The Status of Youth Unemployment in Korea and Policy Tasks

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1. Introduction

Youth unemployment in Korea is a structural problem that has persisted since the Korean financial crisis. Since 2000, the youth unemployment rate in Korea has been averaging around 8% and 2006 was no exception with rates reaching 8% in the first half. Despite government efforts to tackle youth unemployment, there are currently no signs of improvement.

There are largely five structural problems causing youth unemployment.[1] First, since 2003, Korea's economy has been slow with economic growth rates struggling at around 3%-5% and the coefficient of employment, the number of employed workers per every one billion won of Gross Domestic Production (GDP), dropped to half of the level of 1990 in 2005. This caused a reduction in employment absorptive capacity making it difficult for college graduates to find jobs. Second, there are too many highly educated people seeking jobs. About 80% of young job seekers are college graduates, but unfortunately only 30% of jobs in society demand highly educated workers. Third, education in schools do not satisfy the demands of society. As is the case, many employers seek experienced workers from other previous jobs which reduce employment opportunities for new graduates and also increases unemployment duration. Fourth, public sector investment in regional vocational training is weak because vocational training is entrusted to the voluntary commitment of the private sector instead of the public sector, and even in the private sector there is a lack of self vocational training by large enterprises. Fifth, compared to other advanced nations, Korea largely lacks employment support services such as the availability of information on job openings and job recommendation.

Due to these structural problems, youth unemployment in Korea shows no signs of improvement despite the continuous efforts of the government to solve the problem each year through policy proposals and budget allocation. And because of its structural nature, it is difficult to solve this issue in a short period of time through government initiatives. Structural problems and regional problems require indirect solutions led by regional councils and not the direct intervention of the government.

This study will focus on the unemployment of youth with an education background of high school or below.[2] In chapter 2, we will look into the status of youth unemployment and in chapter 3 the structural problem of unemployed youth with an education background of high school or below will be identified through an analysis of job separation rate and job finding rate. Chapter 4 will reveal the results of an interview survey with unemployed high school

[1] The findings of the Insoo Jeong. Kimin Kim (2005) study which is the basis of this study, shall be summarized in this paper because it provides the foundation for the proposal of policy tasks.

[2] Summary of "Identifying the Unemployment Status of Youth with an Education Background of High School or Below and Policy Tasks" by Insoo Jeong, Jaeryang Nam, Sungwoo Lee (2006).

graduates or below and in chapter 5 we will assess the government's current measures in tackling youth unemployment. In chapter 6 we will supplement the government's Youth Employment Promotion Plan (April 20, 2006) for high school graduates or below and will discuss directions for policy to resolve the structural problem of youth unemployment and finally in chapter 7 we will make specific policy proposals based on our findings.

2. The Status of Youth Unemployment

The youth (15-29 years) unemployment rate in Korea surged up to 12.2% after the Korean financial crisis in 1998 and later leveled out to 6.6% in 2002 nearing the 1997 level of 5.7%. However, economic slowdown again pushed it up by 2% point to 7.7% in 2003 and the latest official record in 2006 stands at 7.6%.

Over 60% of unemployed youth are high school graduates or below (Table1). Compared to college graduates who have a more difficult time finding jobs at graduation and who spend more time searching for jobs than before, the major problem in the high school or below group is that they experience more unstable employment bouncing among the employment, unemployment, and economically inactive status.

Table 1. Trend of Youth Unemployment by Education Background

(Unit: thousand people, %)

	1998	1999	2000	2001	2002	2003	2004	2005	2006 (as of July)
Total	1,490(7.0)	1,374(6.3)	913(4.1)	845(3.8)	708(3.1)	777(3.4)	813(3.5)	833(3.5)	810(3.4)
Youth	655(12.2)	574(10.9)	402(7.6)	388(7.5)	341(6.6)	383(7.7)	391(7.9)	366(7.6)	353(7.6)
High School Graduate or Below	487(15.1)	425(13.6)	281(8.9)	261(8.6)	218(7.5)	239(8.4)	246(9.0)	225(8.8)	198(8.4)
College Graduate or Above	168(10.0)	149(8.7)	121(6.6)	127(6.6)	123(6.1)	143(6.7)	145(6.4)	141(6.2)	155(6.7)

Source: National Statistical Office, 'Census of Economically Active Population'.
Notes: 1) First half is the average of January to May.
2) Official government statistics now define unemployment as "four weeks of job searching" instead of "one week of job searching." However, in order to use time series data, this study follows the criteria of "one week of job searching."

3. Causal Analysis of High School or Below Youth Unemployment

In a dynamic perspective, flow variables such as job separation rate and job finding rate decide the unemployment rate. Therefore, the cause of unemployment of high school graduates or below can be identified by measuring flow variables.

3.1. Analysis Model

Unemployment rate is a stock variable decided by flow variables. Therefore, to discuss unemployment levels and changes in rates, a model that decides the unemployment rate through flow variables must be adopted. First, we will look at a flow model of the labor market and then the unemployment rate model.

Figure (1) below has been proposed to deduct a model for flow analysis of the labor market.[3]

[3] For further information refer to Jaeryang Nam (1997), Jaeryang Nam, Geungwan Ryu, Hyomi Choi (2005), and Marston (1976).

(1) $S_{x+1}=S_x \Pi$,

$S_v = [E_v U_v N_v]$ $(v=t, t+1)$

However,

$$\Pi = \begin{bmatrix} ee & eu & en \\ ue & uu & un \\ ne & nu & nn \end{bmatrix}$$

In one point in time, for instance at point *t*, the state of labor force is divided into three situations; employment, unemployment, and economically non-active. The number of people in each state is expressed as *Et*, *Ut*, and *Nt*, and is expressed together as vector *St*. Now, we will express the change of the status of workers within a certain period of time, for instance, one month, as Π which is a transition probability matrix with nine elements. The elements of the matrix are transition probabilities which divide the number of people who have moved to a certain employment state at (t+1) among the people of a certain status of employment at point *t* by the number of people at the original state (point *t*). For instance, *ue* is taking the employed population at point (t+1) among the unemployed at point *t* and dividing it by *Ut*, the original number of unemployed. In other words, this is the transition probability of unemployed becoming employed in a time frame of one month.

We will now increase our understanding of a flow model by looking into transition probability matrix Π in more detail. Table 2 has been prepared for this purpose. In the table, the first column and the first row represent the state of labor force in the present time (point *t*) and the next time (point t+1), respectively. If we express employment as *E*, unemployment as *U*, and economically non-active as *N*, for a certain period of time, for instance one month, the change of the state of workers can be expressed through the Markov Probability Matrix which has nine elements as seen in the table.

Table 2. Markov Probability Matrix

t \ t+1	E_t	U_t	N_t
E_t	EE (ee)	EU (eu)	EN (en)
U_t	UE (ue)	UU (uu)	UN (un)
N_t	NE (ne)	NU (nu)	NN (nn)

The elements of the matrix are expressed in both upper case and lower case letters. The elements marked in upper case represent the number of people that have changed to a certain state at point t+1 from a previous employment state at point *t*, and the lower case is this divided by the number of people at the original state (point *t*). Therefore, the elements expressed in lower case represent the transition probability from point *t* to point t+1. For instance, EN is the number of people who have shifted from employment at point *t* to non-economically active at point t+1 and *en* is the transition probability defined as *EN/Et*. For each row, the combined transition probability is 1. So, the equality of $ee+eu+en=1$ can be established.

Among the elements of the transition probability matrix, $eu+en$ is the deviance probability from a state of employment which is in fact the unemployment probability. In

other words, this is the possibility of becoming jobless as defined in this study on employment insecurity. Also, the sum of each row is 1, so the possibility of unemployment can be expressed as (1-*ee*). Furthermore, if the possibility of remaining in a state of employment is steady at *ee*, the period expected to remain employed, in other words, the expected employment period can be calculated. That means, the expected complete employment period can be calculated by 1/(1-*ee*).

According to Marston (1976), unemployment rate at a steady state is decided as follows by job separation rate *a* and job finding rate ß which is the linear combination of the many flow variables witnessed in Figure (1) and Table 1 above.

(2)

$$UR=\frac{a}{a+ß},$$

$$a = eu+(en)\cdot(1-Pne)$$

$$ß = ue+(un)\cdot(Pne)$$

$$Pne = \frac{ne}{ne+nu}$$

In order to exactly identify the unemployment rate, a steady state must be assumed and under that assumption the unemployment rate can be expressed as seen in Figure (2). However, even if you do not assume a steady state, the unemployment rate is definitely decided by the job separation rate and job finding rate. Yet, if a steady state is not assumed, it is impossible to exactly know the unemployment rate formula.

The unemployment rate can be expressed by using the unemployment period and unemployment frequency. In other words, if we define the unemployment period as Figure (3) and the unemployment frequency as Figure (4), the unemployment rate will be decided by unemployment period *D* and unemployment frequency *E*.

(3) $$D = \frac{1}{1-uu}$$

(4) $$E = (EU + NU) / L$$

3.2. Analysis Results of Job Separation Rate and Job Finding Rate

Table 3 is the results of measuring job separation rate and job finding rate. If we compare the high school graduate or below group with other scholastic achievement levels, we can see that there is a great difference in the cause of unemployment between high school graduate and other scholastic groups.

First, in the case of high school graduate, the job separation rate is very low and the job finding rate is also low. In particular, the job separation rate is significantly lower compared to the job finding rate which means that the unemployment rate for this group is the lowest. The situation of college dropouts is similar to the characteristics of the high school graduate group. As for other groups, their job separation rate is very high and their job finding rate is high as well. In other words, these groups experience frequent movement within the labor market.

The job separation rate of high school graduate is higher than that of college graduate. On the other hand, the job finding rate is similar, so the unemployment rate of high school graduate comes out higher than college graduate. The job separation rate of high school

graduate in 2004 is 2.94 which is significantly higher than the 1.96 of college graduate, and due to this, the difference in unemployment rate widened. Although a long term structural analysis is warranted, efforts to lower the job separation rate of high school graduate can be effective if we keep in mind that there is a difference between the fluctuation of job separation rate of high school graduate and college graduate. To lower job separation, efforts to reduce the mismatch between worker and job in advance is important. In addition, information distribution promotion policies and vocational training at schools can be effective solutions as well.

Table 3. Job Separation Rate and Job Finding Rate

	Job Separation Rate		Job Finding Rate		Unemployment Rate	
	2003	2004	2003	2004	2003	2004
Middle School Graduate or Below	4.91	5.36	38.9	44.2	11.1	10.5
High School Graduate	2.68	2.93	35.4	32.3	7.1	8.2
College Student	5.47	5.03	47.8	53.4	9.1	8.6
College Dropout	4.03	2.94	32.8	39.0	8.9	8.2
College Student in Leave of Absence	4.82	3.95	49.1	40.8	8.8	9.6
College Graduate	2.10	1.96	32.5	32.3	6.9	6.6

Source: National Statistical Office, 'Census of Economically Active Population'.

3.3. Analysis Results of Unemployment Period and Unemployment Frequency

Now we shall look at the unemployment period and unemployment frequency (Table 4). First, in the case of high school graduate, this group has low unemployment frequency but the unemployment period is relatively long. This suggests that the unemployment of high school graduate may be long-term and structural compared to other scholastic achievement groups. On the other hand, the unemployment period of the college student group is very short and the unemployment frequency is very high. In other words, this group very frequently experiences unemployment but the period is not long.

In the case of college dropout, the unemployment period is as high as the high school graduate group and the unemployment frequency is high as well which means that the unemployment rate is high. Dropouts are not enrolled in school so they settle in the labor market just like high school graduates. Therefore, labor mobility which is generally high among the youth is low for this group.

If we compare the high school graduate group with the college graduate group, there is scarcely any difference in the unemployment period of the two groups, but a significant difference in the unemployment frequency can be noticed. The unemployment frequency of high school graduate in 2004 is 2.9 which is significantly higher than the 2.0 of the college graduate group. This result is similar to the earlier results regarding job separation rate and job finding rate which once again stresses the need for policies aimed at lowering unemployment frequency or in other words job separation.

Table 4. Unemployment Period and Unemployment Frequency

	Unemployment Period		Unemployment Frequency		Unemployment Rate	
	2003	2004	2003	2004	2003	2004
Middle School Graduate or Below	2.4	2.1	5.8	6.2	11.1	10.5
High School Graduate	2.6	2.8	2.6	2.9	7.1	8.2
College Student	1.8	1.6	7.1	6.0	9.1	8.6
College Dropout	2.7	2.4	4.0	2.8	8.9	8.2
College Student in Leave of Absence	1.9	2.3	4.2	3.6	8.8	9.6
College Graduate	2.7	2.8	2.0	2.0	6.9	6.6

Source: National Statistical Office, 'Census of Economically Active Population'.

3.4. Conclusion

As a result of measuring the flow variables by each scholastic achievement group, we have noticed that the cause of unemployment is different for each segmented group. This means that specific policies must be adopted differently according to the characteristics of each scholastic group including unemployed youth with an education background of high school or below.

Specifically, the reason that high school graduate and college dropout have a higher unemployment rate than college graduate is because of frequent job separation. In comparing the analysis results of high school graduate and college dropout to that of college graduate, there is no difference in job finding rate, but the job separation rate of the high school graduate and college dropout group is higher. The fact that job separation rate is high means that the mismatch between jobs and workers is high. In other words, even if employed, workers are not doing the jobs that they want to do. This interpretation is verified in the interview survey results of unemployed high school graduates or below in chapter 4. Therefore, the policy for the high school graduate and college dropout groups must focus on raising employment competency through vocational training coupled with more availability of job information.

The college student and college student in leave of absence group have high job separation rates but the job finding rates are high as well. This does not imply a mismatch of jobs and workers, but reflects the way that they participate in the labor market, for instance temporary employment or seasonal factors. This group shows low performance in the labor market, so the activation of part-time work and greater monitoring of the labor market for issues such as lowest wage compliance constitutes important policy directions for this group. Finally, more than 60% of the unemployed population of middle school graduates or below are high school dropouts. For this group, policy approach in the perspective of recognizing this group as the vulnerable class of youth is desirable.

4. Results of Interview Survey with Unemployed High School Graduates or Below

Four important tasks have been identified from the interviews with unemployed high school graduates or below.

First, there is a lack of promotion of the government's unemployment measures. To correct this, websites introducing the labor ministry's policies on unemployment should be linked to portal sites such as "Employment," "Part-Time," or "Job" which are Internet sites popular among the majority of job seekers for information on job hiring. Introducing unemployment policies through pop-ups on popular job sites can also be considered.

Second, there is a need to increase the diversity and quality of vocational training and the technician qualification system must be improved. Diversity of vocational training refers to different areas of training, hours of training, and periods of training. Unemployed youth with an educational background of high school or below must earn their living while in training. Considering this situation, training should not be all day as is now, but part-time, for instance only in the morning or afternoon. The area and period of training in the same respect must be diversely tailored to regional characteristics as well. As for the quality of vocational training, many interviewees complain that the trainers or curriculum are behind labor market demands. In addition, the technician qualification system must be improved as well. Currently, there are too many technical qualifications of which are far from realistic demands. Even if one were to attain a qualification, he/she could hardly receive any benefits in the field.

Third, the vocational high school curriculum needs to be changed. The education at vocational high schools does not meet the demands of actual industry. Therefore, substantial investment in this area is required.

Fourth, institutional changes are needed to increase the availability of employment information to high school graduates or below. High school graduates or below cannot attain job seeking information from university employment centers such as college graduates, so a well prepared job information and job consulting department must be made available for high school graduates or below at employment support centers.

5. Government Measures to Tackle Youth Unemployment

The following is a summarized evaluation of the Korean government's previous measures to resolve youth unemployment. The government's measures to resolve youth unemployment during the period of 2004~2006 before the enactment of the [Employment Promotion Plan for High School Graduates or Below] in April 20th, 2006 was only 20% of total efforts to tackle overall unemployment issues. Also, previous measures were generally focused on the unemployment of the college student or college graduate group, and even if the focus was on high school graduates or below, the important window of implementation was the universities which made it hard in reality for high school graduates or below to approach the system voluntarily.

Overall the [Employment Promotion Plan for High School Graduates or Below] which was enacted on April 20th, 2006 is evaluated to be a big improvement in measures for high school graduates or below compared to the period before 2006. This plan actively provides employment support services to resolve the lack of guidance in making job decisions and has improved the availability of information on the labor market. It also strengthens support for vocational high school students, youth that discontinued their education, and dropouts while at the same time induces employment at small and medium sized businesses through the fostering of manual workers.

6. Basic Policy Directions to Resolve the Unemployment of High School Graduates or Below

There are six basic policy directions for problem resolution.

First, the problem of unemployment of high school graduates or below should be addressed together with the problem of labor shortage at SMBs.

Second, the supply and demand of labor must be in line with the needs of the region by analyzing labor market situations by region and establishing a vocational training system by region and occupation.

Third, instead of policy implementation based on schools which was previously the foundation of the government's policy on youth unemployment, the focus should be put on the unemployed population who are out of school.

Fourth, there should be more bodies involved in implementing measures to tackle youth unemployment. Previously, only measures executed directly by relevant government departments were recognized as youth unemployment measures. This limited the formats and methods of applying policy. In this respect, we should escape from these limitations and expand indirect methods such as the execution of funds from the private sector or regional partnerships. Even in the experience of advanced nations, this method was proven as an effective way to resolve regional problems.

Fifth, investment in establishing infrastructure for employment services is important. This is because the biggest difficulty for unemployed high school graduates or below is acquiring information on job hiring (Insoo Jeong 2005).

Sixth, we must improve the working environment at SMBs. The realistic alternative for unemployed high school graduates is SMBs, but the lack of a decent working environment is acting as an obstacle to employment.

More detailed explanation on the basic policy directions are as follows.

6.1. Simultaneous Resolution of Labor Shortage at SMBs and Unemployment of High School Graduates or Below

The most realistic method to solving the problem of unemployment of high school graduates or below is to link this issue with employment at SMBs. According to the Ministry of Labor's Study on the Trend of Supply and Demand of Labor, SMBs were short of 225,000 workers in May of 2005 and among this small and medium sized manufacturers were short of 80,000 skilled production workers.[4] The biggest hardship for managing a small and medium sized manufacturing business is the shortage of skilled production workers.[5] The results of the Youth Status Study in October of 2004 (Insoo Jeong 2005) show that 32% of youth job seekers wish to work at SMBs with less than 100 employees. This means that a fundamental labor supply route must be established to resolve the labor shortage problem of small and medium sized manufacturers by supplying them with 32% of the 225,000 unemployed youth which is 72,000 workers. In fact most of the youth job seekers who are college graduate or above seek employment at autonomous organizations in large cities. However, the labor force that can be utilized for skilled production work at lower level jurisdictions for regional manufacturers are unemployed high school graduates or below, which means that if we induce employment of unemployed high school graduates or below into the skilled production work of small and medium sized manufacturing companies, the problems of youth unemployment and shortage of manpower at SMBs can be resolved at the same time.

6.2. Analysis of Labor Market by Region and Establishment of Training System by Occupation

Each region has the power to absorb unemployed high school graduates or below. The government's measures against youth unemployment are not fully maximized because of the

[4] Refer to appendix 4 for the status of labor shortage at small and medium sized businesses

[5] The shortage of skilled production workers cannot be resolved with foreign workers. This is because the majority of foreign workers attend to simple labor work. In the Study of the Labor Market of the Bucheon Manufacturing Industry by Insoo Jeong (2006), the biggest hardship for manufacturers in Bucheon was the shortage of skilled production workers.

structural issues related to youth unemployment, but also because they are uniformally planned and executed at the central level. So, another cause of the youth unemployment problem is the lack of polices considering the regional situation.[6]

According to the Bucheon Manufacturing Industry Study by Insoo Jeong (2006) which provides an example of the importance of analyzing the labor market and policy execution by region, the five major manufacturing industries in Bucheon, plastic, speciality machinery which includes electrical equipment and molds, broadcast/video/audio, and semi-conductor/electronic parts saw an increase of jobs while general machinery and textiles saw a decrease. In the analysis of labor shortage, the four job categories of metal machinery, assembly, machine operator, and fixed machinery and system operator accounted for 86% of the lack of skilled production workers. In the analysis of job seekers, unemployed high school graduates in Seoul also wanted employment in Bucheon, but none received vocational training related to the job categories lacking workers. In summary, in order to resolve the shortage of skilled production workers in the Bucheon Manufacturing Industry (18%) and the problems of youth unemployment together simultaneously, job characteristics by region should be identified so that solutions may be created through vocational training. In other words, policy must reflect the characteristics of the regional labor market.

The establishment of a vocational training system by occupation and region is to invest in vocational training for specific jobs in consideration of the major occupations in a certain region to supply the proper workforce needed by the industry in the region. The major industries in Busan and Daegu are different, and even if we look at regions within the capital area, the major industries of Bucheon and Suwon are different as well. Because the major industries in each region are different, the required workers and training is different. If we attain information on the type of workers needed for major industries by region and provide them with the appropriate training, the shortage of production workers and youth unemployment can be resolved simultaneously. The manpower shortage of skilled production workers at small and medium sized manufacturing industries are at a serious level of 15%. On the other hand, college students have lowered their job expectations with more than 30% of respondents expecting to graduate from college answering that they would be willing to work as a production worker at a company of 30-100 workers.

6.3. Measures to Tackle the Youth Unemployment of Graduates Who Have Left School

Execution of the government's measures against youth unemployment are focused on methods that go through the schools. In fact, the focus is on universities. However, the characteristic of unemployed high school graduates or below is that their job separation rate is high due to the fact that they have not received proper vocational training. In other words, measures are needed to address the unemployment of youth who have graduated from high school. The current methods of executing measures against youth unemployment do not satisfy those who have graduated from school. Therefore, the government should directly take charge of the vocational training of those who have graduated from school to raise the employment rate. Vocational training in Korea is not performed well by both the public and private sectors. In addition, the training provided at vocational high schools does not meet the demands of industry, so the vocational training of unemployed high school graduates or below must be strengthened by the public sector. Vocational training being the most demanded policy by unemployed high school graduates reflects this need (Insoo Jeong 2005).

Japan successfully introduced the Dual System in 2003. This is an initiative that provides vocational training to youth who have been unemployed for more than three months. This

[6] In understanding the importance of employment at the regional level, the Ministry of Labor has adopted the [Trial Project for Regional Employment and Human Resources Development] since 2006.

provides a good model for Korea in that the government directly takes charge of the vocational training of unemployed youth who have already graduated.

6.4. The Usefulness of Indirect Policies through Regional Partnerships in addition to Direct Government Policies

Every region has its own unique situation. The central government's direct policies lack the flexibility required in executing policies tailored to the characteristics of each region. This reduces the effectiveness of policies by half. In implementing measures for youth unemployment by region, the central government must allocate funds to regional councils, review various project proposals submitted by private organizations in the region and select a few parties to invest the funds. This kind of indirect method should be considered as equally as direct methods such as government establishment of training centers by occupation and region or investment in programs.

The City Development Board of Ireland provides a success story of achieving regional development and creation of jobs for vulnerable classes through regional participation. As the Korean government now proclaims the importance of regional development as a new economic growth engine, the Ministry of Planning & Budget should greatly expand funds for activation of regional councils and should utilize indirect policies through regional partnerships to tackle the youth unemployment problem. This is an important alternative in supplementing current government policy through implementing policy tailored to regional characteristics.

6.5. Investment in Infrastructure for Employment Support Services

Establishing infrastructure for employment support services is another important way to tackle youth unemployment. Since an important cause of youth unemployment is lack of job information, there is a need to promote the matchmaking of job seekers and job offerers through the establishment of infrastructure for employment support services. The employment services infrastructure in Korea is quite poor compared to that of other nations. One worker at Korea Employment Services is responsible for over 10,000 economically active people while countries such as Germany or Sweden only cover 430 people per worker. Employment service centers are also popular among college students with 30% of people seeking job information at employment service centers being college students. However, seen from the fact–provided in a study on economically active youth by the National Statistical Office–that only 6% find jobs through public or private employment service centers while 45% of employment is achieved through personal connections, it is important to invest in infrastructure for employment support services for college graduates as well.

6.6. Improvement of Working Environment at SMBs and the Environment Near Small and Medium Sized Manufacturing Complexes

Another important task is improvement of working environment. According to survey results for the Bucheon Manufacturing Industry Study, training opportunities, increased level of welfare for employees, and schemes for self-development were more demanded issues by the workers of the Bucheon area than wage levels. By raising the quality of life for workers through the establishment of complex cultural facilities, restaurants, and recreational facilities near regional SMB complexes, more unemployed youth can be enticed to work at small and medium sized manufacturers and previous workers will not leave the company.

7. Policy Tasks

First, investment in analyzing the labor market at regional levels. Precise data on regional development issues and the type of functional workers needed by each region must be attained through analyzing job creation and destruction by region, the effectiveness of vocational

training, jobs that are facing labor shortage in the region, and jobs that require training. In addition, industry-academia cooperation which reflects regional characteristics are also required to develop functional workers for the field. Without precise data on the type of workforce lacked by region and the required training levels for employment, efforts to resolve youth unemployment and shortage of skilled technical workers at SMBs will have no real effect.

Second, investment in training facilities and program development such as the establishment of training centers by occupation and region or the installation of regional vocational training offices.

There is a need to hire unemployed high school graduates as skilled production workers by establishing SMB vocational training centers by region and occupation. According to the results of a study on the resolution of labor shortage at SMBs in the Bucheon area in 2005, the main industry in Bucheon is manufacturing such as the manufacturing of machinery equipment and optics, but the biggest problem this region faced was a lack of skilled production workers (18%) able to operate precision machinery. Shortage of skilled technicians not only hinders exports, but these technical workers cannot be substituted with foreign workers. If special support is required by SMBs by region and occupation, the companies can work with regional council consortiums to establish vocational training centers. Through this the shortage of workers at SMBs and the problem of youth unemployment can be resolved at the same time. Specific policy tasks are as follows.

1) As a method to strengthen the job skills of unemployed high school graduates that have not advanced to the next level of schooling (high school graduate or below), the status of vocational high school graduates must be identified and a specialized vocational training system must be developed for this group. Training for occupations popular to the youth and positions required by SMBs should be opened and tailored to specific needs. Job categories such as mechatronics, electronics, telecommunication equipment, and machine design and production which are popular to youth as well as machinery maintenance, welding, and construction which lack manpower must be included in training programs. In order to achieve this goal, measures to strengthen ties between public and private vocational training organizations such as the Human Resource Development Institute under the Korea Chamber of Commerce and dropout youth must be considered.

2) Investment for training facilities and programs such as the establishment of training centers by occupation and region or the installation of regional vocational training offices is needed, but the establishment of training center by occupation and region can be done by either investment from public funds or training consortiums involving SMBs and large companies.

3) Another method of establishing training systems by region and occupation is having companies invest more and promote business associations by occupation while providing administrative and financial support. For instance, the case of the Bucheon Die & Mold Business Association provides an important model of a realistic method for strengthening in-service training in the region. As seen in this case, the regional chamber of commerce should take the initiative in creating the business association for key occupations in the region and accepting these associations into the regional tripartite committee as an automatic member could also be considered. Just like the Bucheon Die & Mold Business Association, these business associations should be classified as regional specialty occupations by the Ministry of Commerce, Industry, and Energy, and methods to provide administrative or financial support should be reviewed.

Third, strengthening of vocational training for unemployed high school graduates or below by regional public authorities; the Dual System in Japan.

The Dual System is a talent development program which provides unemployed high school graduates five months of short-term vocational training, training support worth 100,000 to 400,000 yen annually per person by the government (Job Skill Development Agency), and actual practice at companies along with collective training at training centers.

According to the contract terms and conditions, companies can pay trainees an allowance or salary and training centers also pay training fees to the companies. As for the method of implementation, there are various ways to conduct training such as 2 months of lectures + 2 months of practice or 3 days of lectures + 2 days of practice according to the agreement with the company.

As a result of this program, the employment rate increased to 68.4% within three months among 23,000 trainees enrolled in 1,620 courses in 2004. Long-term training takes place for 1-2 years and since 2004, 47 courses have been operated by 28 regional authorities.

Fourth, administrative or financial support for the establishment of regional council operations and networks. Expansion of central government funds to the regions is necessary for the success of regional projects.

In the examples of advanced nations, regional councils play an important role in resolving regional problems. Regional problems can only be solved when regional council operations and networks are established. Administrative or financial support is needed to create a network for regional tripartite committees, business associations, regional training centers, regional research centers, schools, trade unions, chambers of commerce (employees federation), and NGOs. As seen in the examples of advanced nations, regional funds are raised to conduct projects required by the region through public bidding for projects by business associations, research centers, labor-management organizations, and NGOs. Conducting these projects is an important part of resolving the obstacles to regional economic development and SMB growth, not to mention increased employment of the vulnerable.

Fifth, support by local autonomous bodies and the Small and Medium Business Administration for the improvement of the environment near regional small and medium sized manufacturing industry clusters.

Restaurants, recreational facilities, and leisure facilities should be created within regional industrial complexes to raise the quality of life of workers. This will create a sense of pride for previous workers and may also induce employment for SMBs. Attracting complex cultural facilities, medical facilities, employee welfare centers, and labor welfare unions within these regional industrial complexes is way to improve working conditions at the company level.

Sixth, investment in public employment stabilization services.

According to study results of regions with a strong presence of small and medium sized manufacturing companies, these regions have many long-term unemployed workers. To resolve long-term unemployment and to ensure the quick labor movement of workers laid off from their jobs during economic recession, public employment stabilization service systems must be operated more solidly. In particular, tracking services must be provided through the counseling of unemployed individuals. Much investment is required to include personal counseling in public employment stabilization service systems. Without a detailed program and investment, the benefits of personal tracking service such as connecting public employment stabilization services with vocational training will not be great. In the results of the study on youth unemployment (October 2004), 40% of college graduates responded that they visit employment support centers because of lack of job information. Therefore, the following specific policy tasks have been proposed:

1) First, more manpower at employment support centers is needed for the establishment of job security infrastructure. There should be sufficient workers to at least match levels of Japan in terms of economically active population per worker as seen in Table 5, and in-depth counseling services must be provided to promote the employment of the vulnerable.[7] Furthermore, employees must be equipped with expertise through strengthened training.

[7] The importance of job mediators must be raised to increase the job counseling time from the current 10 minutes to at least more than 30 minutes.

Table 5. The Number of Employees and Number of Assigned People per Employee at Public Employment Security Organizations in Major Countries

	Korea (March 2004)	Germany (2001)	UK (1999)	USA (1997)	Japan (1997)
Number of Employees (persons)	2,393	85,840	35,992	70,682	15,324
Economically Active Population (1,000 persons)	22,906	40,121	29,470	143,006	67,650
Economically Active Population per Employee (persons)	9,572	467	819	2,023	4,415

Source: Labor Market Advancement Team (2004), *Methods to Raise Flexibility and Stability in the Labor Market*.

2) In-depth consulting by professional job consultants is needed. As a measure to counter long-term unemployment, if we take Germany as an example, the local employment agencies (LEA) offer broad in-depth consulting and job allocation services to all people seeking jobs or apprenticeships. In-depth consulting includes not only information on career options and hiring prospects, advice services, updates on the labor market situation, vacancies in jobs and apprenticeships, but also information on how to effectively benefit on labor market policies. Also, profiles of job seekers are made to facilitate in-depth consulting and job allocation. Table 6 and Table 7 are examples of the criteria and classification used at the employment support center to approach the unemployed.

Table 6. Profiling Criteria

Standard	Details
Qualification	Educational background, association with labor market, job knowledge and skills, career, human resource management experience, language skills, other social experience
Mobility, Flexibility	Possibility of movement to other regions and countries, market relativity, diversity of desired occupation, working hours, desired wage level
Obstacles to Employment	Health problems, drugs, debt etc.
Long-term Unemployment	Possibility of long-term unemployment of over one year

Source: Insoo Jeong et al. (2006), *Change of Labor Market Policy for Advanced Nations with Per Capita National Income 10,000-20,000*, Germany Section, Table Ⅳ-13, re-citation.

Table 7. Classification of Job Seekers

Classification	Status	Content of Service
Prepared for Employment	Highest possibility of employment No obstacles to employment	Services not required
Counseling Beginner	Slight obstacles to employment	Measure mobility and flexibility, basic assistance in seeking jobs, assistance in skill building through short-term training
Counseling Intermediate	Severe obstacles to employment	Long-term vocational training, recommendation of ways to increase mobility and flexibility
Counseling Extreme	Severe obstacles to employment and high possibility of long-term unemployment	Employment program, measures to support social integration

Source: Insoo Jeong et al. (2006), *Change of Labor Market Policy for Advanced Nations with Per Capita National Income 10,000-20,000*, Germany Section, Table Ⅳ-13, re-citation.

Seventh, greater subsidy to SMBs to maintain employment.

Efforts to increase the payment of wage support subsidy to SMBs is needed. This is because the employment stability of SMBs is an important factor in the hiring of unemployed high school graduates or below at SMBs. Currently, large companies are usually the beneficiaries of wage subsidy programs. According to the analysis on job creation and destruction, small companies are affected the most in terms of job movement and worker retirement in times of economic recession. This implies that the beneficiary of wage subsidy programs should be changed to SMBs. The Ministry of Labor should seek systematic flexibility for greater benefits to SMBs in terms of wage subsidy programs and regional tripartite committees and business associations should make realistic solution proposals based on active discussions.

References

In Korean

Jaeryang Nam (August 1997), “Study on the Change of Trend in Unemployment Rate in Korea”, Seoul National University Economics PhD Paper, Seoul National University.

Jaeryang Nam (September 2002), “Youth Unemployment and the Unemployment of College Graduates”, The Korean Labor Economic Association 2002 Fall Symposium, Korean Labor Economic Association.

Jaeryang Nam (February 2006), “Study on the Status of Youth NEET”, The 7th Korea Labor Panel Symposium, Korea Labor Institute.

Jaeryang Nam (April 2006), “The Dynamic Characteristics and Policy Implications of Youth Unemployment”, *Monthly Labor Review*, Korea Labor Institute.

Jaeryang Nam (August 2006), “Status of Youth Unemployment; What is the Cause?”, *Citizens and Lawyers*, Seoul Bar Association.

Jaeryang Nam, Geungwan Ryu, Hyomi Choi (2005), *The Status of the Employment Vulnerable Class and Employment Policy Tasks*, Korea Labor Institute.

Ministry of Labor (December 2005), "T/F Operation Plan for Countering the Unemployment of Youth with a Background of High School or Below"

Ministry of Labor Youth Employment Team (January 2006), "Youth Unemployment Measures in Japan"

Ministry of Labor, Ministry of Education, Small and Medium Sized Business Administration, Ministry of Planning and Budget (April 20, 2006), "Measures to Promote the Employment of High School Graduates or Below"

Labor Market Advancement Team (2004), *Methods to Raise Flexibility and Stability in the Labor Market*, Korea Labor Institute.

Seunggyun Oh (2006), "Methods to Enhance Job Training at Vocational Schools", Presentation by the T/F Team for Youth Employment.

Byunghee Lee, Juyeop An, Byungyu Jeon et al. (2001), *The Status of Transition from School to Labor Market and Policy Tasks*, Korea Labor Institute.

Japanese Ministry of International Affairs and Communications, *Labor Research Yearbook*, Each Year.

Japanese Ministry of Health, Labor, and Welfare (November 29, 2005), "Report on the Future of the Dual System in Japan", Presentation by the Ministry of Health, Labor, and Welfare.

Japanese Ministry of Health, Labor, and Welfare (Job Skills Development Department), Introduction to the "Dual System" (Listed on July 7th, 2006), http://www.mhlw.go.jp/topics/bukyoku/syokunou/dual/index.html.

Byungyu Jeon, Sangil Lee (2002), *The Unemployment Situation of High School Graduates Out of School and Policy Tasks*, Korea Labor Institute.

Insoo Jeong (1999), *The Status of Youth Unemployment and Measures to Promote Employment*, Korea Labor Institute.

Insoo Jeong (2002), *The Status of Youth Unemployment and Policy Tasks*, Commissioned by the Ministry of Planning and Budget.

Insoo Jeong (2006), "Policy Recommendation for Youth Unemployment in Gyeonggi Province and Measures Against the Unemployment of High School Graduates", Presentation for the Gyeonggi Province Youth Unemployment Symposium.

Insoo Jeong (2006), "The Cause of Manpower Shortage at SMBs and Solutions", Discussion Meeting on the Direction for Improvement of the Education System to Meet the Demands Industry, Presentation Material, Korea Chamber of Commerce.

Insoo Jeong (2006), "Job Skills Development Training and Effect in Youth Employment; Focusing on Case Studies", Presentation for the debate on the Evaluation of the Government's Youth Unemployment Measures and Tasks.

Insoo Jeong (2006), *Regional Labor Market Research II*, Korea Labor Institute.

Insoo Jeong, Kimin Kim (2005), *Identifying the Status of Youth Unemployment and Policy Tasks by Subject Group*, Korea Labor Institute.

Insoo Jeong , Jaeryang Nam, Sanghun Lim (2004), *Comprehensive Study on Measures to Tackle Youth Unemployment in the Busan Region*, Commissioned by the Busan Metropolitan City Office.

Insoo Jeong, Jaeryang Nam, Sungwoo Lee (2006), *The Status of Unemployed High School Graduates or Below and Policy Tasks*, Korea Labor Institute.

Insoo Jeong, Jinho Yun, Sangil Lee (2006), *Change of Labor Market Policy for Advanced Nations with Per Capita National Income 10,000-20,000*, Korea Labor Institute.

Insoo Jeong, Byungyu Jeon, Sanghun Lim (2002), *Regional Labor Market Research*, Korea Labor Institute.

Korea Youth Counseling Institute (2006), "Support Program for Out of School Youth", Presentation material for T/F Team for Youth Employment.

Donghan Hur (November 2003), "Increase of Youth Unemployment in Japan and Response of the Government", *World Labor*, November 2003 Issue, Korea International Labour Foundation.

Hosei University Ohora Social Problems Institute (2004), "Problems Surrounding the Employment of Youth", *Japanese Labor Yearbook*.

In English

Bourdet, Y. and I. Persson (1991), “Chômage des Jeunes et Fonctionnement du Marchédu Travail: les cas Francais et Suédois”, *Economie st Statistique*, No.249 pp.39-51.

Bourdet, Y. and I. Persson (1994), “Youth Unemployment and Labour Market Policy in France.”

Brunetta, R and L. Tronti (1992), *Capieale umano e Mezzorgiono*, Mulino, Bolagna.

Bruno and Cazes (1998), “Enquète Emploi”, Conférence Annuelle de l’EVLE, Varsovie. INSEE.

Bruno, C. and S. Cazes (1998), “French Youth Unemployment: An Overview”, *Employment and Training Papers* No.23, ILO, Geneva.

Carolea, F, E. and F. Mazzotta (1999), “Youth Unemployment and Youth Employment Policies in Italy”, *Employment and Training Papers*, No.42, ILO, Geneva.

Consiglio Nationale del l’Economia e Lavoro (1997), *Rapporto sul Mercato del Lavoro* 1996, Rome.

David G. Blanchflower and Richard B. Freeman (2000), *Youth Employment and Joblessness in Advanced Countries*, The University of Chicago Press.

Fraser, N (2004), “Introduction: Britain’s New Deals”, *International Journal of Manpower*, 25(5).

Marston, Stephen T. (1976). “Employment Instability and High Unemployment Rate.” *Brookings Papers on Economic Activity* No.1. (1976): 169-203.

Mazzotta, F.(1997), “Unemployment and Employment Probability in Italy: Analysis on Microdata”, Discussion Paper No.38, University of Salerno, Salerno.

Nickell, S. and G. Quintini, (2002), “The Recent Performance of the UK Labour Market”, *Oxford Review of Economic Policy*, 18(2).

OECD (1996, 2005), *Economic Outlook*.

OECD (2001), *Labor Force Statistics*, 1980-2000.