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## Development of Human Resources in Northeast Asia

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With increasing globalization, the grouping together of the regional economy, and liberalization of investment and trade, the countries of Northeast Asia will continue to develop and better utilize their labor forces, especially in the era of the “knowledge-based” economy. As the carrier of knowledge and source of knowledge innovation, human resources have already become the most important force in economic development and have received increasing attention from all countries. In Northeast Asia, the economic development level varies from country to country. Along with investment, trade, and development of natural resources, the complementary advantage of labor resources is progressively turning into a real and very powerful factor, influencing economic development. Given this fact, the development and utilization of labor forces is becoming an important field of international cooperation. This paper examines the state of Northeast Asian regional labor force resources, current obstacles in the development and utilization of labor force resources, and the future regional cooperation mode of labor force resources in Northeast Asia.

### THE STATE OF HUMAN RESOURCES IN NORTHEAST ASIA

Population issues affect economies worldwide, in developing as well as developed nations. Northeast Asia faces a number of population issues, such as population aging in Japan, population control in China, and rising mortality and population reduction in Russia. From the perspective of surmounting national boundaries to achieve cooperation in Northeast Asia, labor force resources represent a thread that can link people with the economy, and countries with the region. The labor force is an important part of the population. Therefore, we should depict the overall trend of population development of this area first, before analyzing the regional labor force resources of Northeast Asia.

There are enormous differences in population among Northeast Asian countries (see Table 1). In 1997, the population of China’s mainland reached 1.24 billion, accounting for about one-fifth of the population of the world. China’s total population is the largest of all countries, whereas the country with the highest population density is not China but South Korea, where there were 463 people per square kilometer in 1997. Japan was second, with 338 people per square kilometer. Russia and Mongolia have the lowest population densities, with 9 people and 2 people per square kilometer, respectively (see Table 2).

Table 1. Total populations of countries in Northeast Asia, 1980–97 (million)

Country	1980	1985	1990	1995	1997
China (total)	996.13	1,070.20	1,155.30	1,221.50	1,242.35
Three Northeast provinces of China	–	–	99.93	103.85	105.17
Japan	117.06	121.05	123.48	125.47	126.07
ROK	38.12	40.81	42.87	45.09	45.99
DPRK	18.03	19.89	20.36	22.10	22.84
Russia (total)	138.84	143.33	148.28	148.14	147.75
Russian Far East	–	–	8.03	7.67	–
Mongolia	1.61	1.82	2.08	2.29	2.36

Sources: United Nations (1999a). Data for the three northeast provinces of China are from the *China Statistical Yearbook*. Data for the Russian Far East are for the years 1992 and 1995 and are from Wang (2000).

Table 2. Population densities in Northeast Asia, 1980–97 (people per square kilometer)

Country	1980	1990	1997
ROK	385	432	463
Japan	314	332	338
DPRK	150	169	189
China	104	120	127
Russia	8	9	9
Mongolia	1	1	2

Source: United Nations (1999b).

In the fifty years since the Second World War, the countries of Northeast Asia have gone through a population transition in succession. A population transition refers to the course during which the mode of population reproduction changes from high fertility, high mortality, and low growth rate to low fertility, low mortality, and low growth rate. In the course of a population transition, with the population growth rate dropping, the quality of the population improves

progressively, and the population structure changes from the growing up type to the old age type. In 1997, South Korea, China, and Japan had population natural growth rates of less than 1%; Russia had negative growth; and the growth in North Korea and Mongolia was relatively fast (see Table 3).

Table 3. Natural growth rates of Northeast Asian populations, 1980–97 (%)

Country	1980	1985	1990	1995	1997
DPRK	–	1.7	1.5	1.7	1.6
Mongolia	2.5	2.5	2.8	1.5	1.4
ROK	1.6	1.0	1.0	1.0	1.0
China	1.3	1.5	1.4	1.0	0.9
Japan	0.9	0.7	0.3	0.2	0.2
Russia	–	0.7	0.4	-0.1	-0.1

Source: United Nations (1999a).

China has implemented population control and family planning since the 1970s, and has made great achievements in this area for over 20 years. Since the foundation of the state in 1949, China's fertility rate has shown a downward trend with only slight fluctuations during some periods. After the 1970s, the fertility rate dropped even more remarkably. China's average annual total fertility rate had already dropped to 4.01 in the 1970s, and dropped further to 2.47 in the 1980s (1980–88). After entering the 1990s, especially during the later part of the 1990s, China's total fertility rate was below the replacement level, and China's natural growth rate had already dropped to under 1% in 1997. After having implemented the family planning policy effectively for several decades, China has entered the stage of low fertility and low growth. At present, about 19 million people are born in China each year, and 8 million people die, which gives a net population increase of about 11 million. It is estimated that the total population will reach 1,300 million in 2003. According to the prediction of experts, the total amount of China's population will reach its peak—about 1,600 million—during the period from 2040 to 2050.

Japan has gone through a population transition already. In the following 10 years, Japan's population will grow negatively. The total fertility rate dropped to 1.34 in 1999, which was the lowest in Japanese statistical history. According to United Nations forecasts, the number of Japanese people will decrease by about 20 million by the middle of the next century. In the future, Japan will face severe issues of population reduction and population aging.

In South Korea, the fertility rate and growth rate have already dropped to a relatively low level, and the country is also facing a population-aging trend. The government began to pursue a population control policy, taking “family planning” as the main content at the beginning of the 1960s. Since then, the fertility rate of South Korea has been dropping continuously. The total fertility rate of South Korea had reached 6.0% in 1960 but dropped to 1.7% in 1985. The natural growth rate declined to 0.98% in 1997. The total population of South Korea was 46 million in 2000, and will exceed 50 million by 2015. In the latter half of the 2030s, South Korea’s total population will reach a peak of about 53 million people, and then it will decline gradually.

North Korea’s total population grew negatively during the period of the Korean War at the beginning of the 1950s. After that, the population increased continuously, reaching 10 million in 1960 and exceeding 20 million in 1990, thus doubling during that 30-year period. The population reached 22 million in 1995 (see Table 1). According to the estimate of the United Nations, by 2030, the population of North Korea will exceed 30 million, and will reach its peak in the latter half of the 2040s.

One important reason for the so-called Asian miracle was governmental intervention in economics, social life, and the birth rate. Japan and South Korea have implemented a controlling policy to various degrees; China has also adopted a powerful family planning policy. Therefore, with the fast growing economy in Japan and South Korea, the speed of the population transition is fast as well. The same is true in China, which took 30 years to finish the transition—much less than the western developed countries. In contrast to Japan and South Korea, China’s population transition has been quicker than its economic development. The fast population transition and the differences in levels of economic development have led to completely different results in population development and labor force supply in the various parts of Northeast Asia.

## **STATE OF REGIONAL LABOR RESOURCES IN NORTHEAST ASIA**

### **The Northeast Area of China**

China is an important member and a positive advocate of cooperation in Northeast Asia. In addition, China has important economic benefits and security interests in this area. Hence, speaking in a broad sense, the whole of China is a part of Northeast Asia. At present the regional economic cooperation level is relatively low, and in Japan, South Korea, and Russia only local governments show interest in this economic cooperation. Therefore China relies mainly on local governments to participate in Northeast Asian regional cooperation, namely the three provinces of Jilin, Liaoning, and Heilongjiang in Northeast China.

The Northeast region of China has a large labor force, but the education level

is still comparatively low. The Northeast is China's traditional industrial, resource and energy base. The proportion of large and middle-size state-owned enterprises is relatively large, and natural resources are abundant. Before the reform and opening up, the Northeast was an economically well developed area. The industrial structure, urbanization level, and income level were all in the national front row. After the reform and opening up, however, because China adopted a non-balanced policy of development, the center of economic development has turned from the hinterland to the coastal provinces in the Southeast, and the economic status of the Northeast has declined gradually. As a result of economic structural readjustment and the reform of state-owned enterprises, a large number of workers of state-owned enterprises have lost their jobs. The imbalance between supply and demand in the labor force reached an unprecedented degree.

In the 1990s, the labor force in Northeast China had a net increase of 16,220,000 people (for a total of 74,070,000 in 2000). During 2000–10 the estimated net increase will be 16,530,000 people (for a total of 79,580,000 in 2010, see Table 4). At present, there is an unemployed population of 2 million in the Northeast, meaning that 1,600,000 new employment opportunities are needed to absorb the unemployed workforce and incoming workforce each year. Furthermore, the number of laborers in state-owned enterprises is 16,500,000, and nearly 30% of them are redundant. According to conservative estimates, about 4,500,000 workers in state-owned enterprises are going to be laid off, shunted, and reemployed. Therefore employment opportunities would have to increase by 2 million each year (Kim 1994: 9).

Thus the demand for labor, economic growth, and increases in investment are the most direct factors to increase employment. Generally speaking, when the investment and economy grow faster, the employment will increase faster, too. However, when entering the 1990s, the relationship between economic development and employment increase in China showed new characteristics. Some studies indicate that during the Eighth Five-Year Plan, China's economic growth and increase of investment were at the highest level in history, whereas the increase in the employment rate reached the lowest level in history. From 1990 to 1995, national investment in fixed assets increased at an annual average of 20.6%, allowing for the price rise factor, and GDP increased at an annual average of 11.9%, but the annual increase in employment was only 1.3%. The elasticity of employment increase is respectively 0.063 and 0.109 (Hu 1997).

The proportion of heavy industry is relatively large in the three provinces of Northeast China, and it will be a relatively heavy task to adjust the structure and lift the large and medium-size state-owned enterprises out of their difficult situation. It is a very arduous task to solve the employment problem because it is multifaceted; one must take into account the incoming labor force, worker lay-

offs, surplus rural labor force shifts, and employment increases slowing down. Northeast China has the most abundant labor in Northeast Asia and is the main supply source. Using the labor force in Northeast Asia to a greater degree will not only promote the economic development of this area, but will also alleviate the surplus workforce problem of the three provinces of Northeast China.

Table 4. Labor force in three provinces of Northeast China, 1991–2010 (million)

Year	Population at Work (age 15–59)	New Increase in Labor Force	Net Growth of Labor Force
1991	67.77	1.80	1.62
1995	70.92	1.59	1.43
2000	74.07	1.62	1.46
2001	74.80	1.68	1.51
2002	75.60	1.75	1.58
2003	76.43	1.78	1.60
2004	77.22	1.75	1.58
2005	77.91	1.70	1.53
2006	78.44	1.64	1.48
2007	78.88	1.59	1.43
2008	79.22	1.55	1.40
2009	79.46	1.54	1.39
2010	79.58	1.55	1.40

Source: Kim (1994: 16).

### **DPRK Labor Force**

#### *Quantity of Labor and Employment System*

The DPRK's total population and population of working age grew negatively at the beginning of the 1950s, but subsequently grew quickly. The annual rates of increase were 2.3–2.8% from the second half of the 1950s to the second half of the 1960s, and in the 1970s they exceeded 3.3%. In the first half of the 1980s, the labor force was increasing at a peak of 4.0% each year, but then the rate dropped suddenly.

Table 5 shows that, because of the Korean War, the labor force declined between 1950 and 1955. The population of working age is the source of labor. Since the Korean War ended, the population of working age has increased constantly, which indicates that the labor force has increased in the same proportion.

Table 5. Total DPRK population and population of working age, 1950–90

Year	Total Population (million)	Population of Working Age (million)	Proportion of Population of Working Age (%)
1950	9.488	5.001	52.8
1955	8.848	4.697	53.1
1960	10.525	5.399	51.3
1965	12.061	6.055	50.2
1970	14.263	6.932	48.6
1975	16.310	8.248	50.6
1980	17.666	9.699	54.9
1985	18.942	11.801	62.3
1990	20.363	13.603	66.8
1995	22.097	14.628	66.2

Source: United Nations (1996).

Under the planned economic system, all economic activities engaged in by laborers are arranged through the plan. The Korean Laborer and Office Clerk Work Decree was issued in 1946, and the Socialist Labor Law was enacted in April 1978. This labor law stipulates that it is each citizen's right and obligation to work and that the laborer should work for eight hours, rest for eight hours, and study for eight hours. The DPRK also has a policy calling for full employment and the "elimination of unemployment," and therefore the labor participation rate is very high. The labor participation rate of people of working age in 1960 was 60.3%, and it rose to 82.7% in 1976. Because the DPRK implemented an 11-year compulsory education system in 1975, the labor participation rate of people in the lower-age range began to drop, and was down to 79.6% in 1980. According to the DPRK's census results of 1994, the participation rate of laborers above 16 years old was 76% at the end of 1993; among them, the participation rate of men was 84.6%, and that of women 68.9% (Central Bureau of Statistics 1995).

For a long time with insufficient funds for economic development, the DPRK has put a large amount of labor into work and has adopted a policy of "accumulating labor" in order to drive industrialization. These measures have created a structural shortage in light industry and resulted in slow improvement in people's living standards. For a long period of time, the DPRK pursued a policy of "full employment." However, it is poor efficiency and low capital accumulation that is behind this full employment. On the other hand, under a planned economic system, the poor efficiency of the labor force has encouraged the trend of expanding employment to a certain extent.

### *Reasons for the Insufficient Labor Force*

The insufficient labor force of the DPRK is seen mainly in the shortage of rural laborers. The reasons for this include the industrial development policy, the unreasonable distribution of labor force in regions and trades, and international political factors. The reasons for the insufficiency are summarized below.

First, a policy that puts priority on the development of heavy industry leads to an increase in urban labor, and the demand is mainly satisfied by the migration of rural labor. The development of heavy industry has improved the industrialization level of the DPRK and the workforce's employment structure. During 1967–87, the proportion of rural labor dropped by a large margin, while the proportion of industrial workers rose notably (see Table 6). However, because the modernization level of the agricultural sector is relatively low, when the population in the countryside was rapidly reduced, the agricultural labor shortage became very serious. Therefore, during the busy farming seasons, workers, students, and soldiers had to go to the countryside to help with farm work.

Second, in order to increase military strength, young Korean men must serve in the army, which leads to an insufficient workforce in the age range of 20 to 50. There were 1,200,000 soldiers in the DPRK in 1990, accounting for approximately 6% of the population. If the tense relationship between North Korea and South Korea is relaxed, thousands of servicemen would enter the labor market, and the workforce would increase.

Third, to finish state-planned construction projects, large sections of the workforce have been assigned to these projects, thereby further contributing to a shortage in the labor force.

Fourth, another important factor that causes a shortage lies in the issues of efficiency of employment under public ownership and the top-heavy problem of industrial structure, neither of which can be ignored.

Table 6. Sectoral distribution of the DPRK labor force, 1960–87 (%)

Sector	1960	1963	1986	1987
Workers in state-owned enterprises	38.3	40.3	56.3	57.0
Staff in government offices	13.7	15.1	17.0	16.8
Farmers	44.4	42.8	25.9	25.3
Workers on cooperative farm	3.3	1.9	0.9	0.9

*Source:* Kim (1994: 19).



*Labor Force Predictions*

According to the predictions of experts, from the middle of the 1990s to 2010, the DPRK workforce will increase quickly, but after 2010, the growth rate will slow down gradually (see Table 7). The workforce population of the DPRK will exceed 14 million in 2000. In the first decade of the twenty-first century, the workforce of the DPRK will increase by 2,300,000, and in the second decade it will increase by 1,500,000. The total workforce will exceed 18 million by 2020. By the end of the third decade, the trend of the workforce increase will subside sharply, and by 2030 the total labor force will reach 19 million.

Table 7. DPRK labor force: forecast of annual average growth rate, 1995–2030

Period	Annual Average Growth Rate (%)
1995–2000	1.43
2000–2005	1.46
2005–2010	1.55
2010–2015	1.13
2015–2020	0.62
2020–2025	0.19
2025–2030	0.20

*Source:* Wang and Yin (1998).

The DPRK has a planned economy and a policy of full employment, and its labor force participation rate is very high. Even so, labor shortages, especially rural labor shortages, are still problematic for the DPRK. If we use efficiency to weigh the workforce supply, and compare the DPRK with China, the state of the present DPRK is similar to China in its planned economy period. Under market economy conditions, China's rural labor productivity improved, but the restructuring of state-owned enterprise led to a problem of surplus labor. If the DPRK situation is like that of China, then an inefficient planned economy and recessive unemployment in state-owned enterprises are to be expected. With the deepening of economic reforms and improved relations between North and South Korea, the labor shortage and unreasonable distribution will improve to some extent, but potential labor surplus problems may be more serious.

**Russian Far East**

The Soviet Union gave priority to the development of heavy industry. Therefore, the economic distribution is highly concentrated within the European region of the country, centered around Moscow. However, the Far Eastern area of the country remains important, in that it has abundant resources and is in a strategic location. Because the Far Eastern area is far from the political, economic,

cultural, and geographical center of Russia, infrastructure is relatively poor, and the living conditions are very arduous. There has been large-scale population immigration into and emigration from this area, which has seriously influenced population stability in this region. Under the long-term planned economy system, the demand for labor in this area was met through planned migrations from other areas of the Soviet Union.

At the beginning stage of development in the Far Eastern area, population growth was mainly the product of domestic migration, especially during the periods of 1926–39 and 1940–58. The strengthening of the development in this area and the planned immigration made the speed of population growth reach its highest level during the period of the Soviet Union. During 1926–35, the population of the whole Soviet Union increased 16.9%, whereas the increase in the Far Eastern area was 89.3%. During 1940–58, the population of the Soviet Union increased 8.4%, and the Far Eastern area increased 62.4%. From 1959 to 1970, the migration to the Far Eastern area dropped to some extent; during that period, the proportion of natural population growth in total population growth rose to 82.5%, the proportion of immigrants in population growth was 17.5%, and the population growth rate was only 1.8% (China Foreign Economic Trade Press 1995: 35).

Table 8. Population change in the Russian Far East, 1979–89

Area	Annual Average Population Growth (million)		1979–1988		1989	
	1979– 1988	1989	Share of Natural Growth (%)	Share of Migration Growth (%)	Share of Natural Growth (%)	Share of Migration Growth (%)
Soviet Union	0.985	0.663	81.53	18.47	87.49	12.51
Russian Far East	0.112	0.070	70.18	29.81	100.29	-0.29

Source: Kim (1994).

After 1970, the population migration from the Soviet Union to the Far Eastern area increased to some extent. During 1971–75, the population of the Far Eastern area increased 9.9%, while that of the Soviet Union increased only 3.1%. Meanwhile, the proportion of immigration in population growth reached 38.3%. As Table 8 illustrates, during 1979–88, the population of the Soviet Union grew at an annual average of 9,850,000, and the population of the Far Eastern area increased to 11,220,000. During 1979–88 in the Soviet Union, the share of

natural growth was 81.53%, and the share of migration growth was 18.47%, while nearly 30% of population growth in the Far Eastern area was migration growth. Until 1990, the population growth rate of the Far Eastern area was still higher than the Russian Federation's average level. Population growth of this area to a great extent depends on population migration. In this period, a permanent job needed seven people to finish it, stage by stage (Kim 1994: 44).

In the middle period of the 1980s, the proportion of domestic migration in the Far Eastern area's population growth dropped gradually, and the proportion of population moving back to the European area rose relatively. The year 1989 marked the first time that emigration exceeded immigration in this area, thus resulting in a drop in population in 1990. In 1991, negative population growth was recorded in this area for the first time.

In 1992–95, the populations of both the Russian Federation as a whole and of the Far Eastern area grew negatively (see Table 9), and there was a net reduction of about 364,900 people in the Far Eastern area. The natural population growth was -8,100, and the net emigration was 356,800.

Table 9. Population changes in the Russian Federation compared with the Russian Far East, 1992–95 (million)

Item	Russian Federation	Russian Far East
Total population		
1992	148.704	8.032
1993	148.673	7.900
1994	148.366	7.788
1995	148.249	7.667
Population growth 1992–95		
Natural	-1.8598	-0.0081
Migration	1.4048	-0.3568
Total growth	-0.4550	-0.3649

Source: Russia Statistics Bureau, <http://www.region.ru/rauios.nun>.

In the 1990s, the population in the Far Eastern area began to decline, and the net emigration made the workforce shortage more serious. Besides the change in population itself, socio-economic changes exerted an important influence on the supply and demand for labor.

First, the industrial structure adjustments aggravated the labor force structural shortage of the Far Eastern area. The area has faced a workforce shortage problem throughout the course of its development. Before the mid-1980s, the shortage of labor was remedied with a natural population growth and high-density migration. After the mid-1980s, the speed of labor force growth

dropped rapidly, the rate of annual average growth dropped from 2.2% in the 1970s to 1.15% in the 1980s, and the workforce's rate of growth was -0.2% in 1991. On the other hand, after the Soviet Union disintegrated, the Far Eastern area entered an economic structural readjustment period, and the fast development of commerce and services led to workforce redistribution among various industries. For example, in the Maritime Province (Primorye region), workers in manufacturing dropped from 74% in 1991 to 70% in 1992. In addition, the number of workers in the service industries increased constantly; the fastest-rising were financial insurance (112%) and administration (119%) (Kim 1994: 21). The workforce in construction, agriculture, mining, and some manufacturing gradually declined. The same phenomenon appeared in other areas of the Russian Far East.

Second, after the Russian economic reform, economic growth in the Russian Far East decelerated quickly. Insufficient employment and recessive unemployment gradually became evident, in large part because of reductions in the military. The military was a very important source of employment as well as the reason for large migrations to the Russian Far East. The worsening of the Russian economy led to the simultaneous existence of both a labor shortage and a labor surplus in this area. There was a surplus of educated workers skilled in advanced technology and a shortage of workers for physical labor. Abominable weather, insufficient housing and relatively poor urban facilities have contributed to the outflow of highly qualified workers; this has damaged the reserves of manpower resources in the Russian Far East.

Third, the disintegration of the Soviet Union and the economic transition of the Russian Federation destroyed traditional relations between the Far Eastern area and the other nations and areas. It cut off direct economic cooperation, personnel exchanges, and the interflow of commodities with the republics of the former Soviet Union, which had serious effects on economic development and limited the range of workforce exchanges.

Fourth, because Russia's economy continuously developed slowly, national power declined, national defense expenditures declined, and the productivity of military enterprises declined. The military enterprises are state-owned enterprises controlled by the Russian Federation, and the local governments lack administrative power over them. The shortage of labor in the Far Eastern area directly influenced economic development and restrained the development of resources and agriculture.

## **Japan**

### *Increase of Total Population and Labor Force*

The total population of Japan was about 71.9 million in 1940. After the Second World War, Japan experienced a "baby boom," and the total fertility rate was

4.54% in 1947. In the three years from 1947 to 1949, about 2.6 to 2.7 people were born each year (Wang 1985: 8). At that time the living standard was very low, and even basic needs such as clothing, food, and housing could not be satisfied, so the Japanese were very conscious of an overpopulation problem. In 1948 Japan enacted the Aristogenesis Protection Law legalizing abortion. The implementation of this law and the popularization of family planning made the birth rate decline sharply. The number of people born in 1957 was 1.5 million, a reduction of more than 1 million people from the peak period. The total fertility rate was reduced to 2.04, and the birth rate dropped to 17.2%, half of the 34.3% (1947) in the peak period (Wang 1985: 8).

In the prewar period, the birth rate among the rural population was very high, and the elasticity of workforce supply was relatively great. In the period of high economic growth after the war, fundamental changes took place. There were enormous differences between the urban birth rate and the rural birth rate before the war, but after the war, with the rise of the national living standard, the rural birth rate dropped. By 1965, the urban-rural differential in the birth rates was already extremely small (Okazaki 1993: 26–27). The total fertility rate dropped to 2.05 in 1974. It took Japan only 30 years to complete the population transition.

The speedy decline in birth levels is the main reason why Japan's labor resources were reduced rapidly. The Japanese labor force increased by annual averages of 803,700 people during 1950–60 and 893,700 during 1960–70. But during 1970–80 the labor-force growth rate dropped (see Table 10). Meanwhile, the Japanese economy was growing at top speed, and the demand for labor increased constantly, resulting in a labor shortage after the 1980s.

#### *The Labor Force Shortage*

After the 1980s, because the proportion of the agricultural workforce dropped to a very low level and could not to continue to supply workers for secondary and tertiary industries, the issue of a labor shortage became more marked day by day. The reasons that caused the Japanese labor shortage are as follows.

*Industrial structure upgrading.* During the period of the highest economic growth, from the 1950s to the middle of the 1970s, the labor force needed for industrialization development was mainly supplied by the transition from the agricultural workforce.

Following rapid industrialization, the Japanese employment structure changed greatly. In 1950, the proportions of the primary, secondary, and tertiary industries in Japan were respectively 48.5%, 21.8%, and 29.6%, whereas in 1980 they were 10.9%, 33.6%, and 55.4%. The employment proportion of the primary industries further declined to 6.0% in 1995, and that of the secondary industries was reduced to 31.6% (see Table 10).

Table 10. Labor force by industrial sector in Japan, 1950–95

Year	Labor Force (million)	Employed Population			
		Total (million)	Primary Industry (%)	Secondary Industry (%)	Tertiary Industry (%)
1950	36.347	35.626	48.5	21.8	29.6
1960	44.384	44.042	32.7	29.1	38.2
1970	53.321	52.593	19.3	34.0	46.6
1980	57.231	55.811	10.9	33.6	55.4
1990	63.595	61.682	7.1	33.3	59.0
1995	67.018	64.142	6.0	31.6	61.8

Source: Population Study Institute 1997: 129, 135.

The industrial transition caused a redistribution of population and workforce among different areas. The population in transition among Japan's prefectures amounted to 2 million people in the 1950s, 3 million in the 1960s, and increased to 4 million people in the 1970s. The majority of them moved to Tokyo, Osaka, and Nagoya, the three metropolises of high-speed economic development. The migrant population consisted mainly of young people, who moved from the countryside to industrial areas. The population quickly became centralized in the three metropolises, which made the urban population age structure become younger. Accordingly, the rural population declined, and the age structure became older. As the workforce of rural areas declined, the ability to shift rural labor to cities was greatly reduced. Moreover, with greater choice, workers became unwilling to engage in social and family services types of work, in construction, or in the 3Ds (dirty, dangerous, and difficult trades). The labor shortages in these trades continue to be serious.

*Reduction in labor force supply.* As mentioned above, the fertility rate of Japan dropped rapidly after experiencing a transient "baby boom" after the war. It took Japan 30 years to complete its population transition, and the ability to keep the labor force supplied was reduced.

The labor supply was also influenced by the rate of change in labor's interests. In the period of high-speed economic growth, a higher school attendance rate led to a reduction in the availability of younger workers. The proportion of 15–19-year-olds who were employed was 52.2% in 1955, 38.1% in 1965, and 22.9% in 1975, thus shrinking by more than half in only 20 years. As a result, the absolute numbers of young workers in the age ranges 15–19 and 20–24 declined, the number of middle-aged workers increased relatively, the

participation rate of the young in the workforce declined, and the age structure of employed workers became older and older.

With the labor shortage, the issue of an aging population became more and more serious. In 1970 people aged 65 years and older accounted for 7.07% of the total population, and Japan had become an aging society. By 1996, this proportion was up to 15.14%.

According to the forecasts of the Japanese Ministry of Labor, by 2010 even if all the elderly men and women are employed, Japan will have a shortage of 1.86 million people in the workforce (Japan Economic News, 19 June 1990). The research results on 4,500 enterprises by the Japanese Economic Planning Department show that nearly 70% of enterprises have a shortage, amounting to up to 1 million. Because of the labor shortage, the enterprises had to lengthen working hours and cancel holidays, with the result that service charges and costs rose. According to the statistical data of the Japanese government, if Japan wants to maintain an economic growth rate of 4%, about 600,000 workers will need to be employed every year. But the current level of growth of the workforce is unable to satisfy this demand.

Because Japan restricts immigration of non-technological workers, the number of foreign workers legally entering Japan is limited every year, and this cannot satisfy the requirements of the enterprises. In this situation, Japanese enterprises have to employ foreign workers illegally, so more and more foreign laborers are employed. The statistics show that, in 1990, Japan already had 300,000 illegal foreign laborers. The illegal foreign workers obtained visas for travel or study or through marriages of convenience. These people have already become the main workforce of many small and medium-size enterprises. An investigation by the Japanese Ministry of Justice indicates that about 60% of small and medium-size enterprises have illegally employed foreign workers.

#### *Labor Force Market Forecasts*

According to the forecasts of the labor force presented at an economic review conference (see Table 11), at the end of the twentieth century and the beginning of the twenty-first century, the working population will dwindle gradually. And with Japan's economic development and the added problem of an aging society, the demand for non-technological workers will increase, and the contrast between supply and demand in the workforce will be dramatic.

The labor force shortage is very great in construction, the service industry, and especially manual labor. For example, the Ministry of Labor's investigation of labor trends shows labor force shortages of 67% in the service industry, 57% in manufacturing, and up to 54% in loading and catering in February 1990. These were the highest levels recorded since the beginning of investigations in November 1984.

Table 11. Labor force forecast for Japan, 1990–2010

Year	Total	Male	Female
Labor force (millions)			
1990	63.66	38.61	25.04
1995	66.10	39.12	26.98
2000	67.39	39.77	27.62
2005	67.17	39.53	27.64
2010	66.03	38.51	27.52
Average annual growth rate (%)			
1990–1995	0.8	0.3	1.5
1995–2000	0.4	0.3	0.5
2000–2005	0.0	-0.3	0.0
2005–2010	-0.3	-0.5	0.0

Source: Ito (1986).

Professor Obuchi Hiroshi predicted that the Japanese labor market of the future will be as follows: the workforce's effective supply coefficient will be reduced progressively during 1988–2020, and labor shortages will exist not only in limited industries and small and medium-size enterprises, but also gradually in all industries (see Table 12). It is expected that the shortages will have extremely serious effects in the twenty-first century. The middle-aged and older workforce (those 45 years and older) will account for more than half by 2020. The labor participation rate of women will increase, and the rate of women 20–34 years old entering the labor market will also increase, which may make the very low birth rate decline further (Obuchi 1990).

## South Korea

### *South Korean Labor Force*

After the foundation of the state, the South Korean population increased quickly. In 1961, the total population of South Korea was 26.766 million people, and the natural growth rate was 3.01%. In 1967, the South Korean population exceeded 30 million, whereas the natural growth rate declined to 2.36%. In 1984, the population exceeded 40 million, and the natural growth rate declined further to 1.24%. Since then the population growth rate has been at about 1%.



Table 12. Labor force in Japan: demand and supply forecast, 2000–20

Item	Supply	Demand (million)		Balance (million)		Insufficiency (%)	
	(million)	High	Low	High	Low	High	Low
Low prediction							
2000	64.15	67.17	63.45	-3.02	0.70	4.7	1.1
2010	62.84	72.75	65.99	-9.91	-3.15	-15.8	-5.0
2020	62.35	78.35	68.43	-16.00	-6.08	-25.7	-9.8
High prediction							
2000	67.67	67.17	63.45	0.50	4.22	0.7	6.2
2010	67.17	72.75	65.99	-5.58	1.18	-8.3	1.8
2020	67.08	78.35	68.43	-11.27	-1.35	-16.8	-2.0

Source: Obuchi (1990: 42).

Note: Negative numbers represent insufficient labor.

Table 13 reflects the state of the labor force and the trend of employment. After 1965 (except for the period of the Asian financial crisis in 1997), the growth rate of employment has been higher than the growth rate of the labor force, and the rate of unemployment has tended to decline gradually.

#### *Labor Force Shortage*

At one time, South Korea was a labor-exporting country. Since the 1960s, South Korea has combined contracted projects and the export of labor services, which enabled an extensive labor outflow. In 1975 and 1976, South Korea had many construction contracts with countries in the Middle East. The export of labor reached its highest level at more than 200,000 in 1981, and 80% of South Korean workers abroad were in West Asia and Southeast Asia.

Table 13. Labor force and employment in South Korea, 1965–98

Year	Population Age 15 Years or Older (million)	Employed Population (million)	Employment Growth Rate (5- year averages, %)	Unemployment Rate (%)
1965	—	8.112	—	—
1970	18.118	9.617	3.17	4.4
1975	20.918	11.692	4.32	4.1
1980	24.463	13.683	3.41	5.2
1985	27.553	14.970	1.88	4.0
1990	30.887	18.085	4.16	2.4
1995	33.664	20.432	2.60	2.0
1998	35.362	19.984	-0.44	6.8

Source: Korea Economic Planning Institute (various years).

Through the overseas service cooperation, South Korea acquired new business administration technology, production technology, and technical capabilities, so that the quality of enterprises and workers has improved greatly. In addition, the export of labor services increased foreign exchange earnings, balanced international income and expenditure, offered more employment opportunities, and made an important contribution to the South Korean economy. Up to the end of 1985, the total amount of contracts signed by South Korea for overseas construction projects and the export of labor reached US\$79 billion; of these, US\$62 billion had been completed, and the net foreign exchange income was US\$15.7 billion dollars. The overseas export of labor services reached 200,000 people (Chen 1986: 22).

The Middle East is the main area for South Korea's overseas contracted projects and export of labor services. However, at the beginning of the 1980s, especially after 1983, the South Korean labor force in the Middle East declined from 196,850 people in 1982 to 95,275 people in 1986 (Chen 1986: 228).

From the latter half of the 1980s, the South Korean economy grew rapidly, especially the development of the processing industry; and workers from other areas of Asia went to South Korea. Meanwhile, South Korean workers abroad were returning to South Korea because of the country's economic growth. In the early part of the 1980s, the returning population was about 1,000 people every year, but there were about 7,000 returnees in 1991 (Nakayama 1993: 99).

Entering the 1990s, South Korea changed from a net labor force exporter to a net importer. The workforce's structural shortage issue became outstanding gradually; the import of both legal and illegal workers developed. In 1991, nearly 300,000 foreigners entered South Korea, among them 42,000 people remained there illegally. By nationality, Chinese (18,000) are the most numerous, second

are the Filipinos (16,000), and third are the Nepalese (2,000). In addition, the need for foreign direct investment led to the legalization of domestic training of foreigners. Nearly 1,500 trainees entered South Korea in 1992.

In 1994, the manufacturing industry lacked 250,000 workers. The overall vacancy rate was 26%, and the vacancy rate in the 3D trades (such as textiles, leather processing, and shoe manufacturing) was more serious, up to 30% (see Table 14).

Table 14. Labor force insufficiencies in South Korea by industry, 1994

Industry	Labor Needed	Labor Insufficiency	Foreign Trainees Needed
Machinery	205,970	26,512	4,291
Casting	27,400	2,500	500
Heat treatment	945	147	80
Gold-plating	9,000	2,400	1,200
Metal	38,030	6,781	2,470
Precision chemistry	11,377	1,216	920
Fiber	563,899	165,100	54,250
Items for daily use	62,330	16,030	3,270
Shoes	35,777	3,800	3,800
Leather	20,000	3,000	1,000
Paper	62,190	10,046	3,500
Plastic	42,771	5,266	2,120
Medicines	22,533	2,263	1,580
Electronics	29,200	3,640	1,160
Electrical machinery	61,432	2,800	480
Total	1,192,854	251,511	80,621

Source: Industry and Commerce Department (1994).

## INTERNATIONAL COMPARISON OF LABOR FORCE STRUCTURES IN NORTHEAST ASIA

Mutual complementarity between economic sectors is one of the most important elements in Northeast Asian regional economics. The structure of the labor force is not only an important measure of the structure of the economy, but it also represents a foundation for cooperation between various sectors of the economy. Analyzing the structure of the labor forces in Northeast Asia is very important for the development of the labor force in this area.

The labor force structures of various countries in Northeast Asia (see Table 15) from 1985 to 1988 show that Japan has the most modern structure: the share of the labor force in primary industry is minimal (less than 10%), and the share in the tertiary industry is the largest (close to 60%). The structure of South Korea is

like that of Japan. The only significant difference is that primary industry's share of the Korean workforce is double that of Japan; the share of tertiary industry is slightly smaller than Japan's; and there is only a very slight difference between the secondary industries of the two countries. So, both Japan and South Korea have modern structures. The structure of North Korea lags behind Japan and South Korea, since the share of its primary industry is obviously larger than that of Japan and South Korea, and the share of the tertiary industry is smaller. China's structure is the most backward of these four countries. The share of the primary industry in China is too large, whereas the shares of secondary and tertiary industry are too small. Among the four countries, Japan and South Korea belong in the ranks of advanced structures, but China has an underdeveloped structure.

Table 15. Labor force by industrial sector in Northeast Asia, 1985–88 (%)

Country	Primary Industry (agriculture)	Secondary Industry (industrial sector)	Tertiary Industry
China	60.6	21.9	17.5
Japan	8.1	33.7	58.2
North Korea	42.8	30.3	26.9
South Korea	19.0	27.4	53.6

*Sources:* Japan Statistical Yearbook (1989, 1990); the figure for China is from China Statistical Yearbook (1989).

### Japan

Japan has experienced the fastest and most advanced transition in Northeast Asia in the structure of its labor force. At the end of World War II, Japan had a labor force that mainly relied on agriculture, because the economy had been destroyed during wartime and a large population surplus flowed to the countryside. By 1947, the proportion of the employed population in primary industry had increased to 54.2%, and the proportion in secondary industry dropped to 22.6%, forming a backward structure of 54:23:23. But in the course of economic recovery, Japan's labor force structure quickly returned to the prewar level. By 1955, the proportion in primary industry had already decreased to 41.2%—a drop of 13 percentage points from 8 years earlier. In the meantime, the proportions in secondary and tertiary industries rose, shifting the reliance away from agriculture. During the 20 years after this, with high-speed economic development and modernization, the Japanese workforce's structure has been changing thoroughly. In 1975, the proportion in primary industry dropped to 13.8%, while that in tertiary industry increased to 51.8%. The situation of more

than half the people engaged in agriculture had changed to that of more than half engaged in tertiary industry, and thus the employed population of Japan had basically completed its modern transformation (Table 10). In 1998, the proportion in primary industry dropped further to 5.2%, and in the same period the proportion in tertiary industry rose by 40 percentage points and reached 63.3%. So, during the half century after the war, Japan has transitioned from a backward labor force structure, which mainly relied on agriculture, to a highly modern structure with more than 60% of workers engaged in tertiary industry.

A general survey of the changing structure of Japan's workforce, during the half century after the war, reveals a basic principle. The proportion of the employed population in primary industry was dropping by a large margin throughout the period; the proportion in tertiary industry was rising sharply; and the proportion in secondary industry rose at first and later fell. The trend in second industry was rising during the first 40 years after the war, reached a proportion of 36% at its highest point, and then tended to fall after the mid-1980s. This trend of rising and then falling can be attributed to abundant and rapid development on the basis of new technology, during the course of Japan's modernization. The speed of expanding the industrial production scale exceeded the speed of adopting new technology and improving labor productivity. Later, in the course of increasingly automated, information-based development, secondary industry still maintained a fast pace of development.

Measured by the standard of labor force structure, Japan has entered the post-industrial society. However the labor market system of Japan is different from that of America and European countries. Japan adopted the lifetime employment system, combining Confucian cultural traditions such as the grade ideas, cooperative spirit, and group reorganization. Culture closely links the workers and the enterprise, promoting the enterprise's development and creating the economic miracle in Japan. However, with the change of the supply-demand relationship of the labor force, the lifetime employment system made the labor market lack flexibility. Its drawbacks became more and more prominent, aggravating the workforce shortage to a certain extent and restricting the development of the Japanese economy in the 1990s.

### **South Korea**

The transformation of South Korea's labor force structure began late after World War II. The starting point was low, but progress was quick in the later stage. The modern transformation was basically completed in the 1980s. Among the Northeast Asian developing countries, the Korean case is the fastest and most successful transformation of the labor force structure. When World War II had just finished, the South Korean economy was extremely poor, most of the employed population were engaged in agricultural production, and the

unemployment rate was still 24% until the end of the 1950s. In 1960, the proportion of the employed population in primary industry reached 66%, but that in secondary industry was only 9% (see Table 16). The economic level was very low, per capita gross national product was only US\$87 in 1962 (Zhang 1997: 23–4).

During the next 20 years, however, with economic recovery and quickening modernization, the speed of the transition in workforce structure accelerated rapidly. In 1980, the proportion of employed population in primary industry dropped to 37% (representing a fall of nearly 20 percentage points since 1960), and the proportion of secondary industry had risen sharply to 27% (double the level of 1960). During this short 20-year period, the workforce structure of South Korea underwent a great transition. The situation changed from two-thirds of the people engaged in agriculture to more than 60% engaged in secondary and tertiary industries. In addition, the modernization of the economy was promoted by a large margin, and the per capita gross national product increased to US\$1,597 (more than 17 times the level of 1962). The annual average growth rate increased to 15.7% (Zhang 1997: 24–5).

Table 16. Labor force in South Korea by industrial sector, 1960–98 (%)

Year	Primary Industry	Secondary Industry	Tertiary Industry
1960	66.0	9.0	25.0
1970	48.2	14.2	37.6
1975	45.7	19.1	35.2
1980	34.0	22.5	43.5
1985	24.9	24.4	50.6
1990	17.9	27.6	54.5
1995 <sup>a</sup>	12.4	23.6	64.0
	12.4	30.6	57.0
1998	12.4	19.6	68.0

*Source:* National Statistical Office (1999: 136).

a. In South Korea, the tertiary industry includes the construction industry, so the proportion of the tertiary industry is a little high, and the secondary industry's proportion is a little low. When estimated according to the international standard, the tertiary industry in 1995 would be 57.0% (rather than 64.0%), and secondary industry in 1995 would be 30.6% (rather than 23.6%).

In 1995, according to South Korean statistics, the proportion of the employed population in primary industry dropped further to 12.4%, and the proportion in tertiary industry increased sharply to 64.0%. Thus the initial situation, in which more than 60% were employed in primary industry, changed to one in which

more than 60% were employed in tertiary industry. The basic transition of the labor force structure has taken place and formed a new structure among the primary, secondary, and tertiary industries. Considering the factor mentioned in Table 16 (that the proportion in tertiary industry was over-estimated because the construction industry is included), and if we use the data calculations of the World Bank, based on international constant requirements, then the basic structure will not change. For example, according to South Korean statistics in 1990, the proportion of the employed population in tertiary industry was 54.5%, whereas the World Bank estimate is 47%. In other words, the former is 7.5 percentage points higher than the latter. If we remove 7 percentage points from the data of the employed population in tertiary industry in 1995, then the proportion should be 57%, namely about 60% of the employed population was engaged in tertiary industry. The proportion in secondary industry should be increased to 30.6% correspondingly. Therefore, the ratios in the structure of the labor force among the primary, secondary, and tertiary industries should be 12:31:57.

Under the direction of the government, South Korea has developed an export-oriented economy. While the labor force structure was upgraded fast, the per capita national income level also improved by a large margin, but its advantage in terms of cheap labor was lost progressively. In 1995, the per capita national income of South Korea exceeded US\$10,000, and the economic growth rate was 8.9%. Fast economic growth, a higher income level, a low rate of unemployment, and the reduction in the workforce supply led to a structural shortage of unskilled workers for lower-quality work, especially in manufacturing, services, and the 3D trades. There is also a relatively great disparity in income levels in South Korea, when compared with other developing countries in East Asia. Therefore, the disparity in income and the structural shortage have driven up the immigration of both legal and illegal workers to South Korea.

### **China**

China has the largest agricultural population in the world. In 1952, more than 80% of the employed population were engaged in agriculture, only 7.4% in secondary industry, and 9% in tertiary industry. During the next 20 years and more, the transformation process in the structure of China's labor force was very slow. In 1975 the proportion of the employed population in primary industry was still high at 77.1% (having declined by only 6.4 percentage points when compared with 23 years earlier), the proportions in secondary and tertiary industries had risen only by 5.9 and 0.5 percentage points, respectively, and the proportion in tertiary industry was still less than 10% (see Table 17). During the same period, the structures in the other countries in Northeast Asia improved

much faster, among them Japan's proportion of the employed population in primary industry dropped from 45.3% to 13.9%, thus declining by more than 31 percentage points (Japan Statistical Yearbook 1979: 92). Even in Mongolia the proportion dropped more than 20 percentage points during that period, declining 15 percentage points from 1960 to 1965 (China Finance Economy Press 1984: 259 and 1986: 239). In 1980, the proportion of the employed population among the primary, secondary, and tertiary industries was still 69:18:13, even a bit lower than the structure levels of Mongolia in 1965 (55:20:25).

After the reform and opening up began, the structural transition process in China accelerated. In 1998, the proportion of the employed population in primary industry dropped to 49.8%, 19 percentage points lower than in 1980. The proportion in secondary and the tertiary industries rose to 23.7% and 26.4%, respectively. The speed of the process in China had already exceeded that of most Northeast Asian countries in the same period and was much faster than in Korea (where the primary industry proportion dropped 12 percentage points) and Mongolia in the 1980s (where the primary industry proportion dropped 6 percentage points from 1980 to 1990).

Table 17. Labor force in China by industrial sector, 1952–98

Year	Employed Population (million)	Primary Industry (%)	Secondary Industry (%)	Tertiary Industry (%)
1952	207.29	83.5	7.4	9.1
1965	286.70	81.5	8.3	10.2
1975	381.68	77.1	13.3	9.6
1980	423.61	68.7	18.3	13.0
1985	498.73	62.4	20.9	16.7
1990	567.40	60.0	21.4	18.6
1995	679.47	52.2	23.0	24.8
1998	699.57	49.8	23.5	26.7

Source: China Statistical Yearbook (1995: 83; 1997: 94; 1999: 128).

In 1998, the changes in China's labor force structure had already exceeded the levels of South Korea in 1970 (48:14:37) and Japan in 1950 (48:22:30). In particular, it took Japan with 100 million people several decades to change the situation in which 70% of the employed population were engaged in farming to the level of the above-mentioned structure, whereas China, with 1,200 million people, took only a short period of about 10 years to achieve this transition.

The organization of China's labor force has the following features: first, the agricultural proportion is too large, and second, tertiary industry is insufficiently



developed. Because the development of the tertiary industry has restrained both the increase in employment and the labor force transition, the issue of rural-labor transition has become more serious. Especially in recent years, the issue of deflation and effectively insufficient demand have had direct relationships with the unreasonable industrial structure.

### **Russia**

After the war, the structure of the Russian labor force changed very fast, although from a low starting point, mainly relying on the secondary industry transition, and the modern transition was completed at the beginning of the 1980s. When World War II ended, the Russian employment structure was still mainly relying on agriculture. Although before the war, the Soviet Union had achieved industrialization, the proportion of agricultural workers was still as high as 56% in 1950, and the labor force structure was quite backward. Ten years later, the proportion of the agricultural population dropped to 42%. Russia took just 10 years to achieve the transition from a structure in which more than half of the employed population were engaged in agriculture to one in which more than half were engaged in secondary and tertiary industries (the secondary industry accounting for 30%), and the speed of the transition was thus quite high (see Table 18).

Meanwhile, the level of the total Soviet economy was rising greatly, too, and the per capita national income increased from US\$339 in 1950 to US\$752, which was twice as high as Japan's US\$224 in 1955 (China Finance Economy Press 1979: 43). By the beginning of the 1980s, the Russian labor force had further completed its modern structural transition. In 1980, the proportion of the population employed in agriculture had already dropped to 16%, the proportion in secondary industry had increased sharply to 44%, and the modern labor force structure was 16:44:40. In 1994, the proportion in agriculture was down to 14.9%, while that in secondary industry remained at the high level of 37.9%. While this structure was taking shape, however, the focus for a long time was on industrial development, with the result that agriculture relatively lagged behind, and tertiary industry and the commodity market remained undeveloped.

Table 18. Labor force in Russia by industrial sector, 1950–94

Year <sup>a</sup>	Primary Industry	Secondary Industry	Tertiary Industry	Per Capita NI <sup>a</sup>
1950	56	44	— <sup>b</sup>	339
1960	42	29	29	752
1970	26	74	— <sup>b</sup>	1,327
1980	16	44	40	—
1990	14	42	44	3,220
1994	14.9	37.9	47.2	2,240 <sup>c</sup>

Sources: China Finance Economy Press, *World Development Report of 1984, 1993, 1997*, pp. 221, 239; China Finance Economy Press 1979: 15, 43.

a. Data before 1990 are for the Soviet Union, and the per capita GNP is per capita national income (NI).

b. Data for 1950 and 1970 are for the agriculture population and nonagricultural population of the Soviet Union.

c. 1995.

The outstanding characteristics of the structure of Russia's labor force are as follows:

- The structure changed fast, but not at a high level. The speed of forming the non-agricultural structure and completing the transition shows that, by 1994, the proportion of employed population in primary industry (14.9%) was twice that of Japan (7.2%) in the same period, and the proportion in tertiary industry (47.2%) was 12 percentage points less than Japan (59.2%) in the same period (Japan Statistical Yearbook 1996: 133). With regard to the overall structural transition, it is similar to South Korea's.
- The proportion of the employed population in secondary industry stayed at a high level for a long time, and it was as high as 44% in 1980. Thus nearly half the employed population was concentrated in secondary industry, which is a rare phenomenon in modern industrialized countries.
- For a long time, the structure of the labor force lagged behind the total level of economic development. In 1960, for example, the economic level of the Soviet Union was already relatively high (per capita national income had reached US\$752), but the proportion of employed population was 42%. When Japan reached to the same economic level—per capita national income of US\$785 in 1965 (China Finance Economy Press 1979: 43)—the proportion of the employed population in primary industry (24.6%) was already lower than the level reached by the Soviet Union in 1970 (26%). Therefore, the structure of the Russian labor force was about 10 years behind the total economic level.

The structural problems in the former Soviet Union mainly lie in the

inadequate development of light industry and the preponderance of heavy industry, which has influenced the living standards of the people. After the Soviet Union disintegrated, Russia underwent “shock treatments” in pursuit of the market economy system. Then Russia fell into serious decline, with the problems of economic structure even more pronounced. There were obvious difficulties in the management of the national defense industry and its production, for lack of strong national support. The result was that the labor force, although of high quality, faced unemployment or recessive unemployment. Meanwhile, given Russia’s great land area and abundant natural resources, there is a structural shortage of Russian laborers in agriculture, mining, and lumbering. This situation is even more pronounced in the Russian Far East.

### **LABOR FORCE MIGRATION IN NORTHEAST ASIA**

One of the characteristics of international migration is that the country of destination has the right to decide whether to accept emigrants. In Northeast Asia, countries such as Japan, South Korea, and the Far East area of Russia have shortages of labor. China has the greatest labor resources of this region and surplus labor.

Generally speaking, there are four ways to solve a labor shortage. First, the industry itself can move to another country with sufficient workforce and low costs. After the 1980s, the overseas shift of Japan’s industries accelerated, as did foreign direct investment, forming a hollow-centered industry, due to the insufficient domestic workforce and the rising labor costs. The second method is to increase the labor participation rate, in particularly the participation of women and the elderly. On the one hand, because of the limitations of national cultural traditions, it takes a rather long time to achieve this goal. On the other hand, because the work competition is fierce and the operating pressure is great, the opportunity cost of working is high, which in turn makes a lot of women and elderly people unwilling to work. The third method is to stimulate population growth. Population growth can increase workforce supply in the future, but it is not helpful for solving the immediate shortage problem. Furthermore, in countries that have finished the demographic transition, the policy of stimulating population growth is not an option to reach the anticipated result. The fourth method is to open the labor market and increase the supply by tapping the international migrant workforce. These four methods can be used either individually or simultaneously.

## Japan

### *Illegal Immigrant Labor in Japan*

Japan has maintained a very careful attitude toward absorbing immigrants, adopting a policy of limiting non-technological immigration. Closing this channel, for balancing its labor market by admitting a foreign workforce, has led to an increasingly serious contradiction between supply and demand for labor. On the other hand, because the level of economic development in Japan differs greatly from other Asian countries, the income gap has greatly stimulated the flow of workers from low-income countries to Japan, and therefore the problem of illegal immigrants has become more and more serious.

Table 19 provides one estimate of the number of illegal immigrants during 1981–93. No doubt these numbers represent just the tip of the enormous “iceberg,” and the true number must be much larger. According to an estimate by Japan’s Ministry of Foreign Affairs, there were about 500,000 illegal immigrants in Japan in 1993.

The illegal immigrants work under abominable working conditions, lack basic social security benefits, and are often exploited by employers. When their rights and interests cannot be protected by the law, they create various kinds of social problems.

Table 19. Illegal immigrant population in Japan, 1981–93 (number of people)

Year	Male	Female	Total
1981	208	1,226	1,434
1982	184	1,705	1,889
1983	200	2,139	2,339
1984	350	4,433	4,783
1985	687	4,942	5,629
1986	2,186	5,945	8,131
1987	4,289	7,089	11,307
1988	8,920	5,385	14,314
1989	11,791	4,817	16,608
1990	24,176	5,708	29,848
1991	25,350	7,558	32,908
1992	47,521	14,640	62,161
1993	45,144	19,197	64,341

Source: Mori (1995: 423).

### *Japanese Immigration Policy*

After the war, Japan adopted an immigration policy that was completely different from that of Western European countries. In order to safeguard intact the unity of

its culture, Japan has regarded the restriction of foreign immigrants as a basic principle all the time. After the 1980s, the voices pushing to open the labor market, especially from business circles, became stronger, so the immigration policy gradually became more flexible. The changes in the immigration policy were as follows.

*Stricter control of non-technological immigration.* Under the Immigration Control and Refugee Recognition Act, foreigners with certain qualifications can engage in some full-time jobs. These include diplomats, civil servants, professors, artists, people in religious orders, reporters, investors, enterprise administrators, law or accounting workers, medical personnel, researchers, teachers, engineers, experts on humanitarian or international issues, property inheritors of domestic enterprises, and trainers. University students and preparatory school students can receive permission to work in their free time (at most 4 hours each day). But entry to Japan for non-technological workers is restricted, and the employment of such workers is forbidden.

At the end of the 1980s, the issue of illegal immigrants was given extensive attention. In 1990, Japan implemented a new immigrant act that made it easier for technological immigrants to enter the country; it expanded the employment classification of foreign technological workers. The government required customs to strengthen its checks on Asians when entering Japan and to restrict illegal immigrants. The new immigration act also increased the punishments related to the employment of illegal immigrants. For example, people who recommend or employ illegal immigrants can be sentenced to prison terms of up to 3 years and fined up to 2 million Japanese yen. The new immigration act broadened the short-term immigration policy in order to increase non-technological immigrants, including immigration of the descendants of Japanese who settled in North America, and to develop a traditional training system. However, the new immigration act did not solve the problem of the domestic shortage of workers, nor did it stop illegal immigration.

*Development of the system for training foreign workforces.* The system for training foreign workforces has a long history, including two kinds of methods, both official and popular. The official training system began in the 1950s. In 1954, Japan joined the Colombo Plan, in order to promote the social economy of Asia, and Japan undertook relevant projects to provide technical and professional training for other countries. Through its development for many years, and after being revised and changed several times, the Japanese official training system is operating soundly. In 1993, about one-fourth of all trainees entered Japan through an official or semi-official channel (Wang 1999).

The popular training system developed because of Japanese investment abroad. In the 1950s, as Japanese investments abroad increased, the companies began to train the workers of the foreign-based enterprises and branch

departments, especially in technology and management. With the purpose of meeting the needs of overseas enterprises, local workers, technical staff, and administrative staff were sent to Japan for training, and subsequently went back to work in Japanese enterprises in their home countries. The training in Japan did not last a long time, and the scale was not large.

In the 1960s, a structural shortage appeared in Japan's labor force, so the technological training developed gradually to satisfy the domestic demand for labor in specific trades. It is estimated that in the 1960s, thousands of non-technological workers from South Korea, Chinese Taiwan, Indonesia, Thailand, and Malaysia were trained in medical services in Japan and worked in Japanese hospitals. At the beginning the 1970s, the structural shortage in the labor force gradually became pronounced, so the Japanese government began to increase the numbers of foreign workers undergoing training, in order to raise the elasticity of the labor supply. However, the policy was abandoned, owing to the oil crisis in 1973.

After the 1980s, because of increasing stress on the labor shortage issue, Japan adopted a short-term immigration policy for workers. The policy recruited overseas Japanese (descendants of former emigrants from Japan) to come to Japan, but placed a three-year time limit on their work permits. By 1993, about 150,000 overseas Japanese had worked in Japan, most of them coming from Brazil and Peru. In addition, Japan expanded its training system gradually to satisfy the domestic demand. In 1982, the Japanese Immigration Control Law formulated the concept of "trainee," which refers to people who can work in Japan for some time to gain practical experience. The compensation they receive, however, is classified as a subsidy, not a salary, and the protection provided by Japan's Labor Law does not apply to them.

In 1991, the Ministry of Labor, Ministry of Justice, Ministry of Foreign Affairs, and some enterprises established a cooperative association called the Japan International Training Cooperation Organization (JITCO). It took charge of offering an information advisory service for enterprises interested in recruiting trainees. In April 1993, the Technical Intern Training Program (TITP) was established, based on JITCO. This program requires trainees to finish technical training and pass an examination, and then they can become "technological foreign students." The most remarkable difference between TITP and other training systems is that "technological foreign students" have formal employment contracts with enterprises. They are considered as staff of the enterprises, and their rights and interests are protected by the relevant labor regulations.

At present, trainees enter Japan mainly through four channels: (1) government and international organizations, (2) cooperation among enterprises in different countries, (3) intermediary organizations, and (4) the Japan International Training Cooperation Organization (JITCO). The number of people

undergoing training in Japan reached 43,600 in 1992 and 39,700 in 1993. In June 1994, there were 1,492 “technological foreign students” in Japan (Mori 1995: 422). Japan’s economic recession resulted in the reduction of trainees and an increase in technological foreign students.

Japanese domestic enterprises benefited from recruiting trainees, especially small enterprises, building enterprises, services, and agriculture enterprises. First, these enterprises have received their needed workforce. Second, because of the enormous income differences between Japan and Asia’s developing countries, these trainees usually have higher educational levels, but merely lack professional know-how. After training, they can meet the demand of the enterprise better. Third, the enterprises do not treat trainees as formal staff, but pay them lower subsidies, not a salary, which could reduce the labor costs of the enterprises.

Because overseas Japanese can work in Japan at most for 3 years and can be trained for no longer than 2 years, Japan has great flexibility in controlling immigrants. The influences on the economy and labor market from such short-term immigrant can be controlled and managed more easily. The flow of the foreign workforce is easy to monitor, and they can guarantee that they will go home on time. In addition, the employers arrange board and lodging for the immigrants, ensuring their rights and interests in community life. The short-term workforce immigration policy not only maintains the “closed” policy on non-technological immigration, but also has reduced the negative effects of immigrants to the minimum level, alleviating the shortage in the labor market at lower cost.

However, the system increased the hopes of employers and foreign workers to hold up. The employers provided technical training to workers and were unwilling to train new ones. The new recruits had to take some time to adapt to the environment and to raise their productivity. Therefore, in Japan more and more immigrants are exceeding the legal time limit, which is an important factor in solving illegal immigrant issues.

#### *Perspective on Japanese Immigration Policy*

In the mid- and late 1980s, after experiencing the prosperity of the “bubble economy,” from 1991 Japan began to fall into a long period of stagnation, and the rate of unemployment began to rise. The depression of the Japanese economy made the issue of illegal immigrants increasingly great, and Japan had to postpone opening its labor market further. However, since 1998, with the era of the knowledge economy, the United States has recaptured the advantage in the scientific and technological competition between America and Japan. When people describe the essential features of the knowledge economy era, they all regard talent as a key factor. An open immigration policy has been implemented

for a long time in the United States and has brought enormous advantages because it allows the economy to use the available talent. For this reason, Japan began to examine its immigration policy again, and has opened immigration further, to admit people with advanced technical skills.

On the other hand, in order to solve the domestic workforce insufficiency in services, construction, and the 3D trades, Japan began to increase the numbers of recruited trainees, and to recruit foreign workers directly in agriculture and animal husbandry, and relaxed the restrictions on non-technology immigrants progressively.

Krugman, a well-known American economist at the Massachusetts Institute of Technology, considers that the reason for Japan's economic depression lies in the aging population, low consumption, and long-term deflation caused by the first two factors. In 1999, the economic growth rate began to increase and indicated that Japan might get out of its long depression. With the recovery of the Japanese economy, the demand for foreign workers will increase, too. Considering that the present problem of illegal immigrants has not been solved, new illegal-immigration issues will force Japan to face reality by accelerating and further opening its policy concerning immigration.

## **South Korea**

### *Labor Shortage and Illegal Immigrants*

The situation of South Korea is similar in many ways to that of Japan. The foreign labor force is limited in several fields, and the workers are often engaged in the mass media, exchange of technology, commerce, investment, education, and research work through legal channels. The immigration law does not allow non-technology workers to enter South Korea.

The South Korean labor shortage resulted from fast economic growth beginning from the mid-1980s and the demographic transition. Another reason is the rejection by South Koreans of some types of work. At the beginning of the 1990s, the government had to open the labor market because of the serious workforce shortage in some fields. From 1988 to 1992, the unemployment rate was 2.5%, 2.6%, 2.4%, 2.3%, and 2.4% respectively. Although South Korea has a relatively low rate of unemployment (see Table 13), the labor shortage is still very serious in some labor-intensive industries such as clothing, textiles, shoes manufacturing, and construction.

From the dynamic point of view, the South Korean domestic workforce is declining in the mining industry, manufacturing, and 3D trades. For male workers in manufacturing, the average entry rate was 3.84% in 1991, but the separation rate was 4.25%. This trend strengthened constantly from the late 1980s, and from 1991 the workforce engaged in manufacturing definitely began to decline.



The direct consequence of limiting non-technological immigrants in South Korea is the existence of a large number of illegal immigrants. Most people (the majority of visitors) with short-term visas remained in Korea beyond their visa deadline, therefore becoming illegal immigrants. The number of illegal immigrants entering South Korea by other means is larger. The total trend of South Korean illegal immigrant is increasing constantly. According to some statistics, there were 255 illegal immigrants in South Korea in 1988, 450 in 1989, and 1,018 in 1990. These figures are a very small part of the real number: it is estimated that there are actually about 100,000 illegal immigrants in South Korea. When the South Korean government granted an amnesty in 1992 to illegal immigrants, 66,126 surrendered to the authorities, including 22,035 from China, 18,983 from the Philippines, 8,950 from Bangladesh, and 5,036 from Nepal (Kim 1994: 32).

#### *Adjustment of South Korean Immigration Policy*

During the course of changing from a workforce-exporting country to a workforce-importing country, South Korea also adopted a policy of strict limitations on the foreign workforce. However, without the import of foreign workers, some sectors of the South Korean economy will face problems in sustaining their growth. Illegal immigrants not only are difficult to control and manage but also cause many social problems. For this reason, after 1992, South Korea began to adjust the immigration policy in order to meet the demand for labor in the course of economic readjustment.

In terms of labor supply, one of the most effective ways to alleviate the structural shortage is to increase the participation rate of women. However, such a change is difficult. In fact, since 1992, the participation rate of women has been continually decreasing.

From the viewpoint of enterprises, facing the situation of salary levels rising day by day, enterprises have several choices: first, to import labor; second, to raise the productivity level to reduce labor costs; and third, to transfer operations overseas. Many small and medium-size enterprises have insufficient funds for technological transformation, research, and development, whereas, on the other hand, they have little or no capabilities for shifting operations outside the country. Therefore, they satisfy their demand by importing labor.

In 1990 and 1991, during the period of the most serious workforce shortage, South Korea had no clear measures for dealing with the foreign workforce, which led to a large inflow of illegal immigrants. By 1992, the government had begun to realize the severity of the problem. In January 1992, the government began to strengthen its management of entry through ports and airports, and to require illegal immigrant to leave within a fixed time. The number of Koreans from China entering South Korea from Jinsen was reduced from 29,000 in September

1992 to 17,000 in January 1993. In the same year, when the government granted the amnesty to illegal immigrants, the 66,126 illegal immigrants who surrendered to the authorities were allowed to stay in South Korea until 31 December 1992. Later on, because of the serious workforce shortage in some industries, the government allowed them to stay six months longer, and the deadline for leaving was postponed again until the end of 1993.

During the second half of 1993, South Korea began to adopt a workforce-training system. About 10,000 foreign non-technological workers in small and medium-size enterprises accepted the technical training. At first, they were allowed to stay for one year, then at the end of 1993, these people were allowed to stay for two years. The number of workers who accepted technical training rose to 20,000.

The 1997 Southeast Asian financial crisis struck South Korea hard. The currency was devalued, enterprises and financial institutions went bankrupt, and production fell, with the result that South Korean workers' real incomes were reduced by nearly half. The rate of unemployment rose to 6.8% in 1998. The financial crisis made the foreign workforce in South Korea decline rapidly. In December 1997 the legally employed foreign workforce numbered 15,900; the number fell to 13,246 by February 1998, and diminished to 11,622 in June 1998. The total foreign workforce—the combined three categories of legally employed workers, trainees, and those with expired visas—numbered 267,546 in December 1997. It fell to 194,057 in February 1998 and to 159,994 in June 1998 (Battistella and Asis 1999: 17).

### **Russian Far East**

#### *Labor and Service Cooperative History*

Since the middle of the 1960s, foreign workers have been moving into the Far East area of Russia, especially into agriculture, construction, timber extraction, and light industry. In 1967 the Soviet Union and Korea reached agreements on jointly exploiting the forest resources, and nearly 15,000 Korean workers entered Verkhnebureinsky in Khabarovsk Territory to extract timber (Wang 2000).

Because of the differences in regional production structure, output, and products, this cooperative undertaking went through several stages. The agreement was revised in 1975, 1977, and 1985. The initial cooperative agreement was for a fixed 25-year period, but it is still in effect. In 1995, about 70,000 Korean workers were engaged in timber production in Verkhnebureinsky (Kim 1994: 32). The compensation that Russia has given to the Korean workforce is mainly logs and paper pulp.

Korean workers have solved the problem of insufficient labor in this area, however, and since the late 1980s, economic, social, and political issues arising from the cooperative agreement between Russia (formerly the Soviet Union) and

Korea have caught Russia's attention. In spite of its benefits, the cooperation also had some negative aspects, such as depletion of natural resources and a great loss of infrastructure and equipment.

The low quality of the Korean workers is the main reason for these issues. The term of the contract is three years, but Russia did not have enough time to train the Korean workers. Korean workers often damaged machinery, and repairs were often improper or not in time, which caused an increase in production cost. In addition, in the small Khabarovsk area, where Korean workers were concentrated, conflicts between Koreans and local residents often occurred. The crime rate also increased, and the local people strongly objected to this cooperative agreement.

#### *Development of Labor and Service Cooperation*

In the 1960s, the Russian Far East absorbed foreign labor resources by means of foreign-labor service agreements signed by the Russian government for the enterprises. The weak link in this chain is that the government and the enterprises lacked communication and common understandings. During the 1980s, some new changes took place in the utilization of foreign workers in the Russian Far East. First, the range of sources from which to choose imported laborers expanded. Besides Korea, Russia began to import workers from Cuba, Vietnam, and China. Second, the services in which foreign workers were engaged diversified. Besides forestry, foreign workers were allowed to enter construction, agriculture, light industry, and other sectors. Third, the mode of cooperation has changed, from one initiated by government to one initiated by the enterprises themselves, with the result that the enterprises in the Far East area have established direct cooperative relations with foreign enterprises.

In 1981, the Soviet Union signed a service cooperation agreement with Vietnam. The first Vietnamese workers came to this area in 1987, and were engaged in the textile industry. According to the agreement, the Soviet Union supplied them with accommodations, clothing, and six months of language and technological training. The productivity of the Vietnamese workers is obviously higher than that of the Russians. However, some new problems followed. The first problem is product quality. The earnings of the Vietnamese workers were determined by the quantity of products, without regard to quality. In order to gain higher income, Vietnamese workers often ignored quality standards. The second problem was that, if the workers took industrial products back to sell in Vietnam, their earnings were much higher than earnings for factory work when they returned home. As a result, many workers began to engage in business, supplying consumer goods to meet shortages, and their consumption contrasted with that of the local people. For these reasons, the service cooperation between the Soviet Union and Vietnam did not develop further.

A similar collaborative project with the Cuban government failed likewise. In 1987, the Soviet Union planned to import 1,500 workers from Cuba (Kim 1994: 28) to exploit timber resources in the Khabarovsk area and to produce goods made of wood. From the beginning, the production efficiency of the Cuban workers was so low that the output reached only half of the planned target, and the Cuban workers could not adapt to the harsh weather conditions. Only two-thirds of the Cuban laborers came to the Far East area, and their technical abilities were far below the level actually needed. As a result, the service cooperation between Russia and Cuba had to stop.

China made great efforts to expand cooperation in the field of labor services and actively promoted the export of workers, after implementing the policies of reform and opening the economy in 1978. As a result, Sino-Russian service cooperation developed constantly. In contrast to the cases of Vietnam and Cuba, China adopted the enterprise-to-enterprise mode from the beginning. According to the 1992 agreements between the two governments, enterprises in the Russian Far East area can sign contracts for foreign laborers to meet their needs. Thus, an enterprise-based international service cooperation mode has come into being.

According to agreements between the governments of China and Russia, the service contracts are concluded between the Russian enterprises and Chinese labor service companies. Most Russian enterprises pay the Chinese labor service companies in the form of fish, timber, coal, metals, and other goods. While in Russia, the Chinese workers receive subsistence pay to support themselves, and the remainder of their salary is received after they return to China. The service cooperation mode not only reduced the workers' initiative to a certain extent, but also influenced the workers' stability. Some workers began to engage in border trade, which brought them considerable income.

Three territorial divisions of the Russian Far East—Khabarovsk Territory, Amur Oblast, and Primorsky Krai—had 26,186 foreign workers in 1989, 82% of them engaged in timber extraction and timber processing. In 1992, in the most attractive area, Khabarovsk, 91.4% of the workers in the timber processing industry were Korean. At the beginning of 1993, there were 7,091 foreign workers in Primorsky Krai (the Maritime Province), 84.7% of whom were Chinese. Also at the beginning of 1993, there were 8,493 foreign workers in Amur. Since more Koreans were engaged in the timber industry, and since agriculture is better developed in Amur than in other parts of the Russian Far East, Chinese workers accounted for only 8.3% of the total and were mainly engaged in the construction industry (Kim 1994: 29). According to the statistics of the Chinese Ministry of Labor, in 1993 about 30,000 Chinese workers were in the Russian Far East, 16,000 of them from Heilongjiang Province (Wang 1995: 433).

**China**

Since the reform and opening up to the outside world, China's government has made great efforts to expand foreign service cooperation and has actively promoted the export of Chinese workers. In 1995, the government issued its Entry and Exit Management Rules for Chinese Citizens, began to loosen the restrictions on Chinese workers employed by foreign corporations, and allowed foreign enterprises to recruit workers directly from China. Furthermore, the range for employing foreign technical and administrative staff was broadened in order to absorb more advanced technology and learn their advanced management skills. China can earn foreign currency through the export of labor services, the workers can receive technical training and gain work experience, and domestic employment pressure can be alleviated to some extent. All these factors are favorable to China's economic development.

From 1983 to 1993, about 400,000 workers went abroad to work under labor service contracts or under project contracts mainly involved in construction. In order to promote the export of labor, the Chinese government widened the channels for such exports, strengthened the management of the exports, raised the quality of the workforce, strengthened the network of technical training, and issued relevant laws and regulations. The government thought abnormal immigration of workers could damage China's international relations, so the government strengthened its measures against illegal immigration.

The non-technological immigrants come mainly from Russia and Korea. Most of the Russian immigrants are young women, who work in restaurants, hotels, and other public places of entertainment. Because some of them have been found to offer illegal pornographic services, both Russia and China are making great efforts to prevent them from entering China, and are strengthening the management of this immigration.

In recent years, because of the food crisis in Korea, a large number of Korean refugees entered China. Some of them were sent back home, some stayed in the Chinese Korean communities illegally, and the rest passed through China and went to South Korea. It is estimated that at least 100,000 Korean refugees have entered China in recent years. China has strengthened its management of border areas. But the problem of illegal immigration is difficult to solve, because the geographical obstacles are minor, making it easy to cross the border, and there are many Chinese Korean settlements in the border area.

**HUMAN RESOURCES AND INTERNATIONAL COOPERATION****Regional Economic Cooperation in Northeast Asia**

After the cold war, international political relations changed from confrontation toward cooperation. With the main theme of peace and development, the world

developed a multipolar orientation. International political relations among various regions and states have improved obviously in Northeast Asia. The relations among countries changed from hostility and conflict to political contacts and economic cooperation. The subsiding of ideological conflict, the differences in economy and population, and the need for an international environment, because of the socialist countries' structural adjustments and economic reforms, have all driven the rapid development of regional economic cooperation in Northeast Asia.

Since the latter part of the 1980s, because of the transition from the planned economy to the market or the mixed economy in China, Russia, Mongolia, and North Korea, economic exchanges and cooperation in Northeast Asia increased constantly. Besides, in order to overcome domestic contradictions caused by economic reform and to create a good external environment, China, Mongolia, and Russia are eager to form stable, new, political and economic relations with other countries.

Although cooperation in Northeast Asia has developed fast, this area started economic cooperation relatively late, and there are many factors restraining further development.

First, the influence of geopolitics. At present, Northeast Asia is an area in which contradictions are concentrated. Although the cold war has finished, the issues left behind by it still influence international relations, and traces of cold war mentality still exist in this area. There are not only differences of systems but also issues of sovereign territorial rights, territorial seas, national reunification, the military alliance between America and Japan, and so on.

Second, a multilateral coordination system for regional cooperation is lacking. Although many countries have realized the importance of economic cooperation, the attitudes and degrees of participation in regional economic cooperation in Northeast Asia are inconsistent. Cooperation in this area has not been brought into the national economic development strategies. Regional economic cooperation is not a matter for state government but for local governments, non-government organizations, and enterprises, and the focus in pursuing regional economic cooperation is mainly on economically backward areas. So, considering the issue from the viewpoint of the multilateral coordination system and overall idea for regional cooperation, what we mention above has limited the development of regional cooperation.

Third, the level of economic cooperation is relatively low. On the one hand, the enormous differences in the levels of economic development in Northeast Asia create a vertical division of labor, preventing the various regions and countries from engaging in equal competition and mutually beneficial cooperation. On the other hand, economic cooperation still remains on the level of development of natural resources.

Developments in the twenty-first century will offer new opportunities for wider cooperation. Among them are the relaxation of the situation in the Korean peninsula, improvement in the relationship between Japan and Russia, increased inputs from China to develop the Tumen River area during the Tenth Five-Year Plan, and the urgent hope of Russia to develop the natural resources of the Russian Far East.

In the next century, the center of the world economy will gravitate to the Pacific-rim area. Northeast Asia is an important part of the Asia-Pacific region, with its economies developing fast, and it must increase the connections between its countries. Especially, under the push of multinational corporations and the scientific and technological revolution, the economic globalization and the trend of regional economic grouping will be developed further. Northeast Asia must strengthen economic cooperation, set up a group of regional economies, and promote regional economic integration. Given the trends of global development, China's entry into the WTO, and improvements in relations in the Korean peninsula, regional cooperation must be multi-level and pluralistic. The cooperation will include production, technology, labor services, finance, environmental protection, and so on.

#### **Labor Force Resource Cooperation in Northeast Asia**

The complementarity and the diversity of various regions and states of Northeast Asia provide a material base for rapid economic development. The economic complementarity includes differences in levels of economic development, in resource distribution, and in workforce resources. Economic development levels are shown in Table 20. In terms of resource distribution, the developed economies (Japan and South Korea) have poor resources, whereas the economies that are lagging behind (China and the Russian Far East) have abundant resources. In terms of labor forces, China has a surplus, whereas Japan, South Korea, and the Russian Far East have structural shortages to varying degrees.

Table 20. Per capita GDP in Northeast Asian countries, 1980–95 (US\$)

Country	1980	1985	1990	1995
Korea	1,512	2,311	5,917	10,121
Japan	10,107	13,202	25,885	37,508
China	307	291	336	573
Russia	–	–	4,101	n.a.
Mongolia	1,403	1,344	896	418

Source: United Nations (1997: 3).

With respect to the relationship between workforce resource differences and economic differences, the workforce is the essential key element for promoting economic development. Furthermore, with the arrival of the knowledge-based economy, people pay more attention to workforce quality. As the knowledge-carrier and source of knowledge innovation, human resources are regarded as the primary force behind economic development. In Northeast Asia, trade, investment, and industrial cooperation are promoted not only by economic differences but also by the enormous income differences, which stimulates an international movement of workers and especially the flow to Japan and South Korea.

Considering differences in resource distribution in relation to the workforce, the Russian Far East has the most abundant natural resources, but its serious population shortage restricts their development and utilization. To develop the natural resources in the Russian Far East, transnational movements of workforces must take place. Therefore, the development of the workforce is an important area in which cooperation can turn potential advantages into realistic economic gains.

### **Basic Modes of Workforce Resource Cooperation**

As noted earlier, since the 1990s, the sizes of the workforces have increased slowly, the supply of low-cost labor has been inadequate in Japan, South Korea, and the Russian Far East, and there were serious shortages of labor for family and community services, and the 3D trades. In order to safeguard its traditional culture, Japan restricted the inflow of workers with lower qualifications, and caused a large amount of illegal immigration. Russia took a prudent attitude toward absorbing foreign laborers, for fear of causing new national problems in the Russian Far East. South Korea also adopted a careful attitude in order to prevent social problems caused by too many foreign workers. In 1997, however, financial crisis broke out in South Korea. The economic recession, the rising unemployment rate, and the bankruptcy of numerous enterprises and financial institutions led South Korea to slow the pace of opening its labor market.

After the 1990s, Japan fell behind in the competition with the United States in high-tech sectors, because Japan lagged behind in terms of high-tech talent. In order to promote high-tech development, Japan is adjusting its policies to attract immigrants with high-tech talents. It is estimated that South Korea will make a similar adjustment.

Because of the various worries indicated above, Japan, South Korea, and Russia adopted different modes of cooperation, especially in terms of labor with low-level qualifications. These modes are as follows.

*Short-term service cooperation.* At the request of enterprises, especially small and medium-size enterprises, Japan, South Korea, and Russia recruit



foreign labor from other countries. Most of the workers are engaged in small and medium-size enterprises, agriculture, services, and the 3D trades. Contracts are for periods of 1 to 3 years, and the workers return home after the contract period.

*Service project cooperation.* Service projects are usually large-scale construction projects or projects for the development of natural resources. While absorbing funds and technology, plenty of labor can be imported.

*Foreign students system.* The merits of this system are that the enterprises can obtain a workforce with relatively high qualifications, while at the same time the rights and interests of the foreign workers can be ensured. At present, both Japan and South Korea have adopted this kind of system. Japan's JITCO absorbs 100,000 workers from developing countries every year and trains them in construction and machinery technology. Some of the students are allowed to stay and work for one year in Japan. In South Korea, the training is organized by the federation of small and medium-size enterprises to meet the enterprises' demand for foreign workers. This system has the merits of both cooperation in the labor sector and development of human resources. It offers great flexibility and has a strong potential for further development.

*Illegal immigration.* Illegal immigrants will exist for a long time. Japan, South Korea, and Russia are inclined to follow "closed" immigration policies. Japan and South Korea tacitly consent to the existence of illegal immigrants to a certain extent and hope that the lower workforce costs will support domestic economic development. Thus the question of illegal immigrants will persist for a long time. In practice, this is a kind of irresponsible attitude, because it damages not only the laborers' rights and interests but also the relationships among countries.

In the course of regional cooperation for developing workforce resources in Northeast Asia, lots of questions are worth pondering deeply by all the countries. The primary question is the problem of the large number of illegal immigrants. They work and live under very difficult conditions, receive low salaries, are often maltreated by employers, and cannot get effective medical treatment when ill or injured. All the countries should make great efforts to set up a legal channel for international workforce migration, stop various kinds of illegal immigration, prevent exploitation by employers and organizers of illegal immigration, and ensure the workers' lawful rights and interests.

We should strengthen multilateral or bilateral cooperation to strengthen the management of the migrant workforce. To achieve this goal, the following steps could be taken.

*Workforce research institute.* Establish a special research institute to study the region's labor resources. This organization can be formed by experts from various countries, engaged in the study of labor resources and other resources. They can predict the sizes of workforces available or needed in any country or

area of a country. While making plans for labor migration, they can also study the development of the foreign labor force system, workforce distribution by industry and geographical area, and related matters in relation to overall economic development. This is a prerequisite for formulating both labor policy and industrial policy.

*Workforce training center.* Set up a workforce training center. Both the exporting country and the importing country should strengthen the training of workers, in both technology and language, in order to meet the requirements of the labor market in terms of workers' technological skills and educational levels.

*International service cooperation center.* Governments and enterprises, acting together, can establish an international service cooperation center, to exchange information on demand for labor, to increase the transparency of international service cooperation, to reduce the harm to immigrants' rights and interests, and to lower the middle cost. In this way, regional cooperation among Northeast Asian countries can develop in a just, fair, and open direction.

*Controlling network.* Set up a controlling network to monitor labor force migration in terms of quantity, characteristics, types of work, contract terms, channels of immigration, and so on.

## REFERENCES

- Battistella, Graziano, and Maruja M.B. Asis. 1999. *The Crisis and Migration in Asia*. Quezon City: Scalabrini Migration Center. January.
- Central Bureau of Statistics, DPRK. 1995. *Tabulation on the Population Census of the Democratic People's Republic of Korea (31 December 1993)*.
- Chen Longshan. 1986. *Haican Construction Contracted Project and Export of Labor Force: Studies on Relationships of South Korean Foreign Economy*. Jilin Social Science Institute.
- China Statistical Yearbook*. Various years.
- China Finance Economy Press. 1979. *Foreign Economic Statistic Data (1949-1976)*.
- China Finance Economy Press. 1984. *World Development Report of 1984*.
- . 1986. *World Development Report of 1986*.
- China Foreign Economic Trade Press. 1995. *Economic Prospects of the Far Eastern Area of Russia*.
- Hu Angang. 1997. Analysis of the Employment Situation in China, *Management World* 3.
- Industry and Commerce Department, Republic of Korea. 1994. *Newest Labor Statistics*. May 8.

- Ito Tatsuya. 1986. *Predictions of Labor Force Population, Labor Force Population and Its Development in Japan*. Population Development Series 5. Asian Population Development Association. December.
- Japan Economic News*. 1990 (June 19).
- Japan Statistical Yearbook*. Various years.
- Kim, Won Bae, ed. 1994. *Managing Labor Migration in Northeast Asia*. Northeast Asia Study Report 1. Honolulu: Northeast Asia Economic Forum.
- Korea Economic Planning Institute. Various years. *Report of Population in Economic Activity*.
- Mori, Hiromasa. 1995. Foreign Migrant Workers in Japan: Trends and Policies, *Asian and Pacific Migration Journal* 4 (2–3).
- Nakayama Toshikazu. 1993. *New Migration of Asian Labor Force and Capital Investment: Centered as Southeast Asia, Asian Industrial Transition and Population*. Asian Population Development Association.
- National Statistical Office, Republic of Korea. 1999. *Major Statistics of Korean Economy*. September.
- Obuchi Hiroshi. 1990. Japan Labor Force Market in the 21st Century: Issue of Foreign Labor. *Year Book of Josai Graduate College*. March.
- Okazaki Youichi. 1993. *Transition of Labor Force in Japan, Industrial Transition and Population in Japan*. Asian Population Development Association.
- Population Study Institute, Japan. 1997. *Population Statistics Data: National Social Security*.
- Russia Statistics Bureau. Website <http://www.region.ru/rauios.nun>.
- United Nations. 1996. *World Population Prospects: The 1996 Revision*.
- . 1997. *Statistical Indicators for Asia and the Pacific* 27 (4). December.
- . 1999a. *Statistical Indicators for Asia and the Pacific* 29 (1): 1. March.
- . 1999b. *Statistical Indicators for Asia and the Pacific* 29 (2): 1. June.
- Wang Shengjin. 1985. Kuroda Population, *Population Journal* 2.
- . 1995. China's Export of Labor and Its Management, *Asian And Pacific Migration Journal* 4 (2–3).
- . 1999. Trends of Japanese Labor Force Immigrant Policy and Illegal Immigrant Issues, *Population Journal* 6.
- . 2000. Analyses on International Labor Force Cooperation Development in the Far East Area of Russia, *Population Journal* 6.
- Wang Shengjin and Yin Hao. 1998. *Present Situation and Prediction of Labor Force in Korea*. Northeast Asia Forum, No. 3.
- Zhang Yunling. 1997. *Mode of the Korean Market Economy*. Economic Management Press.