Youth Unemployment and the Role of Career and Technical Education: A Study of the Korean Labor Market

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Abstract
Using national jobless data and education statistics, this study examines the systemic association between Korea’s youth unemployment trend and the workforce supply structure in which the youths’ educational attainment patterns plays a key role. Focus is given to how type and length of education are correlated with employability. The findings of this study include the following: (a) Youth joblessness is becoming chronic and structural—Despite the economic fluctuation, youth jobless rates have remained around 7% over the past five years; (b) With the college enrollment expansion, not only is the number of jobless college graduates increasing, but the percentage of unemployed college graduates among all jobless youth groups has continued to rise during the past decade; (c) Contrary to the increased female working population, employment of female university graduates has declined; (d) In terms of job placement, two-year college graduates continued to perform better than those with a four-year degree; similarly, CTE graduates performed better than non-CTE graduates; and (e) High school graduates without occupational skills are the highest at-risk youth group. The findings suggest that some degree of youth joblessness is generated by supply dynamics such as the tendency toward a four-year degree rather than a two-year CTE program and ongoing disdain for CTE. Consistent with previous findings, this study found that labor market advantage comes from occupational skills, not length of schooling. Thus, it can be concluded that encouraging students to go to college without a specific career plan may entail an unintended consequence, chronic youth unemployment; furthermore, given the labor market shortage of technicians, CTE would be effective in preventing youth joblessness.

Introduction
Youth unemployment is becoming an increasingly troublesome issue in many parts of the world. A good example is Korea, which has experienced high rates of unemployment among young people over the past decades. The costs of high and prevailing youth unemployment vary and are reported to be harmful, or even devastating, to both the individual and the society as a whole, both psychologically and economically (Jeon, 2002a, 2002b; Kim & Yang, 2004; Lee & Chung, 2003;
O’Higgins, 1997; Passmore, 1983; Wilson, 1996). Presently, the increasing lack of job security for college-educated people has sparked heated policy debates in Korea on the value of a college degree, imposing a serious political burden on the government, a supporter of the “going-to-college” (Gray, 2000) movement under the banner of “Education for All.”

Due to its political and economic significance, considerable research has been conducted to find the causes of and the remedies for persistent youth joblessness (e.g., Chae, 2001; Chung & Kim, 2005; Jeon, 2002a, Korean Prime Minister’s Office [PMO], 2004; Lee, 2004, Lee & Chung, 2003; Passmore, 1982; US Vice President’s Task Force on Youth Employment, 1980). The focus, however, is mainly on the demand issues of the labor market that are generally associated with economic conditions, while the supply issues have often been overlooked as major factors. Because of this tendency, the majority of policy actions have been geared to solving the problems related to demand, including job shortage. The best example may be the globally popular “active labor market policies (ALMP)” to generate more job opportunities through such programs as those that create public service jobs or subsidize private-sector employment (Auer, Efendioğlu, & Leschke, 2005; Wilensky, 1990). From the policy standpoint, however, those demand-related policies may be successful in reducing the number of the already unemployed youth, but would not be effective in preventing youth joblessness. Given that the key to the prevention of joblessness is improving employability of the individual, which greatly relies on one’s education and training (Jeon, 2002a; Gray & Herr, 1998, Lee, 2004), a different approach focusing more on the workforce supply-related issues may be needed for youth unemployment problems (Lee, Ahn, & Jeon, 2001; Park, 2005).

**Review of the Related Literature**

**Youth Unemployment**

The term “youth unemployment” in this paper represents the number of unemployed young people aged 15 to 29 as a percentage of the total labor force, where the total labor force comprises the unemployed and the employed. Although the internationally used definition of youth is all persons aged between 15 and 24 – e.g., OECD (Organization for Economic Co-operation and Development) labor force statistics and the UN (United Nations) studies – most statistical reports in Korea, including the government data, use the 15- to 29-age range, taking into account the compulsory military service for men that generally takes three years or so (Lee & Chung, 2003). In accordance with the definition of Korean National Statistical Office (NSO), unemployed young people comprises all those who are not currently working but who made specific efforts to find employment within the four-week period. Although two options – either the one-week or four-week period – for a time period for seeking jobs are widely used in defining unemployed person, NSO has produced
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jobless data based on four-week period criteria. The economically inactive population such as those who are preparing for work and not actively looking for jobs are not included.

Causes of Youth Unemployment

Labor Market Issues – Demand Problems. The demand problems are generally related to the labor market situation that is tightly connected to the nation’s economic conditions. Among the significant issues pertaining to the causes of high youth unemployment are the following: (a) the prolonged economic downturn that continuously weakens the fundamental employment base (Chae, 2001; Jeon, 2002a; Lee & Chung, 2003; PMO, 2004), (b) the industrial restructuring toward the knowledge-based, technology-intensive economy that enables corporations to do business with fewer workers (Kim & Yang, 2004), and (c) the recent workforce recruitment practices that prefer experienced workers to new labor market entrants in order to immediately place workers at workplaces (Jeon, 2002a; Kim & Yang, 2004). Particularly, with regard to Korean firms’ employment practices, Lee and Chung (2003) note that since the 1997 national economic crisis, there has been a growing tendency for Korean firms not to view training new employees as a worthwhile investment; instead, they prefer recruiting experienced workers or outsourcing to a qualified workforce. Indeed, employment of experienced workers by the major companies has dramatically increased from 39.3% in 1997 to 81.8% in 2002, in comparison with the decreasing employment of new entrants (see Table 1). All the factors above emphasize “job shortage” as a major problem contributing to the high rate of youth joblessness.

Table 1
The Percentage of Employment by the Top 30 Companies by the Experience Level (%)

<table>
<thead>
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</thead>
<tbody>
<tr>
<td>New entrants</td>
<td>60.7</td>
<td>45.3</td>
<td>27.1</td>
<td>21.7</td>
<td>21.3</td>
<td>18.2</td>
</tr>
<tr>
<td>Experienced workers</td>
<td>39.3</td>
<td>54.7</td>
<td>72.9</td>
<td>78.3</td>
<td>78.7</td>
<td>81.8</td>
</tr>
</tbody>
</table>

Note. The surveyed companies include the top 30 private companies, public corporate, and financial businesses in Korea. From “Employment Insurance Database,” by Korean Ministry of Labor (MOL), 2004.

Little relevant research was available as to what segment of the labor force in Korea has been more negatively affected by all those job market related factors above. Nonetheless, of note, the special report of the Korean Prime Minister’s Task Force on youth unemployment problems highlights the decreasing aspect of labor demands for college-educated workers, pointing out that during the past five years,
0.3 million of the so-called “decent” jobs which tend to be filled with college-educated workers have disappeared and this labor market situation is expected to continue (Kim & Yang, 2004; PMO, 2004). Taking into account the current Korean labor market situation and job prospect described above and later, one may speculate that white-collar workers without specific occupational skills are one of the most vulnerable groups in terms of job placement.

**Labor Supply Issues – Supply Problems.** Researchers and the government reports (Jeon, 2002a, 2002b; Kim & Yang, 2004; Lee, Ahn, Jeon, 2001; Lee & Chung, 2003; PMO, 2004), in general, explain two categories of workforce supply related problems: the individual and the structural problems. In regard to individual-level problems, the most frequently addressed factor is the youth labor market behavior that includes (a) reluctance of working at the small- and medium-sized businesses (SMBs), and (b) higher turnover rate due partly to a weaker sense of duty to support a family as compared with that of other age groups. Supporting this, the survey conducted by the Korea Small and Medium Business Administration points out that despite the 0.14 million job openings by SMBs in 2003, young workers, especially college-educated workers, rarely applied for jobs in SMBs. According to the report, many SMBs are suffering from severe workforce shortages and thus are forced to hire foreign-born workers or move their operations to other countries to use the cheap skilled labor available there (PMO, 2004). Another factor reported by researchers is the lack of occupational skills. Researchers (Chun & Lee, 2002) hold that this is particularly the case with general high school graduates without occupational training. On the other hand, the dramatically increasing number of college graduates appears to be the most frequently raised issue related to the structural problems (Chung & Kim, 2005; Jeon, 2002a; Kim & Yang, 2004; Lee & Chung, 2003; PMO, 2004). Emphasis, however, is placed on the quality of college graduates in terms of occupational skills, but not on the quantity, namely numbers.

The changes in the total and youth population are reported as another determinant of youth unemployment rates (Chae, 2001; Kim, 2004; Ministry of Finance and Economy [MOFE], 2005). While Kim (2004) and MOFE (2005) report that the decreasing youth population among the total population since the 1980s, coupled with the aging of the population, contributes to reducing youth unemployment rates, Chae (2001) points out that the effect of undersupply of young people on youth unemployment rates would be minimal.

**Suggested Policy Actions and Problems**

Vast scholarly and policy attention tends to be given to the labor market problems rather than the workforce supply issues (Kim & Yang, 2004; Korean Ministry of Education [MOE], 2004; PMO, 2004). Accordingly, creation of jobs for the youth has been considered a top priority. Regarding the workforce supply issues, efforts have been made to provide training and education for the unemployed with
emphasis on the individual problems overshadowing the structural issues. The ever-growing number of college graduates appears to be taken for granted as a broader societal issue for which little can be done by policies.

From the policy point of view, however, those job market-related policies emphasizing job creation are inevitably dependent on, and thus may be vulnerable to, the economic conditions and private corporations’ investments. The public sector employment is also problematic, when taking into account increased financial burden on taxpayers and the efficiency of public businesses. The policy measures to support job search and training for the unemployed would benefit those who are currently unemployed and take part in the programs. Most importantly, as will be shown later, all those policies discussed above may be effective in reducing the current unemployment rate, but may not be sufficient to prevent the chronic and structuralized youth joblessness problems. Within this context, this study addressed the workforce supply structure characterized by the massive influx of workforce with college degree and the lack of workforce with occupational skills as a major cause of chronic youth unemployment and sought to find a solution from career and technical education (CTE) as a way to enhance employability of youth and thus prevent youth unemployment.

Research Objectives

The purpose of this study was to examine whether there is a systemic association between youth unemployment and the workforce supply structure. Specifically, the study investigated the following: (a) trends in the workforce supply structure and youth unemployment in Korea; (b) whether and how the workforce supply structure is related to youth unemployment in the Korean labor market; and (c) future job opportunities for CTE completers both in high school and college levels. To understand the workforce supply structure, or dynamics, and the influence of the workforce supply structure on the youth labor market, the study focus was given to educational attainment patterns of Korean youth and the relationship between type and length of education and employability in the Korean labor market.

Conceptual Framework

The main concept of this study was guided by the “skills-employability paradigm” (Gray & Herr, 1998, p. 9), of which the theoretical foundation can be found from the well-known “human capital development theory” (Becker, 1993). In their book *Workforce Education: The Basics*, Gray and Herr state that, historically, this worldwide conventional wisdom that job skills enhance an individual’s job security has proven to be true.

With regard to the youth unemployment issue, the skills-employability paradigm suggests that solutions could be found from the workforce supply problems,
more specifically the lack of occupational skills. Figure 1 below summarizes the conceptual framework this study.

Figure 1. The causes of and the remedies for youth unemployment

Method

Data

This research involved secondary data analysis. Most data for this study were collected from various sources including official Korean Ministry of Education and Human Resources Development (MOE), Ministry of Labor (MOL), National Statistical Office (NSO) and industry sources. Specifically, the Annual Economically Active Population Survey by NSO was used to obtain national unemployment data. The workforce supply structure was analyzed by examining the Statistical Year Book on Education in Korea published yearly by Korean Education Development Institute (KEDI) and MOE. To obtain the current labor market dynamics information, the researchers employed various labor market surveys, database, official government reports and papers from research conference presentations – e.g., Yearly Labor Demand Survey by MOL, Job Shortage Survey by the Small and Medium Business Administration (SMBA), Employment Insurance Database by MOL, and Special Report on Youth Unemployment by PMO.
Data Analysis

Given that the purpose of this paper is to trace trends in the workforce supply structure and explore its influence on youth unemployment, the study employed longitudinal data analysis, rather than inferential statistical testing for a given time. Specifically, comparative and descriptive data analysis was done on nationally aggregated education and jobless statistics, in addition to the current job market information.

First, national jobless data were examined to look at trends in youth unemployment in Korea. Second, longitudinal education statistics were analyzed to find educational attainment/transition patterns of Korean youth, which is used to capture the workforce supply structure. Third, to explore how educational transition patterns are related to youth unemployment, comparison was made on employment rates among four groups – general high school, CTE high school, two-year college, and four-year college graduates. Finally, to prospect future job opportunities for CTE graduates, job shortage data by education level were utilized.

Findings
Trends in Youth Unemployment in Korea

According to the Korean National Statistical Office, the youth jobless rate reached 7.9% in 2004, which is more than double the nation’s average of 3.5%. Aside from the level of youth unemployment, a more serious problem is that it is becoming chronic and structuralized (Chung & Kim, 2005; Lee, Ahn, & Jeon, 2001; Kim & Yang, 2004). Table 2 shows that during the past five years, youth jobless rates have remained at about 7% to 8% even though economic situations have changed every year. Of note, the youth jobless rate did not slip even when economic growth rebounded in 2002 and 2004, reflecting the so-called “downward inelasticity” of youth joblessness. Although some researchers argue that the economic growth does not necessarily lead to the decrease in unemployment – for instance, Passmore (1983) notes frictional unemployment and cyclical unemployment may be possible in a thriving economy – the stabilizing aspect of youth unemployment under the fluctuating labor market situation deserves particular attention in the context of public policy. Based on these data, it may be argued that some degree of youth joblessness is associated with the supply factors which are not necessarily linked to the economic conditions.
Table 2
*Youth Unemployment Rate and GDP Growth Rate by Year (%)*

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unemployment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>National average</td>
<td>4.1</td>
<td>3.8</td>
<td>3.1</td>
<td>3.4</td>
<td>3.5</td>
</tr>
<tr>
<td>Youth</td>
<td>7.6</td>
<td>7.5</td>
<td>6.6</td>
<td>7.7</td>
<td>7.9</td>
</tr>
<tr>
<td>GDP Growth</td>
<td>8.5</td>
<td>3.8</td>
<td>7.0</td>
<td>3.1</td>
<td>5.1</td>
</tr>
</tbody>
</table>


A second distinguishing feature of youth unemployment in Korea is the increasing unemployment among college-educated young people (Chung & Kim, 2005; Lee, Ahn, & Jeon, 2001). As shown in Table 3, during the past decade the number of jobless workers with a college degree has continued to grow – from 110,000 in 1993 to 143,000 in 2003.

Table 3
*The Number of Unemployed Young People and College Graduates by Selected Years*

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Total</td>
<td>383</td>
<td>322</td>
<td>403</td>
<td>388</td>
<td>342</td>
<td>383</td>
</tr>
<tr>
<td>College graduates</td>
<td>110</td>
<td>90</td>
<td>121</td>
<td>127</td>
<td>123</td>
<td>143</td>
</tr>
<tr>
<td>(%)</td>
<td>(28.7)</td>
<td>(28.0)</td>
<td>(30.0)</td>
<td>(32.7)</td>
<td>(36.0)</td>
<td>(37.3)</td>
</tr>
</tbody>
</table>


More importantly, the proportion of college graduates among all unemployed people is increasing (see Figure 2). In 2003, the unemployed college-educated young people accounted for more than one-third of the unemployed youth. In comparison, the percentage of high school graduates continues to decrease. This changing composite picture of the youth unemployment structure implies that a fundamental reconsideration is needed of the prevailing labor market misconception that a college degree is the key to employment (Gray & Herr, 2000; MOE, 2005).

Finally, the growth in joblessness of female workers with four-year college degrees is notable. According to the Samsung Economic Research Institute (SERI), one of the most respected economic research institutions in Korea, while the economic participation of the female labor force has continuously increased – from 47% in 1998 to 49.1% in 2002 – the percentage of college graduates of all unemployed female young workers is also rising – 18.9% in 1998 to 36.8% in 2003.
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(Lee & Chung, 2003). This aggravating employment situation for female university graduates also raises the question of how much a college diploma is valued in the labor market.

**Figure 2.** The youth unemployment structure by education level (1998-2002)

![Unemployment Structure by Education Level](image)


**The Workforce Supply Structure and Youth Unemployment in Korea**

The overarching assumption that youth joblessness is somehow associated with the labor supply mechanisms that are not directly determined by labor demands was partially evidenced by the data showing the “steadiness” of youth unemployment despite the fluctuating economic conditions. Accordingly, the next scholarly interest lies in the question of what mechanisms of the workforce supply structure contribute to the persistent generation of joblessness among young people. Examined in this section is the workforce supply structure in which youths’ educational transition patterns play a significant role followed by the review of aggregate employment data by education type and level. Next, the possible association between the workforce supply dynamics and youth unemployment is explored.

**Career and Technical Education**

As we stated earlier, in reviewing the workforce supply structure, or dynamics, of the Korean labor market, examining educational transition patterns of young people is essential – more importantly, the key is the changes in enrollments overtime between CTE versus non-CTE institutions. The definition, and thus scope,
of CTE varies both in theory and practice. While the Korean Ministry of Education and Human Resources Development views CTE as all types of education and training that aim to enhance an individual’s occupational skills and thus employability regardless of institution, this study, for simplicity, focused on the enrollments of two important CTE institutions, vocational high school and two-year college.

In Korea, vocational high schools “provide advanced general education as well as vocational training in agriculture, technology, commerce, fishery and oceanography, industry and home economics” and serve as “the major source of skilled manpower for the rapidly industrializing country” (MOE, 2003, p. 47), while general high schools comparatively emphasize academic preparation of students for college advancement. As of 2004, CTE high schools account for 34% of the total high schools (MOE, 2004). Two-year colleges are postsecondary programs which aim to produce mid-level technicians through teaching and researching technical knowledge and skills in every field of society and cultivating students’ occupational talents (Lee, 2003). As of 2004, two-year college accounts for 39% of the total post-secondary institutions and 39% of students are enrolled in engineering and technology-related programs (MOE, 2004). Lee states that during the nation’s rapid industrialization, Korean junior colleges have played a significant role in providing well-qualified technical manpower.

The Workforce Supply Structure

Among the workforce supply issues, two factors were found to be important and influential in relation to youth unemployment problems: (a) the continuing “upward shift” in the level of education of the Korean labor force, and (b) the ongoing disdain for career and technical education. Regarding “educational upgrading” of Korean workers, notable is the rapid and continuous rise in college enrollment. National education statistics show that despite the declining student population, the number of college-educated people has increased by 2.6 times over the past two decades – from 192,511 in 1985 to 493,944 in 2004 (see Figure 3). In 2003, (a) 74.3% of high school graduates went to college – for the general high school graduates, 90.1%; for the CTE graduates, 62.3%. This remarkable growth in the higher educational enrollment is mainly due to the Korean government’s aggressive support to expand educational opportunities and parents’ unceasing “education fever” (Seth, 2002). This social phenomenon of the “going-to-college” syndrome again reflects the Korean society’s widespread “one-way-to-win mentality” (Gray & Herr, 2000), meaning that a college degree is the key to postsecondary success, including job placement (Park, 2005).

The “ongoing disdain for CTE” is found at both the high school and college levels, but it appears to be much more serious at the high school level. During the 1965-2004 period, the number of the general high school graduates increased by 6
times, from 68,000 to 405,000. In sharp contrast, the number of CTE graduates that had increased with the educational expansion movement continued to fall after 1985. Considering the subsequent educational transition pattern, this disproportionate high school enrollment is intertwined with the Korean students’ deep-rooted tendency toward a four-year degree rather than a two-year CTE program in their college choice. For instance, in 2003, 90% of the general high school graduates went to college; among them, about 70% chose the four-year college. By contrast, 57.6% of CTE graduates went to college; among them, 64.4% went to two-year colleges. As a result, four-year college graduates have always outnumbered two-year college graduates.

Figure 3. Workforce supply structure by education level

Note. From “Statistical yearbook on education in Korea,” by Korean Education Development Institute (KEDI)

Type and Length of Education and Employment

By type of education, CTE programs are found to be more effective in promoting employability at both high school and college levels. At the high school level, 90% of the CTE completers, equipped with technical skills, have continued to be employed. Taking into account “voluntary unemployment,” this employment rate may be considered as full-employment. In sharp contrast, however, only one in five of non-CTE high school graduates have been able to find a job, suggesting that high school graduates without occupational skills are the highest at-risk youth group (see Table 4).
The same is true for the two-year college graduates to the four-year college graduates. The longitudinal employment data present that two-year college graduates continue to outperform those with a four-year degree in terms of job placement: In 2003, 79.7% of two-year college graduates were employed, while 59.2% of four-year college graduates found jobs. Based on employment statistics, researchers (Lee, 2003; Park, 2005) argue that Korean two-year colleges, especially technical colleges, have steadily and successfully provided well-qualified technician-level workers to the economy. Park states that the Korean government’s policy to allow two-year colleges to become four-year colleges has contributed to increasing youth unemployment problems.

### Table 4

**Employment Rate by Education Level (%)**

<table>
<thead>
<tr>
<th></th>
<th>1995</th>
<th></th>
<th>2000</th>
<th></th>
<th>2001</th>
<th></th>
<th>2002</th>
<th></th>
<th>2003</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>Female</td>
<td>Total</td>
<td>Female</td>
<td>Total</td>
<td>Female</td>
<td>Total</td>
<td>Female</td>
<td>Total</td>
<td>Female</td>
</tr>
<tr>
<td>High school</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General</td>
<td>26.4</td>
<td>28.5</td>
<td>15.5</td>
<td>16.8</td>
<td>18.9</td>
<td>19.4</td>
<td>18.1</td>
<td>18.5</td>
<td>19.1</td>
<td>19.1</td>
</tr>
<tr>
<td>Vocational</td>
<td>90.9</td>
<td>91.1</td>
<td>88.8</td>
<td>89.3</td>
<td>88.2</td>
<td>89.6</td>
<td>90.0</td>
<td>91.1</td>
<td>90.2</td>
<td>92.0</td>
</tr>
<tr>
<td>College</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Two year</td>
<td>74.2</td>
<td>70.9</td>
<td>79.4</td>
<td>78.2</td>
<td>81.0</td>
<td>79.8</td>
<td>80.7</td>
<td>79.2</td>
<td>79.7</td>
<td>77.7</td>
</tr>
<tr>
<td>Four year</td>
<td>60.9</td>
<td>50.0</td>
<td>56.0</td>
<td>53.4</td>
<td>56.7</td>
<td>54.1</td>
<td>60.7</td>
<td>59.1</td>
<td>59.2</td>
<td>56.7</td>
</tr>
</tbody>
</table>

*Note.* From “Statistical yearbook on education in Korea,” by KEDI

By length of education, the national employment statistics show that about two in five people with a four-year degree have had trouble in finding jobs, while almost all of the CTE high school completers have been employed upon graduation. Given that most teens decide to go to college with a hope to gain job security, this employment outcome is remarkably surprising. One plausible explanation for the relatively lower employment of college graduates is the impact of the dramatic educational expansion, which eventually outruns the rate of employment generation and thus causes the so-called “diploma disease” (Dore, 1976), meaning that people tend to pursue a higher level of education to compete for limited jobs with lowered “occupational currency” of a given level of education (Foster, 1977; Thurow, 1975).

Meanwhile, given the considerable underemployment of Korean young workers (Kim, 2003; Kim & Lee, 2000) and the empirical evidence of the negative impact of over-education on job satisfaction and intention to turnover in either Korean or US labor market settings (Kim, 2003; Sicherman, 1991; Tsang, Rumberger, & Levin, 1991), one may argue that the Korean underemployed college-educated workers are also vulnerable to employment instability. All this evidence suggests that the value of a college-degree in the Korean labor market is becoming
more questionable and is “being erased” as in the other advanced countries (Riccardi, 2005).

Finally, what has been discussed is equally applied to female workers (see Table 4). In particular, the employment rate gap between CTE high graduates and four-year college graduates for female workers has been greater than that for male workers. This implies that CTE programs play a greater role in promoting female young workers’ employability.

**Future Job Opportunities by Education Level**

Due to the lack of information on projected job openings and required education by occupation, it is difficult to determine job prospects for each education group of workers. Nonetheless, the two sets of government statistics suggest insights for the future job market: (a) trends in employment by the top 30 Korean firms, and (b) job shortage for each education category.

According to data from the Korean Ministry of Labor, the top 30 Korean firms that are the biggest employers of college-educated young people have continued to reduce their employment since 1997 (see Table 5). Given such continuing decline in white-collar jobs and the increasing number of college graduates, it is reasonable to speculate that job opportunities for college-educated youths are not expected to grow dramatically. Moreover, the Korean firms’ efforts to downsize suggest little possibility of this situation changing any time soon.

<table>
<thead>
<tr>
<th>Year</th>
<th>1997</th>
<th>1998</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment</td>
<td>939</td>
<td>807</td>
<td>762</td>
<td>761</td>
<td>708</td>
<td>703</td>
</tr>
</tbody>
</table>

*Note. From “The Results of the 2004 Labor Demands Survey,” by MOL*

To the contrary, employment opportunities for CTE program completers are predicted to grow due largely to the workforce shortage. Specifically, the 2003 Small and Medium Business Employment Survey points out that there is the greatest and growing labor shortage for the group of technicians and operators that typically require two-year college and high school level vocational education, respectively (see Table 6). Moreover, the manpower shortage in SMBs, according to the Ministry of Labor (2004), accounts for 93.6% of the total labor shortage. Reflecting this labor market situation, according to the Ministry of Education and Human Resources Development (2004), the applicants for CTE high schools outnumber available space in the 2005 school year.
Table 6
Job Shortage for Each Education Category in Small- and Medium-Sized Businesses

<table>
<thead>
<tr>
<th></th>
<th>Management /Clerical</th>
<th>Production</th>
<th>Service</th>
<th>Sales</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Professional</td>
<td>Technician</td>
<td>Operators</td>
<td>Labor</td>
<td></td>
</tr>
<tr>
<td>11,018</td>
<td>4,896</td>
<td>13,398</td>
<td>52,206</td>
<td>51,495</td>
<td>624</td>
</tr>
</tbody>
</table>

Note. “Professional,” “Technician,” and “Operators” are job categories that typically require a four-year degree or more, a two-year degree, and the high school level vocational training, respectively. From “Job Shortage Survey” by the Small and Medium Business Administration, 2003.

Meanwhile, Table 7 shows that the wage gaps between high school graduates and the other groups have continued to narrow during the past decade. Combined with the skyrocketing college tuition, this narrowing income gap leads to the declining return on investment on college education.

Table 7
Monthly Wage Levels by Educational Attainments

<table>
<thead>
<tr>
<th>Year</th>
<th>High school</th>
<th>Two-year college</th>
<th>Four-year college</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993</td>
<td>100.0</td>
<td>109.5</td>
<td>161.3</td>
</tr>
<tr>
<td>1995</td>
<td>100.0</td>
<td>108.4</td>
<td>155.9</td>
</tr>
<tr>
<td>1997</td>
<td>100.0</td>
<td>106.4</td>
<td>155.6</td>
</tr>
<tr>
<td>1999</td>
<td>100.0</td>
<td>104.7</td>
<td>159.5</td>
</tr>
<tr>
<td>2001</td>
<td>100.0</td>
<td>102.9</td>
<td>157.9</td>
</tr>
<tr>
<td>2003</td>
<td>100.0</td>
<td>101.3</td>
<td>155.4</td>
</tr>
</tbody>
</table>

Note: Monthly wage of high school graduates = 100. From “Survey Report on Wage Structure,” by NSO & MOL, each year.

Conclusions and Discussion

Reviewed in this paper were (a) the trends and distinguishing features of the workforce supply structure and youth unemployment in Korea, (b) the possible association between Korea’s youth unemployment and the dynamics of workforce supply in the Korean labor market, and (c) job opportunities for CTE completers. The association between type and length of education and employability was examined to explore whether, and how, the workforce supply structure influences youth unemployment.
Youth Unemployment and The Role of CTE

Reviewing the national jobless data, the study found (a) the chronic and structural youth joblessness in conjunction with the fluctuating economic growth, (b) the increasing percentage of college graduates among all unemployed people, and (c) the declining employment of female university graduates despite the increased female working population. Analysis of the education statistics and employment data found two supply factors to contribute to high and persistent youth joblessness: (a) the continuing “upward shift” in the level of education of the Korean workforce, particularly the dramatic increase in college enrollment; and (b) the ongoing disdain for CTE at both the high school and the college levels.

Although the direct causation between those two factors and youth joblessness was not tested, findings support the assumption that some degree of youth unemployment is generated by the supply problems that are somewhat independent of the labor demands. Consistent with the previous studies pointing out that CTE is productive in job placement, this study suggests that labor market advantage comes from occupational skills, not length of schooling (Lee, 2003; MOE, 2005; Gray, 2004; Mane, 1999).

Implications are profound both in theory and practice. First, considerable public and academic attention should be paid to the fact that chronic youth joblessness is generated not only by worsening job opportunities but also by misguided workforce investment of young people fueled by the conventional misconception that a four-year degree would provide labor market advantage over specific occupational skills. Study results suggest that encouraging students to go to college without a specific career plan may entail an unintended consequence, chronic youth unemployment. From a policy standpoint, it is necessary to develop workforce education policy to help youths to have productive educational transition based on career maturity and thus to prevent pervasive youth unemployment.

Second, youth joblessness problems are a function of many interacting variables involving social, economic, and legal factors (Lee, Ahn, & Jeon, 2002a; Park, 2005; Passmore, 1982). In this regard, it is not claimed that CTE is a panacea for youth unemployment problems. It is maintained however, that CTE may be effective in preventing youth joblessness. In comparison with other groups of young people, job opportunities for CTE graduates are found to be greater. Furthermore, this is the case for both male and female workers as well as both at the high school and college level. Changing the institutionalized behavior and mindset – the “going-to-college” mentality and tendency to avoid CTE – is challenging, but not impossible. How to build the productive career guidance system is beyond the scope of this study, but it is argued that nothing can be changed when problems are taken for granted and ignored.

Third, special efforts should be made to help the highest at-risk group, those general high school graduates without specific occupational skills (Lee, 2004). Remarkably, only one in five of workers in this category have been able to find jobs. Consistent with Mane’s findings (1999), vocational education and training is found
to have a highly productive impact on job placement, especially for non-college-bound youths.

Finally, given that chronic youth unemployment has become a pressing global issue (O’Higgins, 1997), Korea’s experience would provide valuable lessons for those countries to find the causes of and the solutions to youth unemployment. In particular, the findings of this study have important implications for policymakers and education leaders of the U.S. where the going-to-college mentality among teens and parents is becoming widespread (Gray, 2000).

**Limitations and Future Study**

This study has several limitations. First, this current study investigated the relationship between youth unemployment and the workforce supply structure using two variables: type of education and length of education. Future study may be conducted with additional and more specific supply factors. For instance, areas of the study may be crucial in determining job placement.

Second, the main body of this study relies on descriptive statistics and focuses on longitudinal trends. Subsequent study could be conducted using more sophisticated statistical methods to measure the impact of supply factors on the degree of youth joblessness. In conjunction with aggregated data sets, individual data may be used to determine the impact of the workforce supply dynamics on youth unemployment.

Finally, results of this study may be applied to the Korean labor market. To better understand youth unemployment and contributing factors and generalize the findings, international and comparative studies on this issue are recommended.

**References**


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Kim, S. J. (2004, May, 5). Hard to solve youth unemployment problems in the next five year (In Korean). *LG Weekly Economy, 32-36*


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