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Korea's Employment Permit System and Wage Development of Foreign Workers

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Abstract

The South Korean government started to actively accept foreign workers under the Industrial Trainee System in the early 1990s, and the foreign labor force import policies that had been implemented in various forms were integrated into the Employment Permit System beginning in 2004. In principle, foreign workers can legally work in South Korea for up to five years, and have to return to their own countries after their contract period. Foreign workers can be broadly classified into E-9 visa owners who are from Southeast Asia and H-2 visa owners who are descendants of Koreans who emigrated to China (especially Manchuria), Russia, and Central Asia from 110 years ago. The case of the former is called "non-professional employment," while the latter is called "visiting employment." In this paper, the 2011 and 2013 wage data of the visiting employment worker (H-2) recruitment database on the homepage of the Human Resources Development Service of Korea were compared. Based on this, the changes in wages in each industry (i.e., each specific business type) were examined. The most noticeable finding is that the wages in the manufacturing and service industries generally decreased while the wages in the construction industry increased. Wages in the service industry generally showed a decreasing trend, but increased in some specific business types. For both the agriculture and livestock and fishing industries, wages decreased in 2013 compared to 2011. The fact that the wages of H-2 visa owners, whose quality of labor is thought to be similar to that of South Koreans, generally decreased with time could have negative effects on South Korean workers (locals).

Keywords: foreign labor policy, South Korea, Employment Permit System(EPS), wage, migration

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I. Introduction

The recent increase in the number of foreign workers in Korea resulted in the increase in "anti-foreign workers" advocates. These advocates believe it has become more difficult for Koreans to make a living for themselves, as a result of the increase in the number of employed foreigners. Furthermore, they are outraged because the number of foreign criminals has increased, but no help has come from the Korean government. It was also stated that the number of foreign workers increased because companies intended to use cheap labor, and the government also supported this. The allegations are slightly different, but they all pointed out the fact that something is wrong with the foreign worker policy.

It seems farfetched that this anxiety is simply the thinking of a small number of people. The general public's perception of foreign workers can be examined in the "Analysis on Impact of Foreigners Inflow in Society Undergoing Low Fertility and Population Aging" by Lee and Jeon (2011). The above-mentioned study involved conducting "A Survey on the Public Perception of Foreign Immigrants", and consisted of 1000 adult men and women over the age of 20 from all over the country. The results indicated that 6 out of 10 persons had considerable wariness regarding the influx of foreign immigrants. Moreover, 50.3% of the respondents said that it would be harder for Koreans to find a job if the number of foreigners and immigrants increased. The results also showed that 37.2% responded with a "Yes" to the question: "Would the wage of the Koreans decrease if the number of immigrants increases?"

In a way, this hostility towards foreign workers could cause a generation gap. This is particularly the case when the labor history of Korea is taken into account. In 1950, Korea suffered from severe poverty as it went through the Japanese colonial period and the Korean War. As a result, Korea became a representative labor-exporting country.

In the early 1960s, the gross national product (GNP) per capita of Korea was roughly $80 only. The GNP per capita of the Philippines and Thailand were $170 and $260, respectively, which were much higher than that of Korea. However, the GNP per capita of North Korea was $325, which was approximately four times higher than that of South Korea.

In the early 1960s, the Korean government dispatched Korean miners to Germany. It was an inevitable selection to a certain extent due to the fact that the unemployment rate in Korea had reached 40%.

Meanwhile, the West German government could not find laborers who would be willing to work in a mine, which was a 3D job, due to the rapid economic development after the Second World War. The West German government had made attempts to prevent foreign workers from settling down in West Germany, and they came up with the idea of a Limited Labor Force Import Contract. President Park Chung-hee accepted the offer of West Germany. The Limited Import Contract was a measure to prevent miners from settling down in the German society. When the miners returned to Korea after working for three years, 3,000 new miners were again dispatched to West Germany.

The Korean government also dispatched Korean female nurses to Germany because their hospitals were in need of female labor force to clean the hospital bed sheets and take care of patient dressings. The income of the miners and nurses, who were dispatched to Germany, was the foundation for the economic growth of Korea in the 1970s. There were 7,932 miners dispatched to Germany between 1963 and 1977. The remittance was $50 million per year, which had once amounted to 2% of the GNP of Korea.

Korea's labor dispatch continued in the 1970s. The Middle East countries, at the time, had achieved financial growth from their oil supply. It was time for them to increase the social overhead capital facilities of their own, which included construction, transportation, and communication. Large companies, such as Hyundai Engineering & Construction Co., Ltd. and Daewoo Engineering & Construction Co., Ltd., headed for the Middle East. In order to achieve a smooth dispatch, the government organized the Middle East Economic Cooperation Committee in 1976, with the prime minister as the chairperson. In 1978, the Bureau of Overseas Labor was established in the Ministry of Labor.

The economy of Korea started to recover in the late 1970s. Labor-intensive textile products and light industry products were becoming prosperous. Hyundai Motor Company started to export domestic automobile parts to foreign countries.

According to Statistics Korea, the nominal gross domestic product (GDP) of Korea was over 32 trillion won in 1979. In addition, the country has achieved an average economic growth rate of over 10%.

However, from the late 1980s, there was a gradual decrease in Korea's economic power. The inflation rate and labor cost have increased.

In 1995, the Korean government was advised to accept foreign workers. The manufacturing industry was unable to endure such high labor cost. Korea had been a labor-exporting country for 30 years after 1960, but there has been an increase in their need for importing foreign workers.

During this time, Korea actively brought in foreign workers. The first introduction was the "Industrial Trainee System for Foreigners", which started in 1993. The small and medium enterprise cooperative in Korea had recruited trainees from labor-exporting agencies in foreign countries. Vietnam, Bangladesh, Sri Lanka, Indonesia, and China were among the 14 countries that sent industrial trainees.

In 1998, a 2-year training and 1-year employment system had been introduced. The Industrial Trainee System consisted of two years of training. A one-year working visa would be issued to a worker who has served as an industrial trainee. There were requests from companies that would like to employ foreign workers for a longer period, as it also reflected the situation of the foreign workers, who had to return to their own countries only two years after coming to Korea. Nevertheless, the number of illegal aliens continuously increased. Industrial trainees, who arrived in Korea, concealed themselves around the expiration of the visa, even to the extent of paying broker fees.

One notable fact is that the Industrial Trainee System had limitations from the beginning. Foreign workers received a minimum monthly wage because of their limited status as an employment trainee rather than as a regular employee. There have been complaints from foreign workers with regard to this issue. Furthermore, there were business owners who violated human rights. As a result, the Korean government amended the enforcement ordinance in 2002, while the existing 2-year training and 1-year employment program was changed into a 1-year training and 2-year employment system.

In Korea, there were a lot of young people who avoided small and medium enterprises. The college enrollment rate of Korean teenagers was over 80%. Most of the complaints were due to the monthly salary or the work environment. The number of small and medium enterprises that have appealed for the lack of labor force increased.

On August 16, 2003, the Kim Dae-Jung government legislated and promulgated the Act on the Employment, etc. of Foreign Workers. Since 2004, a total of 79,000 foreign workers have entered Korea, wherein 25,000 foreign workers were hired through the Employment Permit System, 16,000 foreign workers were hired through the Employment Management System, and 38,000 foreign workers were hired through the Industrial Trainee System. In August 2004, 92 Philippine workers entered Korea for the first time through the Employment Permit System.

In 2002, the Employment Management System enabled the descendants of Koreans who emigrated to China and Russia during the Japanese colonial period (i.e., Korean compatriot), to find a job and settle down in the country. The three kinds of systems (Industrial Trainee System, Employment Management System, and Employment Permit System) had been implemented separately, and they were integrated into the Employment Permit System from January 1, 2007.

The Employment Permit System is a policy that actively accepts foreign workers. It is significantly different from the foreign worker policies of the other Asian countries, particularly Japan. The sudden influx of foreign workers has greatly affected the Korean economy. This could play an important role in the future studies on foreign workers.

This paper consists of four parts. ① First, the characteristics of the Employment Permit System for Foreigners in Korea were examined. ② The effects of foreign workers on the wage and employment status of the local workers were investigated based on previous studies. ③ The recruit information, which had been posted by companies in the Human Resources Development Service of Korea, was analyzed. Moreover, according to the contents that were posted in 2011 and 2013, changes in the wage for each industry have been investigated. ④ Based on the aforementioned information, even if the increase in the influx of foreign workers had increased or decreased, the wage for each industrial field could be examined.

In other words, further research on the foreign worker allocation (quota) policy can be conducted in the future.

II. Characteristics and Status of the Employment Permit System for Foreigners in Korea

II-1. Characteristics of the Employment Permit System for Foreigners

The Employment Permit System for Foreigners refers to a system wherein companies that are unable to find any domestic labor force can obtain an employment permit from the government, and they can legally employ foreign workers. In principle, it is a 3-year visa, but one can stay up to four years and 10 months in case their employer has made a special request.

The Foreign Labor Force Policy Committee, which is affiliated with the Prime Minister's office, determines the appropriate size (quota) for each business type in consideration of the domestic labor force demand and supply trends. This committee consists of approximately 20 members, including the Vice Minister of Strategy and Finance, Vice Minister of Justice, Vice Minister of Knowledge Economy, Vice Minister of Labor, Small and Medium Business Administrator, and the vice ministers of major administrative institutions.

[Foreign worker introduction quota for each year]

(Unit: persons)

Year	Total	Manufacturing Industry	Construction industry	Service industry	Agriculture &livestock industry	Fishing industry
2007	109,600	69,300	14,900	20,600	3,600	1,200
2008	132,000	76,800	18,000	31,000	5,000	1,200
2009	34,000	23,000	2,000	6,000	2,000	1,000
2010	34,000	23,000	2,000	6,000	2,000	1,000
2011	48,000	40,000	1,600	150	4,500	1,750
2012	57,000	49,000	1,600	150	4,500	1,750

Data: Employment Permit System (EPS), Korea Employment Information Service

In the case of the introduction quota for each year, a total of 109,600 foreign workers were accepted in 2007, whereas a total of 132,000 foreign workers were accepted in 2008. In addition, 34,000 foreign workers were accepted in 2009 and 2010, respectively.

The new employment size is determined every year in accordance with the number of foreign workers whose visa has expired. In 2012, 57,000 foreign workers have been brought in the country.

Second, companies that can employ foreign workers are limited to small and medium enterprises with less than 300 employees. This is a strategy for preventing foreign workers from becoming a potential threat to the position of Korean workers.

Third, the procedure for the selection of foreign workers, who were allowed to find work in Korea, was made transparent. This is necessary for prohibiting the intervention of a broker. A memorandum of understanding (MOU) is signed between the Korean government and the labor-sending country that dispatches the foreign workers. The government of a labor-sending country makes a list of foreign job seekers using objective indices, such as the Korean proficiency grade and work experience of foreign workers, and sends the information to the Korean government. The Test of Proficiency in Korean was implemented in August 2005, so that the foreign workers could seek employment in Korea based on a set of objective criteria.

A labor-sending agency shall assist the foreign workers in obtaining their non-professional employment (E-9) visa to enter Korea. After arriving at the Incheon International Airport, the Human Resources Development Service of Korea will take over the whole security screening procedures. The foreign workers will be informed of the employment education agency guidelines for each country and business type. Soon after, they will be moved to the employment education agency, and take employment education for two nights and three days (20 hours).

II-2. Status of Foreign Workers

According to the Ministry of Justice, the number of foreigners who are currently staying in Korea is 1.26 million (as of 2011). Among them, the number of foreign personnel who are employed is approximately 0.69 million. They can be subdivided into non-professional foreign personnel, who entered through the Employment Permit System (0.46 million), professional foreign personnel (0.04 million), and illegal aliens (0.17 million).

(Unit: persons)

Total foreigners (1,260,841)							
Foreign personnel (689,017)					International students (D-2)	Marriage immigrants	Others
Professional personnel	**Non-professional personnel (461,672)**		Illegal aliens	Short-term employment, etc.			
42,505	**General (175,903)**	**Compatriot (285,769)**	170,284	14,556	68,687	125,087	378,050

Source: Immigration Office, Ministry of Justice

In the case of the Employment Permit System, the number of general foreigners (E-9 visa), who came from 15 countries in Southeast Asia, was approximately 0.18 million. The number of Korean compatriots (H-2 visa), on the other hand, was approximately 0.29 million.

When the system was integrated into the Employment Permit System in 2007, the figure was roughly 362,460 persons, but after 2009, the size was maintained at approximately 460,000 persons. These are the cases of legal visas, while the number of illegal aliens is estimated to be 0.17 million. As a result, the Ministry of Justice estimated that the number of foreign workers, who are working as low-skilled employees in Korea, would be over 0.6 million.

(Unit: persons)

Classification	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
Total	**104,348**	**199,620**	**362,460**	**454,431**	**461,203**	**460,280**	**461,672**
General (E-9)	52,305	115,122	134,012	156,429	158,198	177,546	175,903
Compatriot (H-2)	52,043	84,498	228,448	298,002	303,005	282,662	285,769

Source: Immigration Office, Ministry of Justice

In terms of business type, most of the general foreigners were working in the manufacturing industry (88.7%). The compatriots were working in the service industry (40.4%), construction industry (22.9%), and manufacturing industry (35.8%).

The reason for this is because the business types, which are allowed by the system, differ. General foreigners (E-9 visa) are allowed to work in the manufacturing industry and the construction industry, while the compatriots (H-2 visa) are allowed to work mostly in the service industry, in addition to the other types of industry.

In terms of nationality, the general foreigners came from Vietnam (26.7%), Indonesia (11.9%), Thailand (11.9%), and the Philippines (11.8%). The compatriots came from China (96.7%) and CIS countries such as Uzbekistan and Russia (2.9%).

III. Previous Studies

III-1. Studies on the Wages and Employment of Foreign Workers

Most of the empirical studies from foreign countries concluded that the negative effects of the influx of foreign workforce on the local workers were limited.

The effects of the influx of foreign workers on the local workers can be divided into ▽ effect on the wages and ▽ effect on the employment.

The first empirical analysis regarding the effects of the increase in immigration from the foreign countries on the wages of local workers was the study of Grossmann (1982) that focused on the case of the United States. Grossmann found that the increased influx of foreign workforce had decreased the wages of workers in the United States, but the magnitude was limited.

Since then, studies on the effects of the influx of foreigners on the wages of Americans have been performed based on more subdivided classes. Most of them, however, showed that even though the negative effects existed, the magnitude was limited (Altonji and Card, 1991; Bean et al, 1988; Borjas et al, 1996; Greenwood and Hunt, 1995; Lalonde and Topel, 1991).

The results of the previous studies, which empirically analyzed the employment level due to the influx of foreigners, were also similar. In other words, the changes in the employment of locals due to the increased influx of foreign workers or the immigration from foreign countries were limited (Altonji and Card, 1991; Greenwood and Hunt, 1995; Simon et al, 1993; Winegarden and Khor, 1991).

In addition, there have been studies on the comparison between foreign workers. For instance, there could be a wage difference between the foreign workers, who entered the United States, and the Americans. However, there could also be a competitiveness and wage difference among the foreign workers. Representative studies included the analysis of the wage difference between first-generation immigrants and second-generation immigrants, who were born in the host country (Borjas 1987; Smith and Edmonston, 1997), the analysis of the wage difference between the legal aliens and non-registered aliens (Marcelli, 2004), and the analysis of the wage difference between a short-term stay and a long-term stay (Brownell, 2010).

According to Brownell (2010), who analyzed the case of the Mexican immigrant workers in the United States, their wages could increase in a long-term non-registered condition rather than on a short-term non-registered stay. Chiswick (2007) concluded that the immigrant workers in the United States could easily find a job and increase their wages, based on their English proficiency, and that the second-generation immigrants, who were born in the host country, could easily increase their wages.

III-2. Studies on the Employment Permit System in Korea

The Employment Permit System was actively introduced in 2007. As a result, there were limited studies with regard to the time-series analysis. A considerable number of studies have dealt with the effects of the Industrial Trainee System, which was introduced in the 1990s, on the employment and wage levels of the Koreans.

Although there may be a slight difference, the Industrial Trainee System is similar to the Employment Permit System in that it imports low-skilled workers. In addition, the fact that the workers are mostly working in the manufacturing industry is also similar. Therefore, it is necessary to examine the papers that studied their effects on the Korean society.

First, Lee and Park (2008) estimated the distribution of foreign personnel for each industry using the resident alien statistical raw data sample and the published statistical data of the Ministry of Justice. The results indicated that the foreign personnel occupied 6% of the manufacturing industry, approximately 10% of the construction industry, approximately 5% of the food service and lodging industry, and 17% of the domestic service.

In the "Analysis of the Determining Factors for the Employment of Foreign Workers", Kwon and Jeon (2009) analyzed which companies employed many foreign workers. This is significant in that the research subjects included the entire business types other than the manufacturing industry, based on the Workplace Panel Survey of the Korea Labor Institute. The variables used included the year of foundation, attitude of the companies relevant to labor cost, the proportion of Korean non-regular workers to the entire workers, turnover, and wage level.

The results indicated that the foreigner employment rate was high when a company had no labor union, had a high female worker employment rate, and had low usage of computers. However, the disadvantage of the above-mentioned study was that it only used the Workplace Panel Survey in 2005. It is difficult to accurately examine the effects of the Employment Permit System that was actively implemented after 2005.

The economic impact of the foreign workers can be divided into employment and wage. First, "On the Economic Impact of Foreign Labor Inflows in Korea" by Han (2005) is a research paper that examined the effects of the foreign workforce on the employment and unemployment of Koreans. The above-mentioned paper analyzed foreign workers who entered Korea through the Industrial Trainee System between 1997 and 2001.

The data collected from sampling 10% of the foreign workers in the manufacturing industry from the Small and Medium Enterprises Survey were used. In order to compare the wage level, the Wage Structure Survey was used. The above-mentioned paper subdivided the manufacturing industry into 20 items, and investigated the increases in the number of foreign workers between 1997 and 2001, and the changes in the employment rate of the locals in the fields where there was an increased number of foreign workers. Locals were classified into unskilled and highly skilled (based on their education level), and the employment rate (based on their gender). The results showed that the low-skilled Korean male workers, who received middle school education or below, experienced the largest damage when the number of foreign workers increased.

"Analysis of the Economic Impact of Unskilled Foreigners" by Kim (2009) is the most recent study on unskilled workers.

The above-mentioned paper analyzed whether the employment of foreigners affected the job relocation and dismissal of Koreans, based on their workplaces (Duration Model). Foreign workers, who were registered in the Employment Insurance between August 2004 and December 2005, were investigated through the use of the raw data of the Employment Insurance. The variables were age, gender, and education level of Korean workers, and the employment level of foreign workers.

The results showed that when the proportion of foreign workers increased by 10%, the risk of unemployment for the locals increased by 0.65%. However, the above-mentioned study is also limited because it investigated the period between 2004 and 2005, which was before the active implementation of the Employment Permit System for Foreigners. The research period was limited to 2004~2005 because the Employment Insurance, which had been an obligatory subscription until the period, was changed into voluntary subscription from January 2006. As a result, the number of the foreign subscribers of the Employment Insurance rapidly decreased in 2006. The above-mentioned paper showed that the past data had been used to secure the number of samples.

On the other hand, there was a study result in which the negative effects of foreign workers on the employment of Koreans were insignificant or complementary. Jo (2004) empirically analyzed the substitutability of foreign workers and local workers for each business type, based on the Foreign Worker Employment Survey of the Korea Labor Institute. The elasticity of substitution and self-elasticity were estimated by classifying the labor input elements for production into skilled labor, low-skilled labor, simple labor/service, office management, and foreign labor.

The results showed that the foreign workers complemented the domestic labor force rather than substituting the domestic labor force. The manufacturing industry, in particular, was found to have a complementary relationship between low-skilled workers and foreign workers. In the case of the non-manufacturing industry, there was a complementary relationship between the Korean workers and foreign workers, regardless of the skill level and classification of workers (i.e., low-skilled or highly skilled). In other words, the increase in the employment of foreign workers does not lead to the decrease in the employment of the Korean workers. However, the contributing factor is either employing many foreign workers and Korean workers or employing a few foreign workers and Korean workers.

The analysis, which depended on the size of the companies, indicated that for small and medium enterprises, there was a complementary relationship between low-skilled workers and foreign workers. In other words, small and medium enterprises, which have difficulty in finding low-skilled workers, could only employ foreign workers. In addition, studies have concluded that the foreign workers substituted locals in the construction industry as well as in the food service and lodging industry (Lee and Park (2008); Yoo and Lee (2009)).

For this reason, there were different results on whether foreign workers and Korean workers have had a substitutive relationship or a complementary relationship. However, studies with regard to wages were substantially consistent because a few studies supported the theory that the foreign workers decreased the wage level of some Koreans (locals).

In the "Economic Effects of Foreign Workers and Immigrants in Korea", Choi (2011) reported that when the foreign workers with an education below high school level increased by 1%, the wage of Korean workers with an education below high school level decreased by 0.2%. In contrast, the wages of high school graduates and college graduates increased by 0.115% and 0.084%, respectively. In other words, the wage difference among the Korean workers had an increase of 0.3%, based on their education level.

The wage level of the foreign workers was lower than that of the Korean workers, but there were different conclusions on the average difference in the wage levels.

Lee and Jeong (2008) compared the average wage level of the immigrant workers, and reported that it corresponded to 97.5% of the average wage level of the Koreans. Nevertheless, the above-mentioned analysis was limited because it did not consider the cost for room and board, working hours, and leisure. Furthermore, the longer working hours of the foreign workers have not been taken into account.

Jo (2010) analyzed the wage difference by using variables, such as gender, education level, age, continuous service, labor union participation, industry, job type, size of a company for locals and foreigners. The wage of the foreign workers was high when the gender was male and when the age was high.

However, the effects of continuous service, labor union participation, and education level were insignificant. Based on the hourly wage, the wage difference between the foreigners and locals was approximately 50%, while the wage difference between the foreigners and non-regular local workers was 30%. It was suggested that the difference in human capital induced the wage difference.

Jo (2010) compared the 2005 "Labor Condition at Establishments" of the Ministry of Labor by controlling the factors depending on the human characteristics through the use of the Oaxaca decomposition method, and reported that the hourly wage of foreigners was approximately 24% lower than that of the locals.

In the "Analysis of the Wage Determining Factors for Low-skilled Immigrant Workers", Choi (2010) analyzed the wages based on the male gender, age, education level, skill level, legal stay status, ethnic identity, and industry.

IV. Data Explanation

IV-1. Data

Until recently, several surveys relevant to the working conditions of foreign workers have been carried out by government institutions or organizations to uphold the human rights of foreign workers. There has been no survey, however, on the wages of foreign workers in each specific industry. Only the range of the approximate average wages for the manufacturing industry is known. This is due to the difficulties in surveying individual foreign workers, and the difficulties in obtaining accurate statistics relevant to their wages and working conditions.

The most representative survey is the 2013 Foreigner Employment Survey published by Statistics Korea in 2013. The Foreigner Employment Survey is carried out for 10,000 foreigners who have been selected as the sample from among the foreigners over the age of 15 residing in South Korea. The results of the surveys were published in 2012 and 2013, and the 2014 Foreigner Employment Survey began to be carried out on a national scale in June 2014. According to the 2013 Foreigner Employment Survey of Statistics Korea, the number of foreigners over the age of 15 residing in South Korea was 1,126,000, having increased by 12,000 (1.1%) compared to the previous year (1,114,000), and the number of employees was 760,000, having decreased by 31,000 (3.9%) compared to the previous year (791,000).

Also according to the results of the survey, 3 out of 10 foreign workers were found to work more than 60 hours per week, which is above the legal working hours (40 hours per week). Among the survey subjects, 30.7% had average working hours of 60 hours per week. For the average monthly wage, one to two million won was the largest (65.7%), and two to three million won was the second largest (21.7%). Those who received more than three million won in wages accounted for 6.9%, and those who received less than one million won in wages accounted for 5.7%.

The data that were used in this paper were the visiting employment worker (H-2) recruitment data. The visiting employment worker (H-2) recruitment information database (http://www.hrdkorea.or.kr) on the homepage of Human Resources Development Service of Korea is the recruitment information of each company (workplace) provided by the Employment Support Centers all over the country that are affiliated with the Ministry of Employment and Labor. As explained earlier, the foreign workers (excluding professionals) can be broadly classified into those with an E-9 visa who are from Southeast Asia and visiting employment workers with an H-2 visa. The recruitment data that were used in this paper included only the data on the visiting employment workers.

The workers with an H-2 visa can speak Korean as fluently as Koreans can, and thus have excellent communication abilities. They are the descendants of Koreans who emigrated to Manchuria in China and to Russia in the early 20th century for historical reasons. The South Korean government has broadened the fields where they can be employed, unlike workers from Southeast Asia. It is similar to the fact that the Japanese government confers a benefit on the Japanese who emigrated to South America, such as Brazil (i.e., ethnic Japanese), regarding employment in Japan, which it does not confer to the foreigners.

For example, most of the workers from Southeast Asia can work in the manufacturing industry, and some of them work in the construction, fishing, and agricultural industries. The "compatriot" workers with an H-2 visa, on the other hand, can work in the service industry, which offers high wages, similar to those given to the South Koreans.

The Human Resources Development Service of Korea provides information on the amount of wages that the employers (companies or individual employers) in the manufacturing/ construction/agriculture & livestock/fishing/service industries are willing to pay, and information on the average daily working hours. These data are not directly posted by the employers and are provided by the Employment Support Centers all over the country affiliated with the Ministry of Employment and Labor after checking such data. Therefore, it is believed that these data are objective. Thus, the wages of compatriot (H-2) workers, whose quality of labor is thought to be similar to that of the South Korean workers, can be practically evaluated.

In addition, the recruitment data include the regions where the employers are located (e.g., downtown or relatively rural area). Based on this, it can be determined if there are differences among the regions, and the data pertaining to the regions can be compared.

IV-2. Analysis Method

To determine the average wage of foreign workers for each industry, the data on the average working hours and the suggested wage (monthly pay) that had been posted on the recruitment information site between December 2010 and April 2011 were organized. They were classified into the construction, agriculture & livestock, service, fishing, and manufacturing industries, and were again divided into specific business types. There were 3,462 cases in all, and the recruitment percentage in the manufacturing industry was the largest (59.71%), followed by the service industry (20.25%), the construction industry (9.73%), the agriculture & livestock industry (8.46%), and the fishing industry (1.85%).

Table. 2011 Visiting Employment (H-2 Visa Owner) Recruitment Statistics

Business type	Freq.	Percent	Cum.
Construction industry	337	9.73	9.73
Agriculture & livestock industry	293	8.46	18.20
Service industry	701	20.25	38.45
Fishing industry	64	1.85	40.29
Manufacturing industry	2,067	59.71	100.00
Total	3,462	100.00	

On the other hand, to collect the 2013 recruitment data, approximately 130,000 cases of recruitment data were collected through the government's Information Disclosure Requesting System. Among these, 127,880 cases were analyzed, excluding the cases in which the records (e.g., region or working hours) had been omitted. The manufacturing industry accounted for 49.57%, and the service industry, 41.74%.

Table. 2013 Visiting Employment (H-2 Visa Owner) Recruitment Statistics

Business type	Freq.	Percent	Cum.
Construction industry	5,394	4.22	4.22
Agriculture & livestock industry	4,789	3.74	7.96
Service industry	53,373	41.74	49.70
Fishing industry	929	0.73	50.43
Manufacturing industry	63,395	49.57	100.00
Total	127,880	100.00	

V. Analysis Results

V-1. Changes in the Average Wage for each Specific Business Type

(Unit: won)

Business type	Specific business type	Average monthly wage (2011)	Average monthly wage (2013)	Increase / decrease rate
Construction industry	Building construction industry	1512300	1747317	15.54037
	Foundation formation and building construction industry	1593517	1654038	3.797951
	Indoor construction and construction finishing industry	1430394	1678027	17.31222
	Electricity and communication work industry	1531100	1610415	5.180263
	General construction industry	1555703	1593952	2.458631
	Civil engineering industry	1438651	1555341	8.111071
Agriculture & livestock industry	Crop cultivation industry	1023433	989420.1	-3.32341
	Livestock industry	1099882	1069986	-2.71811
Service industry	Household employment industry	1251567	1222476	-2.32437
	Nursing care industry	1208600	1191339	-1.42818
	Mechanical equipment and relevant goods wholesale industry	1209733	1182356	-2.26306
	Industrial laundry industry	976320	1028155	5.309222
	Product retail industry	1100000	1147000	4.272727
	Lodging industry	1066350	1063727	-0.24598
	Travel industry	1100000	1158996	5.363273
	General restaurant industry	1204342	1101634	-8.52814
	Automotive repair industry	1600000	1150837	-28.0727

	Recycling materials collection and sale industry	1396617	1147832	-17.8134
	Waste collection and transportation industry	1444080	1149824	-20.3767
Fishing industry	Aquaculture industry	1098609	1086454	-1.1064
	Coastal and offshore fishery industry	1255264	1112535	-11.3704
Manufacturing industry	Furniture manufacturing industry	1043008	973233.3	-6.68976
	Leather, bag, and shoes manufacturing industry	1049116	1026912	-2.11645
	Rubber and plastic products industry	1053084	979497.1	-6.98775
	Metalwork products industry (excluding machinery and furniture)	1111441	1051676	-5.37725
	Metal and nonmetal material recycling industry	1140965	1041860	-8.68607
	Other machinery and equipment manufacturing industry	1116727	1068077	-4.35648
	Other transportation equipment manufacturing industry	1104325	1100314	-0.36321
	Other product manufacturing industry	1116471	1101439	-1.34639
	Lumber and wood product manufacturing industry (excluding furniture)	1056278	1001523	-5.18377
	Nonmetal mineral product industry	1103381	1034123	-6.27689
	Textile product industry (excluding clothes sewing)	1027952	971152.9	-5.52546
	Food and beverage product manufacturing industry	1066288	1015384	-4.77394
	Medical/precision/optical instruments and clock manufacturing industry	1055855	1047778	-0.76497
	Clothes, clothing accessories, and fur products industry	1084298	1060414	-2.20272
	Printing and recording medium reproduction industry	1124184	1048342	-6.7464
	Automobile and trailer manufacturing industry	988423.5	955492.6	-3.33166
	Electric equipment industry	1072227	1016196	-5.22567
	Electronic parts, computer, video, sound, and communication equipment industry	1027428	979043.2	-4.70931
	Primary metal industry	1057573	1005663	-4.90841
	Cokes, coal briquette, and petroleum refining product manufacturing industry	1128486	1025777	-9.10149
	Pulp, paper, and paper product manufacturing industry	1063036	983345.9	-7.49646
	Compounds and chemical products industry (excluding medicines)	1027980	1015722	-1.19244

The increase/decrease rates in the average wage for each business type between 2011 and 2013 are summarized in the above table. First, the most noticeable change is that the wages in the manufacturing and service industries generally decreased while the wages in the construction industry increased. The specific business type in the manufacturing industry that showed the largest decrease in wages was the ▽ cokes, coal briquette, and petroleum refining product manufacturing industry (-9.1%), followed by the ▽ metal and nonmetal material recycling industry (-8.7%), ▽ pulp, paper, and paper product manufacturing industry (-7.5%), ▽ rubber and plastic product manufacturing industry (-6.9%), ▽ printing and recording medium reproduction industry (-6.8%), and ▽ furniture manufacturing industry (-6.7%).

The wages in the service industry generally showed a decreasing trend, but the wages increased in some business types. The average wages in the ▽ general restaurant industry (-8.5%) and ▽ household employment industry (-2.7%), which are generally known to have high demands for visiting employment workers in the service industry, decreased, while the decrease rates in the ▽ waste collection and transportation industry (-20%), ▽ recycling material collection and sale industry (-17.8%), and ▽ automotive repair industry (-28%) were large. In contrast, the wages in the ▽ travel industry (+5.4%) and ▽ industrial laundry industry (+5.3%) showed an increasing trend.

For both the agriculture & livestock and fishing industries, the wages decreased in 2013 compared to 2011. Included here are the ▽ crop cultivation industry (-3.3%), ▽ livestock industry (-2.7%), ▽ aquaculture industry (-1.1%), and ▽ coastal and offshore fishery industry (-11.4%).

It is noteworthy that the suggested wages in the construction industry increased, including wages in the ▽ building construction industry (+15.5%), ▽ civil engineering industry (+8.1%), and ▽ electricity and communication work industry (+5.2%). Unlike the decreasing trend in wages in the manufacturing or service industry, the wages in all their specific business types showed increasing trends. In particular, the suggested average wage in the building construction industry in 2013 was 1,747,317 won, the highest among the wages in all the specific business types, including those in the manufacturing industry.

V-2. Changes in the Average Wage Depending on the Region and Business Type

The changes in the average wage of foreign workers depending on the region were examined. It is generally expected that the wage level would be high in the Seoul Metropolitan Area or in large cities such as Seoul, Gyeonggi, Busan, and Ulsan. South Korea is not a country with a large territory like the United States, but there is a wage difference between its urban and non-urban regions. Therefore, examining the wages for each business type and each region, and the changes in the wages, would provide a foundation for the detailed analysis of the effects of foreign workers on the local economy.

Business type	Region	Average wage (2011)	Average wage (2013)	Increase / decrease rate
Construction industry	Gangwon	1432107	1668844	16.53068
	Gyeonggi	1463670	1592756	8.819338
	Gyeongnam	1172357	1342988	14.55453
	Gyeongbuk	1255145	1532481	22.09593
	Gwangju	960500	1303342	35.69412
	Daegu	2027731	1422176	-29.8637
	Daejeon	1992000	1733175	-12.9932
	Busan	1123695	1589506	41.45351
	Seoul	1806014	1976311	9.42944
	Ulsan	1252300	1495746	19.43991
	Incheon	1400538	1626837	16.158
	Jeonnam	1099769	1428641	29.90373
	Jeonbuk	1491922	1458289	-2.25434
	Jeju	1560000	1554150	-0.375
	Chungnam	1429988	1618967	13.21543
	Chungbuk	1462539	1259729	-13.867

In the case of the construction industry, the wage was highest in Seoul, as expected, and the suggested average wage in the construction industry in Seoul in 2013 (1,976,311 won) was also the highest, followed by those in Daejeon (1,733,175 won), Gangwon (1,668,844 won), Incheon (1,626,837 won), and Chungnam (1,618,967 won). The wages increased in most of the regions, but they decreased in Daegu, Daejeon, and Chungbuk.

Business type	Region	Average wage (2011)	Average wage (2013)	Increase / decrease rate
Service industry	Gangwon	1000000	1069501	6.9501
	Gyeonggi	1213296	1092670	-9.94201
	Gyeongnam	1122700	1027435	-8.48535
	Gyeongbuk	1140000	1038534	-8.90053
	Gwangju	858773.3	1044585	21.63687
	Daegu	1088160	1004710	-7.66891
	Daejeon	1045792	1053328	0.720602
	Busan	1166667	1085196	-6.98323
	Seoul	1251083	1159827	-7.29416
	Ulsan	977500	1073769	9.848491
	Incheon	1231017	1054571	-14.3334
	Jeonnam	1380000	1059967	-23.1908
	Jeonbuk	1105667	1083943	-1.96479
	Jeju	1350000	1067936	-20.8936
	Chungnam	1217612	1094603	-10.1025
	Chungbuk	1206371	1053972	-12.6328

In the case of the service industry, the wages showed decreasing trends in most cases, without a large difference among the regions. The regions included Seoul (-7.3%), Incheon (-14.3%), and Gyeonggi (-9.94%), and the decrease in the wages in Jeonnam (-23.2%), a rural area, was larger than those in the urban areas.

Business type	Region	Average wage (2011)	Average wage (2013)	Increase / decrease rate
Manufacturing industry	Gangwon	1114211	1019491	-8.50108
	Gyeonggi	1076563	1025575	-4.73618
	Gyeongnam	1050800	988944.3	-5.88653
	Gyeongbuk	1011475	986536.8	-2.46553
	Gwangju	968774.8	944698.9	-2.48519
	Daegu	1027616	965299.1	-6.06422
	Daejeon	1030528	1003292	-2.64292
	Busan	1075100	1075894	0.073854
	Seoul	1148282	1153539	0.457814
	Ulsan	1148337	1140362	-0.69448
	Incheon	1033211	987585.4	-4.4159
	Jeonnam	1136311	1127182	-0.80339
	Jeonbuk	1031328	1037408	0.589531
	Jeju	1258773	1028662	-18.2806
	Chungnam	1053075	1001185	-4.92747
	Chungbuk	1018416	981562.2	-3.61874

In the case of the manufacturing industry, there was a difference among the regions. The decreases in the wages in 2013 in most of the regions were larger than those in Seoul (+0.46%) and Busan (+0.07%). Such regions included Gangwon (-8.5%), Gyeongnam (-5.9%), Daegu (-6.1%), Incheon (-4.4%), and Chungnam (-4.92%). The wages in the manufacturing industry, however, decreased all over the country.

VII. Conclusion

From 2004, foreign worker policies were integrated into the Employment Permit System.

In principle, foreign workers can legally work in South Korea up to five years, and have to return to their own countries after their contract period. Based on the 2013 Foreigner Employment Survey of Statistics Korea, the Ministry of Employment and Labor found that the number of foreign workers in South Korea has decreased. In other words, it was estimated that the number of foreigners over the age of 15 residing in South Korea was 1,126,000, and that the number of employees was 760,000, having decreased by 31,000 (3.9%) compared to 2012 (791,000).

According to the Annual Report of the Ministry of Justice's Korea Immigration Service Statistics, however, the assertion that the number of foreign workers in South Korea is decreasing is doubtful. According to the "status of overseas South Koreans classified by year and nationality" in this annual report, the number of compatriots with Chinese nationality who are residing in South Korea increased from 328,621 in 2007 to 447,877 in 2012. With regard to their status, the number of visiting employment (H-2) visa owners slightly increased from 228,686 in 2007 to 238,765 in 2012. On the other hand, after 2007, there were many cases in which the government changed the H-2 visa to the overseas South Korean visa (F-4) when the H-2 visa owners satisfied the requirements for the latter. In other words, the H-2 visa owners hope to obtain an F-4 visa because the required period of their stay in South Korea is longer, and the procedure is simpler. The number of F-4 visa owners increased from 34,695 in 2007 to 189,508 in 2012.

In addition, the number of illegal aliens had decreased after 2009, but from 2012 it again showed an increasing trend. According to the 2013 Annual Report of the Ministry of Justice's Korea Immigration Service Statistics, the number of illegal aliens residing in South Korea was 183,106 as of 2012, up from 177,854 in 2011.

The results of this paper indicate that in most business types, excluding those in the construction industry, the wages of foreign workers (especially the visiting employment (H-2) workers whose quality of labor is thought to be similar to that of the South Koreans) decreased in 2013 compared to 2011. The wage decrease was particularly large in the service and manufacturing industries.

To determine if the wages suggested by the companies or individual employers decreased due to the economic depression in South Korea, a time series study should be carried out.

It is expected, however, that a decrease in the wages of the visiting employment (H-2 visa) foreign workers, who are regarded as the substitutes for South Korean workers, will affect the wage levels in South Korea. For example, if the wages of the visiting employment (H-2 visa) foreign workers decrease further, the increase in the wages of the South Korean workers can be suppressed, or the wages can also decrease.

In other words, from the standpoint of labor users, a wage decrease has many positive elements in terms of management, but detailed statistics on and analysis of the effects of a decrease in the wages of foreign workers on the wages and employment of the South Korean workers are required.

References

National Archives of Korea
http://theme.archives.go.kr/next/content/listSubjectDescription.do?id=000273
Ministry of Employment and labor, South Korea
http://www.moel.go.kr/policyinfo/foreigner/view.jsp?cate=1&sec=2#axzz1CaUfTC9E
Employment Permit System (EPS)
http://www.index.go.kr/egams/stts/jsp/potal/stts/PO_STTS_IdxMain.jsp?idx_cd=1501&bbs=INDX_001
Altonji, Joseph; Card, David. 1991. "The Effects of Immigration on the Labor Market Outcomes of Less-skilled Natives", Chapter in NBER book Immigration, Trade and the Labor Market (p. 201 - 234)
Borjas, George J. 1999. The Economic Analysis of Immigration. Handbook of Labor Economics Volume 3, Part 1 pp.1697-1760
Borjas, George; Freeman J., R. B.; Katz, L. F. 1997. "How Much Do Immigration and Trade Affect Labor Market Outcomes?" Brookings Papers on Economic Activity 1, pp.1~90.
Card, D., "Immigrant Inflows, Native Outflows, and the Local Market Impacts of Higher Immigration," Journal of Labor Economics 19(1), 2001, pp.22~64.
Choi, Kyung-soo. 2001. "Economic Effects of Foreign Workers and Immigrants in Korea", KDI policy & Analysis series
Jo, June-mo. 2004. "Analysis of substitution of foreign labor and local workers in host country"
Han, Jin-hee. 2005. "On the Economic Impact of Foreign Labor Inflows in Korea", Korean Development Survey Vol.28, No.1, pp95~114.
Kim, Jung-ho. 2009. "Analysis of the Economic Impact of Unskilled Foreigners"
Kwon, Chul-woo; Jeon, Bong-gul. 2009. "Analysis of the Determining Factors for the Employment of Foreign Workers"
Lee, Kyuyong; Park, Sungjae. 2008. "Foreign labor employment and effects", in KLI labor review (September), Korea Labor Institute.
Lee, Samsik ; Jeon, Youngjun; Shin, Whayeon; Choi, Hyojin. 2011. Analysis on Impact of Foreigners Inflow in Society Undergoing Low Fertility and Population Aging