Saga         10.3         10.5         10.5         10.5         0.0           Nagasaki         11.5         11.2         11.5         11.7         0.4           Kumamoto         10.1         10.1         10.0         10.2         0.1           Oita         10.6         10.4         10.4         10.5         0.1           Miyazaki         10.2         10.0         9.8         10.0         0.1           Kagoshima         11.0         11.2 </th <th>Shimane</th> <th>10.6</th> <th></th> <th></th> <th></th> <th></th>	Shimane	10.6				
Hiroshima         9.3         9.1         9.3         9.6         0.4           Yamaguchi         10.0         10.0         10.1         10.6         0.6           Tokushima         10.6         11.2         11.4         11.9         0.7           Kagawa         9.9         9.9         9.8         10.1         0.2           Ehime         8.8         8.8         9.2         9.5         0.7           Kochi         11.7         11.5         11.6         12.0         0.6           Fukuoka         9.6         8.7         8.5         8.4         -0.3           Saga         10.3         10.5         10.5         10.5         0.0           Nagasaki         11.5         11.2         11.5         11.7         0.4           Kumamoto         10.1         10.1         10.0         10.2         0.1           Oita         10.6         10.4         10.4         10.5         0.1           Miyazaki         10.2         10.0         9.8         10.0         0.1           Kagoshima         11.0         11.2         11.1         11.2         -1.4           Okinawa         13.5         1	Okavama	8.6		8.6	8.9	
Yamaguchi         10.0         10.0         10.1         10.6         0.6           Tokushima         10.6         11.2         11.4         11.9         0.7           Kagawa         9.9         9.9         9.8         10.1         0.2           Ehime         8.8         8.8         9.2         9.5         0.7           Kochi         11.7         11.5         11.6         12.0         0.6           Fukuoka         9.6         8.7         8.5         8.4         -0.3           Saga         10.3         10.5         10.5         10.5         0.0           Nagasaki         11.5         11.2         11.5         11.7         0.4           Kumamoto         10.1         10.1         10.0         10.2         0.1           Oita         10.6         10.4         10.4         10.5         0.1           Miyazaki         10.2         10.0         9.8         10.0         0.1           Kagoshima         11.0         11.2         11.1         11.2         -1.4           Okinawa         13.5         13.4         13.3         12.1         -1.4						
Kagawa         9.9         9.9         9.8         10.1         0.2           Ehime         8.8         8.8         9.2         9.5         0.7           Kochi         11.7         11.5         11.6         12.0         0.6           Fukuoka         9.6         8.7         8.5         8.4         -0.3           Saga         10.3         10.5         10.5         0.0           Nagasaki         11.5         11.2         11.5         11.7         0.4           Kumamoto         10.1         10.1         10.0         10.2         0.1           Oita         10.6         10.4         10.4         10.5         0.1           Miyazaki         10.2         10.0         9.8         10.0         0.1           Kagoshima         11.0         11.2         11.1         11.2         0.1           Okinawa         13.5         13.4         13.3         12.1         -1.4	Yamaguchi		10.0			0.6
Kagawa         9.9         9.9         9.8         10.1         0.2           Ehime         8.8         8.8         9.2         9.5         0.7           Kochi         11.7         11.5         11.6         12.0         0.6           Fukuoka         9.6         8.7         8.5         8.4         -0.3           Saga         10.3         10.5         10.5         0.0           Nagasaki         11.5         11.2         11.5         11.7         0.4           Kumamoto         10.1         10.1         10.0         10.2         0.1           Oita         10.6         10.4         10.4         10.5         0.1           Miyazaki         10.2         10.0         9.8         10.0         0.1           Kagoshima         11.0         11.2         11.1         11.2         0.1           Okinawa         13.5         13.4         13.3         12.1         -1.4		10.6	11.2	11.4		0.7
Ehime         8.8         8.8         9.2         9.5         0.7           Kochi         11.7         11.5         11.6         12.0         0.6           Fukuoka         9.6         8.7         8.5         8.4         -0.3           Saga         10.3         10.5         10.5         0.0           Nagasaki         11.5         11.2         11.5         11.7         0.4           Kumamoto         10.1         10.1         10.0         10.2         0.1           Oita         10.6         10.4         10.4         10.5         0.1           Miyazaki         10.2         10.0         9.8         10.0         0.1           Kagoshima         11.0         11.2         11.1         11.2         0.1           Okinawa         13.5         13.4         13.3         12.1         -1.4						
Kochi         11.7         11.5         11.6         12.0         0.6           Fukuoka         9.6         8.7         8.5         8.4         -0.3           Saga         10.3         10.5         10.5         10.5         0.0           Nagasaki         11.5         11.2         11.5         11.7         0.4           Kumamoto         10.1         10.1         10.0         10.2         0.1           Oita         10.6         10.4         10.4         10.5         0.1           Miyazaki         10.2         10.0         9.8         10.0         0.1           Kagoshima         11.0         11.2         11.1         11.2         0.1           Okinawa         13.5         13.4         13.3         12.1         -1.4						-
Fukuoka         9.6         8.7         8.5         8.4         -0.3           Saga         10.3         10.5         10.5         10.5         0.0           Nagasaki         11.5         11.2         11.5         11.7         0.4           Kumamoto         10.1         10.1         10.0         10.2         0.1           Oita         10.6         10.4         10.4         10.5         0.1           Miyazaki         10.2         10.0         9.8         10.0         0.1           Kagoshima         11.0         11.2         11.1         11.2         0.1           Okinawa         13.5         13.4         13.3         12.1         -1.4						-
Saga         10.3         10.5         10.5         10.5         0.0           Nagasaki         11.5         11.2         11.5         11.7         0.4           Kumamoto         10.1         10.1         10.0         10.2         0.1           Oita         10.6         10.4         10.4         10.5         0.1           Miyazaki         10.2         10.0         9.8         10.0         0.1           Kagoshima         11.0         11.2         11.1         11.2         0.1           Okinawa         13.5         13.4         13.3         12.1         -1.4	Fukuoka					
Nagasaki         11.5         11.2         11.5         11.7         0.4           Kumamoto         10.1         10.1         10.0         10.2         0.1           Oita         10.6         10.4         10.4         10.5         0.1           Miyazaki         10.2         10.0         9.8         10.0         0.1           Kagoshima         11.0         11.2         11.1         11.2         0.1           Okinawa         13.5         13.4         13.3         12.1         -1.4						
Kumamoto         10.1         10.1         10.0         10.2         0.1           Oita         10.6         10.4         10.4         10.5         0.1           Miyazaki         10.2         10.0         9.8         10.0         0.1           Kagoshima         11.0         11.2         11.1         11.2         0.1           Okinawa         13.5         13.4         13.3         12.1         -1.4						
Oita         10.6         10.4         10.4         10.5         0.1           Miyazaki         10.2         10.0         9.8         10.0         0.1           Kagoshima         11.0         11.2         11.1         11.2         0.1           Okinawa         13.5         13.4         13.3         12.1         -1.4						
Miyazaki         10.2         10.0         9.8         10.0         0.1           Kagoshima         11.0         11.2         11.1         11.2         0.1           Okinawa         13.5         13.4         13.3         12.1         -1.4						
Kagoshima         11.0         11.2         11.1         11.2         0.1           Okinawa         13.5         13.4         13.3         12.1         -1.4						
Okinawa         13.5         13.4         13.3         12.1         -1.4						
	Okinawa					
					•	

	1985(%)	1990(%)	1995(%)	1999(%)	change during 1990 - 1999 (% point)
Nationwide	8.9	8.6	8.6	8.7	0.1
Metropolitan areas	8.0	7.5	7.6	7.6	0.1
Greater Tokyo	8.1	7.4	7.5	7.4	0.0
Greater Nagoya	7.6	7.4	7.4	7.5	0.1
Greater Osaka	8.2	7.9	7.8	8.0	0.2
Rural areas	9.9	9.6	9.6	9.7	0.1

Source: Policy Research Institute, Ministry of Finance, Roles of Government in Economic Revitalization in Each Prefecture, 2002.

Table 5. Workers Employed in Jobs Created by Government Activities as Percentage of All Workers in Each Prefecture (jobs created by civil servants, public works, public pensions and employment insurance benefits)

	1985(%)	1990(%)	1995(%)	1999(%)	change during 1990-1999 (% point)
Hokkaido	33.5	32.6	36.1	37.5	4.9
Aomori	29.6	25.6	29.5	30.3	4.6
Iwate	22.8	22.6	26.1	27.4	4.8
Miyagi	21.8	21.1	24.2	25.3	4.2
Akita	25.6	26.5	31.6	32.6	6.0
Yamagata	21.4	21.8	26.5	27.5	5.7
Fukushima	19.3	18.1	21.0	22.6	4.5
Niigata	23.1	22.3	26.4	28.0	5.7
Ibaraki	17.0	17.5	21.0	21.7	4.2
Tochigi	_	14.3	16.9	17.6	3.3
Gunma	_	15.1	18.4	19.0	3.9
Saitama	16.0	15.4	18.3	19.3	3.9
Chiba	20.0	18.5	20.7	19.7	1.2
Tokyo	14.0	13.2	15.7	15.6	2.4
Kanagawa	17.8	15.3	18.2	17.7	2.4
Yamanashi	19.7	18.0	23.3	23.1	5.1
Nagano	18.6	17.5	21.3	19.5	2.0
Shizuoka	14.9	13.9	16.2	16.6	2.7
Toyama	20.1	19.0	24.1	26.2	7.1
Ishikawa	21.2	19.0	24.7	26.7	7.7
Gifu	17.9	17.2	20.9	22.2	5.0
Aichi	14.8	14.6	16.9	17.2	2.6
Mie	18.3	18.0	20.6	21.3	3.3
Fukui	21.6	22.5	23.6	25.0	2.5
Shiga		16.8	18.6	18.7	1.9
Kyoto	18.6	19.2	22.1	22.1	2.9
Osaka	14.8	15.5	18.7	18.2	2.7
Hyogo	19.3	19.2	23.7	21.7	2.5
Nara	24.3	23.9	25.6	25.5	1.6
Wakayama	21.1	20.7	26.4	30.7	9.9
Tottori	_	24.1	29.6	32.1	8.0
Shimane	29.1	28.7	32.3	37.5	8.8
Okayama	21.2	19.9	25.8	26.8	6.9
Hiroshima	20.2	20.6	24.1	25.4	4.8
Yamaguchi	23.2	24.9	27.6	30.8	5.9
Tokushima	25.1	26.3	30.8	32.8	6.4
Kagawa	24.1	20.2	22.4	23.7	3.5
Ehime	21.2	22.3	26.5	27.9	5.5
Kochi	28.8	29.7	34.8	38.9	9.2
Fukuoka	23.3	20.6	22.8	24.0	3.4
Saga	24.5	25.6	29.3	29.5	3.9
Nagasaki	26.9	31.6	31.5	31.9	0.3
Kumamoto	24.8	25.1	29.5	29.4	4.4
Oita	24.6	24.2	28.5	28.2	4.1
Miyazaki	26.2	25.8	31.2	32.8	7.0
Kagoshima	26.9	27.1	32.0	33.3	6.2
Okinawa	36.3	33.4	38.4	38.4	5.0
	100=(0)				1

	1985(%)	1990(%)	1995(%)	1999(%)	change during 1990-1999 (% point)
Nationwide	19.8	18.9	22.1	22.5	3.6
Metropolitan areas	16.2	15.6	18.5	18.3	2.7
Greater Tokyo	15.8	14.6	17.3	17.2	2.5
Greater Nagoya	16.0	15.6	18.2	18.7	3.1
Greater Osaka	17.0	17.4	20.9	20.1	2.7
Rural areas	23.4	22.2	25.8	26.8	4.6

Source: Policy Research Institute, Ministry of Finance, Roles of Government in Economic Revitalization in Each Prefecture, 2002. Note: The value of changes from 1990 to 1999 includes rounding errors.

prefectures. As a result, Kochi prefecture would lose 3.89 percent of all jobs in the prefecture. As unemployment rate was 4.7 percent in 2002, if all people who lose their jobs become unemployed, the unemployment rate would almost double to 8.6 percent. In Hokkaido prefecture, unemployment rate would rise from 6.1 percent to 9.9 percent. In Okinawa prefecture, it would grow from 8.3 percent to 12.1 percent.

Considering that the central and local governments have accumulated debt that amounts to \(^{\fo}5.38\) million for each Japanese citizen, it goes without saying that fiscal consolidation is imperative. In this case, what would happen to employment in rural areas? As we can no longer depend on the government for employment, we will need a new mechanism for creating jobs in regional areas.

## 3. The Impact of Economic Globalization on Regional Employment

During the latter half of the 1980s, the emphasis of globalization shifted from movement of goods across national borders through imports and exports to movement of capital across national borders through direct foreign investment. This also led to substantial changes in international division of labor. It was a shift from a pattern of producing goods domestically by employing workers inside one's own country and exporting the goods overseas to a pattern of building production sites overseas, producing goods by employing local workers there, and selling the goods in the local country or exporting them to third countries or at times back to one's own country.

There are two types of direct foreign investment. One is direct investment abroad in which Japanese firms set up production and sales sites overseas. The other is inward direct investment in which foreign firms set up production and sales sites in Japan. Direct investment abroad may have a negative impact on domestic employment, but on the other hand, inward direct investment may create jobs in the domestic labor market. In fact, there was a growing concern about the hollowing out of the American job base as U.S. firms were moving their plants to Mexico and South American countries in the latter half of the 1980s. But because Japanese firms and other foreign firms set up operations in the U.S. and

hired American workers, unemployment did not become a serious issue. In recent years, an increasing number of Japanese firms are closing domestic plants in order to relocate their production bases overseas. Meanwhile, inward investment by foreign firms is also on the rise. As in the case of the U.S. in the latter half of the 1980s, can reduction in domestic employment resulting from Japanese firms' transfer of production sites overseas be offset by employment by foreign firms?

As shown on Table 6 and 7, the amount of investment and employment through Japanese firms' investment abroad and foreign firms' investment in Japan is growing with the advance in economic globalization. There had, however, been a wide gap in the level of investment abroad and inward investment in Japan. Foreign firms' investment into Japan, in comparison to Japanese firms' investment abroad, had been small. This gap had been particularly pronounced even compared with other advanced countries. Table 6 shows that inward direct investment in 1995 was only a fourteenth of outward direct investment. Table 7 shows that the number of workers employed by foreign firms in Japan was only a tenth of the number of workers employed by Japanese firms abroad. It can be said that compared with the number of workers employed by Japanese firms abroad, the number of workers employed by foreign firms in Japan had been overwhelmingly small.

Since 1998, however, there has been a sharp increase in foreign firms' investment into Japan from various factors, such as deregulation in Japan and a fall in the prices of domestic assets. As a result, the gap between outward direct investment and inward direct investment narrowed to a ratio of 1.9 to 1 by fiscal 2003. Relatively speaking, the number of workers employed by foreign firms in Japan has also been growing since 1999. There are now significant expectations on foreign firms to create jobs in Japan.

#### 3.1. Creation of Jobs by Foreign Firms by Region

There are, however, significant regional divergences in the number of jobs created by foreign firms in different prefectures. For instance, 69 percent of foreign firms' head offices are located in Tokyo metropolis, 9.1 percent in Osaka prefecture, and another 8.9 percent in Kanagawa prefecture, and together 87 percent of all foreign firms' head offices in Japan are located in these

Table 6. Changes in Japan's Direct Investment Abroad and Inward Direct Investment (investments reported or notified)

	Direct investment abroad Amount (\$M)	Inward direct investment Amount (\$M)
Fiscal 1980	4,693	328
81	8,931	389
82	7,703	1,057
83	8,145	1,115
84	10,155	418
85	12,217	930
86	22,320	940
87	33,364	2,214
88	47,022	3,243
89	67,540	2,860
90	56,911	2,778
91	41,584	4,339
92	34,138	4,084
93	36,025	3,078
94	41,051	4,155
95	52,748	3,934
96	49,715	7,082
97	54,776	5,608
98	40,283	10,230
99	66,080	21,057
2000	50,276	28,992
2001	33,239	17,913
2002	35,895	17,466
2003	35,189	18,253

Source: Kinzai Institute for Financial Affairs, Inc., Annual Report of the International Finance, Ministry of Finance. All figures for 1995 and subsequent years are estimates of JETRO.

Note: Because investment figures were published in yen after 1995, the figures were converted to dollars based on the exchange rates at the half year point.

Table 7. Changes in the Number of Employees Employed by Japanese Firms Overseas and by Foreign Firms in Japan

(unit: 1,000)

	Locally incorporated Japanese firms abroad (Number of employees)	Foreign firms in Japan (Number of employes)
Fiscal 1982		114
83		140
87		129
88	1326	169
89	1157	172
90	1550	182
91	1621	203
92	1404	192
93	1947	172
94	2194	227
95	2328	225
96	2745	230
97	2835	243
98	2749	264
99	3100	316
2000	3450	331
2001	3200	329
2002	3400	295

Source: Ministry of Economy, Trade and Industry, Basic Survey of Overseas Business Activities and Survey of Trends in Business Activities of Foreign Affiliates.

three prefectures. Statistics on all establishments of foreign firms also show that 36 percent of jobs created by foreign firms are concentrated in Tokyo, followed by 13 percent in Kanagawa prefecture and 9 percent in Osaka prefecture (1996). Foreign firms' employment as percentage of all employees in each prefecture is 2.4 percent in Tokyo metropolis, 2.6 percent in Kanagawa prefecture, and 2.7 percent in Hiroshima prefecture. In these prefectures, foreign firms play an important role in creating jobs, but in other prefectures, the percentage is very small (Fukao and Amano (2004)).

One of the reasons foreign firms' employment is concentrated in large metropolises is related to the industries of these firms. Japanese firms that made entry to the U.S. were mainly manufacturers of automobiles and electrical machinery. Therefore, most of them were located in provincial areas, and jobs created by them were not concentrated in cities. A relatively large number of foreign firms that have set up operations in Japan in recent years, however, are in urban oriented industries such as finance and IT. As a result, such firms have so far created more jobs in metropolises and less in rural areas.

### 3.2. The Impact of External Direct Investment on Domestic Employment by Region

Turning now to Japanese firms' direct investment abroad, what effect does it have on domestic employment in Japan? Does firms' foreign investment decrease domestic employment? An analysis of data on a panel of firms indicates that firms that relocated its production plants in other parts of Asia have actually reduced domestic employment temporarily. The effect, however, is not long term. On the contrary, compared with firms that do not have production sites overseas, those that do tended to have succeeded in improving productivity and profitability and in subsequently expanding domestic employment (Higuchi and Matsuura (2003)). Therefore, it cannot be concluded that firms' overseas investment will reduce overall domestic employment. The issue, rather, is the regional differences in the effect that direct investment abroad has on domestic employment. Clearly, firms moving overseas are decreasing employment in rural areas while increasing employment in large cities.

Firms decide to make direct investment abroad with a view to setting up international division of labor within their firms. Domestically, these firms are now trying to strengthen their research divisions and sales divisions in order to make the switch to production of high value-added products inside Japan. As a result, it can be observed that firms are employing more employees in their head offices and prototyping plants located in large cities but closing down or reducing output from mass production plants they built in rural areas during the period of rapid economic growth or at a time of labor shortage during the period of the bubble economy (Horaguchi (1997, 1998)). These plants once employed a large number of high school graduates. The reduction in their employment is making employment more difficult for high school graduates in rural areas than for college graduates in urban areas.

Judging from foreign firms' employment creation and the effect of Japanese firms' direct investment abroad on domestic employment, it can be said that so far economic globalization has tended to decrease employment for local economies. As firms can choose the location of their production sites across national borders today, local economies will need to offer advantageous conditions in order to attract firms to relocate in their localities. Considering the high wages in Japan, however, it would be difficult to offer better pecuniary conditions than overseas. Local economies should promote industry-government-university collaboration, attract high-caliber individuals, and prepare the infrastructures for information networks so that they may emphasize to the rest of the world that they are equipped with attractive conditions for firms to relocate in their regions.

## 4. The Impact of Declining Birthrate and Ageing Population on Regional Employment

If employment in rural areas were to decline and more jobs created in large cities, regional employment mismatches could be eased through population shift from rural areas to cities. In fact, large numbers of youths from rural areas came to large cities in groups during the period of rapid economic growth to find employment, which helped to reduce regional divergences. It was likewise during the years of the bubble economy. But today, such a population shift cannot be observed. The population is ageing, and cross-regional

movement has decreased. Moreover, the decline in birthrate has increased the number of single-child families, which also raises the percentage of youths who stay put in their hometowns and reduces cross-regional movement.

The Basic Resident Register shows that in recent years, the percentage of people who move across municipal borders in a year has consistently hit new lows. After rising to 8.02 percent in 1970 from 5.43 percent in 1956, it began to decline to 4.72 percent in 2002. The decline is particularly large among young people. The Population Census shows that the percentage of people who moved to different prefectures dropped sharply among young people in their 20s compared with five years ago (Figure 7). In the past, large numbers of young people moved to large cities to be employed or to study, but such a trend cannot be observed recently. On the contrary, young people today have higher propensity to stay in their hometowns. It is very much likely that one of the reasons for this is an increase in single-child families in society. As families have fewer children, parents have stronger desire to keep their children near them, and an increasing number of children also wish to live close to their parents in order to receive financial assistance, resulting in an increase in the percentage of youths who stay in their hometowns. In contrast to the decline in cross-prefectural movement, movement within single municipalities is increasing, and a large percentage of young people are living close to their parents (Figure 8).

According to the National Institute of Population and Social Security Research's *Population Projection by Municipality*, population in more than half of all municipalities will, by 2030, decrease by more than 20 percent compared to the level in 2000. At the same time, senior citizens of 65 years old or older as a percentage of the entire population of a municipality will be higher than 40 percent in more than 30 percent of all municipalities. These projections indicate that it would be difficult to resolve regional employment mismatches through population shifts.

A shift in perspective will show that as more youths stay in their hometowns, local municipalities will be able to use their strengths for local development. It can be said that the foundation is set for local communities to take the initiative and implement employment strategies that call for involvement of young people.

### 5. Local Municipalities' Need to Adopt Endogenous Measures for Job Creation

In Japan, fiscal measures for expanding public works have played an important role in creating jobs in rural areas. However, as financial conditions deteriorate, there is now less room to increase employment through such macroeconomic policies, and it is now difficult to increase regional employment through greater fiscal spending. Economic globalization also has an effect on widening regional divergences. Until the first half of the 1980s, economic globalization meant flow of goods across national borders in the form of imports and exports. From the latter half of the 1980s, however, direct investment rapidly expanded, and the flow of capital across national borders began to increase. These changes altered globalization's effect on employment. Growth in exports contributed substantially to increasing domestic employment and particularly to employment in rural areas where many plants were located. Japanese firms' direct investment abroad, however, resulted in a cutback of mass production plants in rural areas and has made employment for high school graduates more difficult. On the other hand, increasing penetration of foreign firms in Japan has created jobs in cities but has not led to increasing employment in rural areas.

In addition to these changes in labor demand, there are also changes in labor supply that are widening regional inequalities. In times where there was a large youth population, regional divergences in employment could be narrowed through population shifts. However, as the population ages and the number of senior citizens increases who require more costs for moving, we cannot hope to lessen the divergences through population shifts. Moreover, as birthrate declines and the number of single-child families increases, more young people are opting to settle in their hometowns. As a result, we can no longer see large numbers of youths moving to large cities to fill the gap in demand as they once did. Therefore, regional communities have all the more need to take the initiative in implementing employment strategies for creating jobs and placing right people who are motivated to those jobs.

If more financial resources are transferred to local municipalities through the tripartite fiscal reform, municipalities would have greater authority on matters

(%) 30 Cross-prefectural mobility rate in 2000 -- Cross-prefectural mobility rate in 1990 25 20 15 10 5 0 5-9 10-14 15-19 20-24 25-29 30-34 35-39 40-44 45-49 50-54 55-59 60-64 (Age)

Figure 7. Percentage of People Who Lived in a Different Prefecture Five Years Ago (Men)

Source: Statistics Bureau, Management and Coordination Agency, Population Census 1990, 2000.

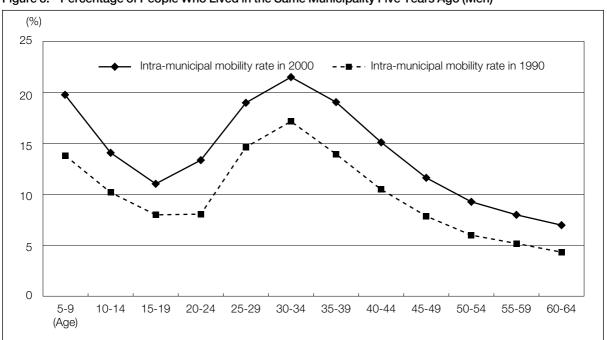


Figure 8. Percentage of People Who Lived in the Same Municipality Five Years Ago (Men)

Source: Statistics Bureau, Management and Coordination Agency, Population Census 1990, 2000.

of finance. To make the best use of this authority, they will need a staff that can devise and implement policies. Training of such a staff will not be easy and will take time, but it cannot be avoided in order to prepare people to take on a leadership role. This will also require a strategy for training.

Unlike employment measures, an employment strategy is a plan that brings together a large number of measures executed for the purpose of achieving a specific goal. When implementing a number of measures, it must be checked in advance that they do not conflict with each other. In the second half of the 1980s, the Equal Employment Opportunity Law was implemented in Japan to facilitate women's entry into the labor market. At the same time, however, "special exemption for spouse" was introduced to the income tax and "class III insured person" (housewife) to the pensions system, which provided for favorable treatment for full-time housewives and women with less than a certain level of income. As a result, women's participation in the labor force was suppressed. As conflicting policies were implemented simultaneously, the effect of individual policies was neutralized and ultimately a significant progress could not be made in promoting greater participation by women in society. To be effective, individual measures must be consistent and intertwined. In implementing a "strategy," it must be clearly indicated what the goals are, who will take the initiative, what measures to adopt, and by when to adopt those measures.

For many years, countries in Europe struggled with high unemployment rates and tried many different measures to combat unemployment. In their search for an effective countermeasure, they came to realize the importance of employment strategies that are implemented with communitywide efforts. On issues such as reduction in public works spending, Japan in some respect is facing similar problems that European countries faced in the past. As much can no longer be expected from exogenous measures for job creation, there will be a rising need for local governments, firms, labor

unions, and citizens to unite and execute employment strategies that take advantage of the strengths in each locality. The experience of other countries should serve as valuable reference when implementing specific measures in our country. The following chapters will illustrate employment strategies that were adopted in other countries and municipalities as well as the current situation in our own country, and consider specific measures for implementing employment strategies in Japan's local communities in the future.

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