

**GENDER WAGE GAP AMONG THE MIGRANT WORKERS IN SOUTH
KOREA: FOCUSED ON THE GROUP OF SPOUSES OF KOREAN CITIZEN**

By
LEE, Soyoung

THESIS

Submitted to
KDI School of Public Policy and Management
In Partial Fulfillment of the Requirements
For the Degree of
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Committee in charge:

Professor Seulki CHOI, Supervisor



Professor Lisa LIM



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ABSTRACT

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The wage inequality among group of female and migrant workers in Korea has been reported as the worst among the OECD member countries. Since such types of inequality are inherent within Korean culture, women migrant workers in Korea are more likely to be exposed to such discrimination in labor market. Hence, this study aims to analyze the gender wage gap the women migrant workers in Korea experience compared to their gender counterparts, particularly focused on the group of foreign spouses married to Korean citizens. To do so, OLS multiple regression is selected as a model to demonstrate the correlation between monthly wage and critical wage determinants such as gender, countries of origin, and educational attainment by utilizing a set of raw data from “A Study on the National Survey of Multicultural Families in 2012”.

After controlling variables that contain personal background, human capital level and labor market conditions, there is still a wage gap of approximately 630,000 Won, indicating that the female workers have been receiving lower wage than the male workers. In terms of personal background characteristics, their wage is largely differentiated by migrants’ countries of origin. The ones from developed countries earn higher salaries whereas the ones from developing countries earn less compared to the reference group, Korean-Chinese (Joseonjok).

In terms of human capital aspect, higher educational attainment has a positive relationship with wage, but Korean language proficiency shows an insignificant relationship with wage

Gender Wage Gap among Married Migrants

difference. Moreover, when the sample was grouped by countries of origin, migrants from the Philippines have the biggest gender wage gap and those from Vietnam have the smallest gender wage gap among the most populated country group of migrants.

Based on such results, this study suggests a provision of specialized vocational training to the unskilled migrant workers in order to increase their employment rates in skilled and technical industries. The training may also bring the effect of counter-balancing the gender wage gap between male and female migrant workers as it would lower the high proportion of skill absent female migrant workers. That also includes a development of a Korean language education curriculum for the migrants to step ahead from simple daily communications and to be more situation specialized. Lastly, in consideration of the residential geographical distribution of women migrant workers, fitting the local economy's characteristics and demands to the training may enhance workers' productivity and the wage level.

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I. INTRODUCTION

The world economy has been growing rapidly and so has been woman's share in labor participation. Women's role in the economy is well recognized as an important element of the work force for boosting a nation's economic growth. However, based on the 2015 report from the International Labour Organization (ILO), with varying rate between regions, gender wage gap is still prevalent across countries worldwide. According to 'OECD 2014 data on Gender Wage Gap', South Korea ranked as the top, among OECD member countries, to have the widest wage gap of 36.60 percent while the average of OECD countries was 15.46 percent.

South Korea's strong negative reputation is due to gender biased social norms, where the responsibility of child bearing and rearing is exclusively given to women, which forces them to quit their jobs during reproductive periods and restart job seeking with much inferior offers later on in their lives. Further, women in East Asia who hold high levels of education are not expected to receive same degree of return, measured in wages, compared to their male counterparts when exposed to job market (Haspels, & Majurin, 2008). In addition, 'OECD Employment Outlook 2015' also ranks Korea as number one for having the biggest wage gap between migrant and native workers, since Korean native workers earn 1.55 times more than the migrant workers.

Several types of discrimination in the labor market, such as the one above mentioned, often come in multidimensional ways. Women migrant workers do not only face gender discrimination but also undergo discrimination against their migrant status during their labor activities and wage determination. They experience bigotry as migrants, such as stereotyped prejudice based on their race or underestimation of skills and work experiences they had at

home country, and more burden for women when taking dual responsibility of household management or child rearing while also engaging in labor (International Labour Organization , 2015). All those types of inequality may lead to lower wages that one of the major complaints of married women who were also migrant workers in Korea is receiving low wage compared to their working hours and hard labor intensity (Kim, 2008).

Korean women workers receive lower wage than men largely due to marriage and reproduction and migrant workers receive lower wage than native workers. Thus, the gender wage inequality among the migrant workers in Korea would be an interesting topic to study on. There are several groups of migrant workers in the country, and the migrant workers who are also spouse of Korean citizens in multicultural families are decided as the focus group of the study.

With regards to the increasing number of foreign workforce in Korea, there are 1,373,000 foreigners of 15 years and older living in Korea and 938,000 of them being hired in the labor market. More importantly, among them, women workers are counted as 312,000 (51.4 percent of employment rate) (Statistics Korea, 2015). In terms of multicultural families in Korea, there are approximately 150,000 foreign spouses of Korean citizens, excluding those who acquired Korean citizenship in 2014 (Korea Immigration Service, 2015).

Despite their increasing population and participation in the Korean labor market, the financial and social benefit and security system given to them is quite low and inadequate compared to the Korean native workers. In addition, unlike the majority of migrant workers who stay in the country only during their economic activities and then return to their own countries after termination of contracts, the migrant workers who form families with Korean citizens continue to stay as a part of the society which therefore calls for more serious attention and efforts to improve their labor conditions.

For these reasons, this research aims to investigate the gender wage gap among the migrant workers in Korea, especially the group of migrant workers who are married to Korean citizens. In this matter, the wage gap of both groups and the impact of each factor on wage determination for the samples will be revealed, in order to dissect the origin of wage gap.

II. STATISTICS ON MIGRANTS IN KOREA

1. Migrant workers

In May 2015, there are 1,373,000 counts of foreigners of ages 15 years and above in Korea, with 71.8 percent of labor participation and 68.3 percent of employment rate. Moreover, the share of foreign workers in the labor market is 3.6 percent of total labor participants in Korea, and the foreigner's employment rate is 7.4 percent higher than the total Korean employment rate. Additionally, 66.2 percent of workers are males, while female's participation is as of 33.8 percent. On another note, large number of the migrant workers hold visas for employment such as Unskilled Labor Employment (E-9), Working Visit (H-2), and Professional Manpower (E-1~E-7) with counts of 545,000. However, also compelling number of workers are International Students (D-2, D-4-1), Permanent Residents (F-5), Marriage Migrants (F-6, F-2-1) who come to Korea for non-laboring purpose and later on engage in labor activities. (Statistics Korea, 2015).

2. Foreign spouses of Korean citizens

Back in the early 1990s, international marriage used to be mainly between Korean women and foreign men mostly from North America, and such marriage form only took 1

percent of the total marriages in the country. The number of marriage migrants in Korea started to increase rapidly, starting from the 2000s as a result of marriage between Korean men and foreign women, mostly from Asian countries, recording 13.6 percent in 2005 (Seol et al., 2005). In this regard, the growth rate has started to decline since 2014, and the marriage between Korean citizens and foreign nationals compose an average of 7.6 percent of total marriages registered in Korea (Statistics Korea, 2014).

The number of marriage migrants in Korea, who held the spouse visa F-2-1 and F-6, was 124,000, and approximately half of them participated in the labor force. On the one hand, the number of male marriage migrant workers who were in labor force is 15,000, while on the other hand the female population was three times larger (Statistics Korea, 2015). This was due to the fact that the number of women marriage migrants was roughly five to six times more than the number of male marriage migrants staying in Korea (Ministry of Interior, 2014). The statistics on marriage migrants may have been slightly different in several reports due to the varying perception on which visa type and legal status to include. Nonetheless, the accumulated number of marriage migrants in Korea is still a significant part to understand the changing paradigm of our society.

III. LITERATURE REVIEW

Gender inequality, especially aspects of gender wage inequality, is a widely spread problem happening across the world, disproving the conventional assumption that gender discrimination only happens in some developing countries. According to OECD (2014), the gender wage gap in 2013 for 34 OECD member countries is 15.46 percent, derived from the difference in the median wages of men and women divided by men's median wage. Over the past decade, the average gender wage gap has slightly declined among the OECD member

countries from 17 percent to 15 percent. Such social phenomenon of women receiving less income compared to men even after controlling individual productivity characteristics is a proven fact by many previous scholars (Blau & Kahn, 2000), and ultimately gender wage gap is one clear evidence that proves gender inequality in labor markets (Lee & Won, 2013).

According to Haspels & Majurin (2008), there are several factors that determine the varying level of workers' wage: 1) Productivity characteristics of education and experience, and personal characteristics of age, gender, migrant and marital status; 2) job characteristics including the type of contract, hours of work, and job status; 3) company characteristics such as size, culture, and sector of the firm; 4) being employed in a specific industry dominated by certain gender and; 5) institutional and legal framework on the labor environment where the firm is located. Furthermore, among the listed factors, only few factors that determine wage are closely related to workers' gender and migrant status, especially gender-segregated occupation and institutional structure which are reinforced by the stereotyped gender role in society. The gender role is constructed based on a common perception on biological differences between the two sexes, notably regarding women's ability to bear a child and their responsibility for child-rearing. In this sense, the aforementioned socially constructed bias on gender role along with perceptions on race heavily affects individual characteristics, social norms and organizational environment which in turn contribute to the distorted wage gap (Collins, 2000).

The OECD gender wage gap (2014) indicates that among 34 member countries, South Korea has the biggest gender wage gap with a percentage of 36.60 while New Zealand being the lowest with 5.6 percent. Similarly, South Korea also has a 40 percentage point of big gender gap in the labor participation rate among workers in their early to mid-thirties.

Further, Kim (2013) conducted a study on factors to gender wage gap in South Korea

and claimed that Korean women workers in temporary position earn 52.4 percent of what Korean men workers in regular position earn, which implies that women irregular workers are vulnerable against multidimensional discrimination of gender and employment types.

Another theory on women's low wage is based on Haspels and Majurin (2008) who suggested the reason behind this phenomenon as a tendency of women workers to quit their jobs during their reproductive periods and re-participate in labor after their children are grown enough to less require mothers' care. In this connection, Japan and Malaysia, which share a similar culture of laying a burden of child rearing duties solely on women, are found to have a high labor participation gap as well.

The situation of women receiving less income and exclusively shouldering the duty of family care, however, is not limited to Asia but extended to Europe. Women in the Mediterranean region also suffer from the same kind of disadvantage. They earn less income compared to male workers while having similar productivity characteristics, and remain as primary caretakers of households even though they are equally engaged in labor activities outside their homes (Nicodemo, 2009).

Further dissecting the gender wage inequality vis-a-vis income level, contradicting arguments are pointed, De la Rica, Dolado and Llorens (2008) claimed that women in Spain who attained an undergraduate or upper level of education experience a widening gender wage gap due to the glass ceiling while the less educated group does not. However, Nicodemo (2009) rebutted this argument by presenting her study that women rather suffer from the sticky floor than the glass ceiling, which indicates a wide gender income gap among the lower income group. The glass ceiling effect on women's wage is reported to have decreased since 2006.

Earlier in the introduction to the factors determining the individual wage gap, gender,

race, nationality and migrant status were discussed together. When discussing on wage inequality, gender and migrant wage inequality have always appeared to move hand-in-hand. In the international labor market, aspects of gender and race are intertwined with each other, which makes it impossible to analyze each factor perfect independently nor perfect dependently (Mccall, 2001).

The wage inequality against migrant workers also offers numerous theories. According to Hunt (2012), in the United Kingdom, migrant workers who are originated from non-English speaking countries face discrimination in income while those from English speaking countries have an advantage in earning more wage than the natives. Hindrance for the migrants from non-English speaking countries, striving to receive equal income just like their English speaking counterparts, tend to get stronger as they go up toward the top income quintile later on.

In Korea, Cho (2010) took an empirical study on wage discrimination against migrant workers, and stated that migrant workers receive 50 percent of what Korean workers earn when compared by hourly wage. Moreover, when individual observable characteristics were controlled and market price for each individual component was assumed to be constant, the gap was 24 percent regardless of the job position. The wage gap on this study was dissected by using Oxaca decomposition method, and 63 percent explained the wage gap. Cho outlined that migrant workers in Korea are clearly receiving lower wages than the natives, even with same level of productivity.

Since both women and migrant workers experience an unfavorable gap compared to their male and native counterparts, female migrant workers may even experience a worse situation. Nicodemo and Ramos (2011) argue that in Spain, female non-Spanish workers earn less than the native workers. In addition, the wage gap between the two groups is particularly

high when they are migrants from developing countries. Unexplained wage gap constitutes a significant share of the total wage gap, and the rest could be explained by the less attractive personal and productivity characteristics of the migrant workers which warrant less returns. Moreover, the migrant women who are in a high income distribution undergo worse unexplained wage inequality. Similarly, their statement goes along with Beach and Worsick (1993)'s theory, stating that highly educated migrant women have a distinctive wage gap, while the wage gap among less educated women is relatively insignificant.

'Double-negative effect' is a term coined to describe the wage discrimination caused by the combined characteristics of the two aforementioned statements. In Canada, a double-negative effect is more likely to exist among non-native female workers, and the weight on gender inequality is heavier than the factor of migrant discrimination (Shamsuddin, 1998). Inspired by Shamsuddin's study on the double negative effect using Oaxaca decomposition, Piazzalunga (2013) conducted a research by using the same method on his study on female migrant workers in Italy, and found out that the double negative effect may go up to 60 percent when the job category is controlled, and more weight lies on racial discrimination than gender discrimination. In the meantime, in Denmark, using Danish panel data, Nielson et al. (1999) found a heavy and continual double-negative effect on the wage of female migrant women, even after controlling productivity characteristics of individuals. On the contrary, Adsera and Chiswick (2007) proposed that there is a huge wage gap between foreign and native worker groups, but no definite sign of double negative effect on wage was found when they studied the nature of double-negative effect in 15 countries in Europe.

Closely looking upon the multidimensional form of discrimination against female migrant workers in Korea, particularly the segregation of occupational industry by gender among migrants, is evident that female migrant workers are mostly concentrated in the domestic, catering and service industries where the pay is less than other male-dominated

industries. Their major complaint on the labor status is low wage and overly extended working hours (Kim, 2008). But compared to the gender wage gap among domestic workers, the gender gap among the migrant workers in Korea is much narrower due to the tendency of huge number of migrant workers being hired in low paid manufacturing industries (Cho, 2010).

In terms of the driving factors to employment, Cho and Byoun (2015) conducted a study on the employment rate of women marriage migrants using the same raw data this study is utilizing and concluded that educational attainment has a positive relationship with employment rate. Furthermore, they also added that the marriage migrants who came to Korea for marriage would not be prepared with sufficient skills and expertise since their primary goal of migration was not employment and this may lead to the problem of female migrant workers receiving low wages in exchange of their labor.

Cho and Byoun also argued that migrants' proficiency in Korean language does not have significant impact in employment when the level is high but if it's low, it may influence negatively on the rate. This theory is little bit dissimilar to the claims of Kang and Lee (2012) and Lee (2013) on positive relationship between Korean language proficiency and employment.

So far, there have been number of studies on the wage gap between domestic and migrant workers in Korea and consolidation of the female marriage migrant worker to the Korean labor market. However, concerns on wage inequality among the migrant workers have not been adequately conducted, therefore, this study intends to take a step to analyze the gender wage gap existing in the group of married migrant workers in Korea.

IV. METHODOLOGY

1. Data and limitation of the sample

This study utilizes a set of raw data from “A Study on the National Survey of Multicultural Families in 2012” from Ministry of Gender and Equality published in 2013.

According to the Korean law, the realm of ‘multicultural family’ is limited to the families formed by 1) foreign spouse and Korean native citizen, and 2) foreign born neutralized to Korean and Korean native citizen which excludes families formed by both foreign husband and wife (Lee, Park & Kang, 2011).

A total of 15,341 samples from multicultural households residing in Korea were collected in through the survey, which included 15,001 foreign spouses of Korean citizens and neutralized citizens; 13,859 Korean spouses of the married migrants and neutralized citizens; and 4,778 dependents aged 9 to 24. Among these, the sample for this study is limited to 5,897 male and female migrants who have married Korean citizens, including those who have divorced and were bereaved. The sample is referred as ‘foreign origin spouse of Korean citizen’ to avoid confusion that might rise if the term ‘marriage migrant’ is used since majority, but not all of the participants came to Korea by marriage. In some cases, some of them have come to Korea with other purposes and means but are counted as part of the multicultural family since they married to Korean. Thus, the sample is not limited to particular types of visa or means of settlement, and may include marriage migrants, students, temporary visitors or migrant workers.

Additionally, those 5,897 male and female migrants are those who participated in more than 20 hours of labor activity per week for the past 3 months, and received wages from their employers, excluding those who are hired for their family business and running their own businesses. More precisely, limiting the sample to those who worked more than 20 hours

per week consists in segregating workers who work on occasional and regular basis. Working below 20 hours per week is considered as occasional labor and their wage would be naturally low due to short time of work. Likewise, excluding non-wage earning workers is done as to shape the sample based on the concept of the study, which is to analyze the wage gap as they have different earning mechanisms from the wage earning employees.

This data set is one of very few on multicultural families that cover general aspects of their lives, ranging from economic to social perspectives. Further, unlike several researches done on multicultural families in specific provinces to set up policies for that particular region, this survey was rather taken nation-wide including every provinces and metropolitan cities of Korea. For this reason, such particular feature prevents a possibility of bias to external validity when it comes to represent the general multicultural families in Korea. The survey was taken through a ‘face-to-face’ method by professional conductors from Statistics Korea visiting residences of each household.

2. Variables

The dependent variable is income of the married migrant workers in their past 3 months prior to the survey. During the survey, the income data was collected in 15 categorical levels by increase of 500,000 Korean Won, starting from ‘below 500,000 Korean Won’ until ‘above 7 Million Korean Won’. For this study, Onozuka (2016)’s method on managing the income variable, such case adapted in a way that mid value of each level, is taken as the income value. On the one hand, for the lowest income group of ‘below 500,000 Korean Won’, 500,000 Korean Won is substituted as the income value due to the challenge in gaining the mid value. On the other hand, for the highest income level ‘above 7 Million Korean Won’, 7,250,000 Korean Won is taken in consideration of interval from the previous income

values.

Independent variables are several factors relevant in forming the wage namely: gender, age, country of origin, educational attainment, Korean language proficiency, occupational type, employment type, weekly working hour and location of residence. Most of the independent variables are turned into dummy except the age, language proficiency and weekly working hour variables. Employment type in the original data is categorized into 6 types such as regular, temporary, daily, self-employed with employees, self-employed without employees, and no-income family business supporter. However, the samples regarding those who were employed in latter three types are eliminated due to the nature of them not being wage earners. More importantly, specifying the sample only to the wage earning workers is a sample limiting technique often used by scholars conducting similar researches on wage such as Kim, Tae-hong (2013) and Onozuka (2016).

Table 1 Variables

Variable		Description	
Primary Dependent Variable			
Monthly wage		<ul style="list-style-type: none"> - Income of past 3 months before the survey was taken - Mid value of the original data which was collected in 15 categorical levels by increase of 500,000 won. 	
Independent Variable			
Variable		Reference Variable	Description
Personal characteristic variables	Gender	Male = 0, Female=1	Male : 1,405 Female: 4,492 Including <i>Married, Divorced, Bereaved</i> and <i>Having work experience in Korea</i>

	Age	-	Age of the migrants as a proxy of years of work experience
	Country of origin	Korean-Chinese (Joseonjok)	16 countries and regions grouped to: Joseonjok, China (Excluding Joseonjok), Taiwan & Hongkong, Japan, Vietnam, Philippines, South East Asia (Excluding Vietnam & Philippines), South Asia, Central Asia, North America & Europe & Oceania, The rest
Human capita variables	Educational attainment	Middle & High School Education	4 Educational attainment levels namely: Basic Education, Middle & High School Education, Undergraduate School Level, Graduate School Level
	Past working experience	Yes = 1 No = 0	Whether worked or not in home country before coming to Korea
	Korean language fluency	1= Lowest 5= Highest	Korean Language Fluency of the sample; Average of self-scored rate on speaking, listening, reading, writing
Labor characteristic variables	Occupational type	Service Clerk	10 different industries namely: Manager, Professional, Clerical Work, Service Clerk, Sales, Forestry & Fishery, Technical Skills, Mechanical Skills, Physical Labor, Military Personnel
	Employment type	Regular	3 different types of wage earning employment namely: Regular, Temporary, Daily
	Hours worked	-	Total working hour during a week before the survey was taken
	Rural Residence	Rural=1 Urban=0	Residential location of the sample

Source: Ministry of Gender Equality & Family (2013)

Table 2 Variable Description

Variable name	Sample			Mean Income (In ₩10,000)
	Mean	Standard Deviation	Total Number	
Sample			5,897	149.703
Age	38.854	9.950	5,897	
Gender	.761	.426	4,492	
Korean-Chinese (Joseonjok)	.236	.425	1,396	133.273
Chinese (Excluding Joseonjok)	.195	.396	1,155	125.541
Japanese	.046	.211	276	142.844
Taiwanese& Hongkong origins	.028	.165	166	265.662
Vietnamese	.120	.325	706	94.652
Filipino	.096	.295	570	107.017
South East Asian (Excluding Vietnamese & Filipinos)	.092	.289	544	118.428
South Asian	.024	.155	147	159.523
Central Asian	.057	.233	340	126.25
European, North American, Oceanian	.086	.280	509	382.416
Others	.014	.119	86	170.348
Basic Education	.079	.271	471	104.670
High school graduate	.616	.486	3,635	121.298
Undergraduate level	.265	.441	1,568	199.106
Graduate level	.037	.190	223	360.538
Having Working experience	.801	.399	4,724	146.886
Language proficiency	3.659	1.124	5897	
Manager	.007	.084	42	465.476
Expert	.147	.354	868	248.070
Office clerks	.053	.225	318	249.763
Service clerks	.036	.188	976	126.280
Sales clerk	.036	.188	217	132.027

Farmer & Fisher	.005	.074	33	102.272
Skilled laborer	.095	.294	566	134.938
Mechanics	.175	.380	1,033	127.613
Physical laborer	.309	.462	1,824	107.172
Soldier	.003	.058	20	480
Regular worker	.440	.496	2,599	192.664
Temporary worker	.365	.481	2,154	121.367
Daily worker	.193	.395	1,144	105.528
Weekly working hours	48.25	14.413	5897	
Rural residence	.311	.463	1,694	114.935

Source: Ministry of Gender Equality & Family (2013)

Table 3 Variable Description by Sex

Variable name	Male				Female			
	Mean	Standard deviation	Number	Income	Mean	Standard deviation	Number	Income
Sample			1,405	256.405			4,492	116.314
Korean-Chinese (Joseonjok)			338	167.899			1,058	122.211
Chinese (Excluding Joseonjok)			202	152.227			953	119.884
Vietnamese			7	142.857			701	94.170
Filipino			21	177.381			549	104.326
Age	41.69	9.244	1,405		37.96	9.997	4,492	
Basic Education	.026	.160	37	145.945	.096	.295	434	101.152
High school graduate	.466	.499	655	176.450	.663	.472	2,980	109.172
Undergraduate level	.404	.490	568	311.971	.222	.416	1,000	134.934
Graduate level	.103	.304	145	428.103	.017	.130	78	234.935

Working experience	.782	.412	1,099	250.591	.806	.394	3,625	115.429
Language proficiency	3.730	1.235	1405		3.636	1.086	4492	
Manager	.023	.151	33	496.212	.002	.044	9	352.777
Expert	.274	.446	385	361.363	.107	.309	483	157.764
Office clerks	.082	.275	116	388.793	.044	.207	202	169.527
Service clerks	.066	.249	94	247.857	.196	.397	882	115.221
Sales clerk	.024	.155	35	247.857	.040	.197	182	109.752
Farmer & Fisher	.006	.079	9	147.222	.005	.072	24	85.416
Skilled laborer	.146	.353	206	184.830	.080	.271	360	106.388
Mechanics	.176	.381	248	174.496	.174	.379	785	112.802
Simple laborer	.184	.387	259	143.146	.348	.476	1,565	101.214
Soldier	.014	.118	20	480	0	0	0	0
Regular worker	.606	.488	852	306.924	.388	.487	1,747	136.876
Temporary worker	.202	.401	284	208.010	.416	.492	1,870	108.208
Daily worker	.191	.393	269	147.490	.194	.396	875	92.628
Weekly working hours	48.785	14.198	1405		48.089	14.477	4492	
Rural residence	.111	.314	156	214.423	.342	.474	1,538	104.844

Source: Ministry of Gender Equality & Family (2013)

3. Model

For econometric analysis of the data, multiple OLS regression analysis is used to formulate an equation. Through the analysis, this research aims to investigate on the wage gap among the male and female samples and how the various personal and productive

characteristics influence on the determination of their wage.

Equation 1 Multiple OLS Model

$$Y_i = \beta_0 + \beta_1 G_i + \varepsilon_i \quad (1)$$

$$Y_i = \beta_0 + \beta_1 G_i + \beta_2 P_i + \varepsilon_i \quad (2)$$

$$Y_i = \beta_0 + \beta_1 G_i + \beta_2 P_i + \beta_3 H_i + \varepsilon_i \quad (3)$$

$$Y_i = \beta_0 + \beta_1 G_i + \beta_2 P_i + \beta_3 H_i + \beta_4 W_i + \varepsilon_i \quad (4)$$

In the equations above, Y_i is the monthly income of migrant workers; G_i is gender of the migrant workers; P_i is personal characteristics of the workers such as country of origin and age; H_i is human capital characteristics such as education and past working experience; W_i is labor characteristics including industrial type, employment status and hours of work; ε_i is error term.

Since this study is designed with several independent variables to derive the wage differentials, they are grouped and isolated according to their characteristics. In order to see how those different variables influence and manage to explain the gender wage gap, each group of variables are added step by step for the regression table 1 – Regression on Whole Sample. Firstly, the equation (1) only includes a gender variable, which is the main independent variable; secondly, equation (2) adds a variable to measure personal characteristics on the top of equation (1); Thirdly, The following equations (3) and (4) take the same path, for instance, on the equation (4), the model includes all the variables and likewise the value of dependent variable when all 10 independent variables are put in together.

Since the first regression analysis contains whole sample including migrants from

very contrasting backgrounds and countries of origin, the regression coefficients may be derived not only from gender factor but also from others. To minimize the potential bias, the following step is designed to analyze the gender wage gap by countries of origin. Hence, 4 group of sample are selected who are Korean Chinese (Joseonjok), Chinese (Excluding Joseonjok), Vietnamese and Filipinos. Equation (4) is formulated without country variable.

V. FINDINGS

1. Descriptive Statistics

The data set used for analysis is divided into two, the first one for married migrants including employed and unemployed participants, the second one limited to the working sample specifically who are wage earners.

The table below describes the labor participation status of the 14,628 survey samples who were married. Those who had worked for past 3 months and more prior to the date of survey belong to the group “Working” whereas those who did not, including the ones that worked but quit more than 3 months ago belong to group “Not Working”. In this regard, 83 percent of male and 49 percent of female married migrants indicate that they were working, which slightly goes along with the World Bank’s statistics on labor participation trends for each sexes in Korea; 72 percent for men and 50 percent for female (World Bank Group, 2016).

Table 4 Economic Participation of the Survey Participants

	Working	Not Working	Total
Male	1,918 (83%)	386 (17%)	2,304 (100%)
Female	6,047 (49%)	6,277 (51%)	12,324 (100%)
Total	7,965	6,663	14,628

Source: Ministry of Gender Equality & Family (2013)

Figure 1 below shows the reasons for not participating in labor for the non-working group. Reasons for not participating in the labor vary according by gender. For male, the biggest reason for not engaging in labor is due to their unhealthy condition to work, followed by offered wages not fitting into their interests and some other reasons not indicated in the graph. Oppositely, a main obstacle for women migrant workers not participating in labor are primarily the motherhood and wife duties, their responsibilities to take care of their children, bear offspring and manage the household.

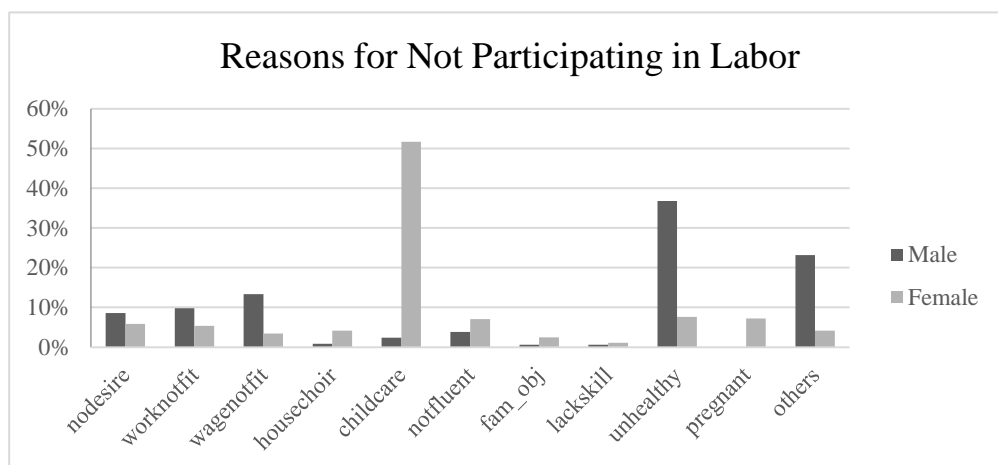


Figure 1 Reasons for Not Participating in Labor

Source: Ministry of Gender Equality & Family (2013)

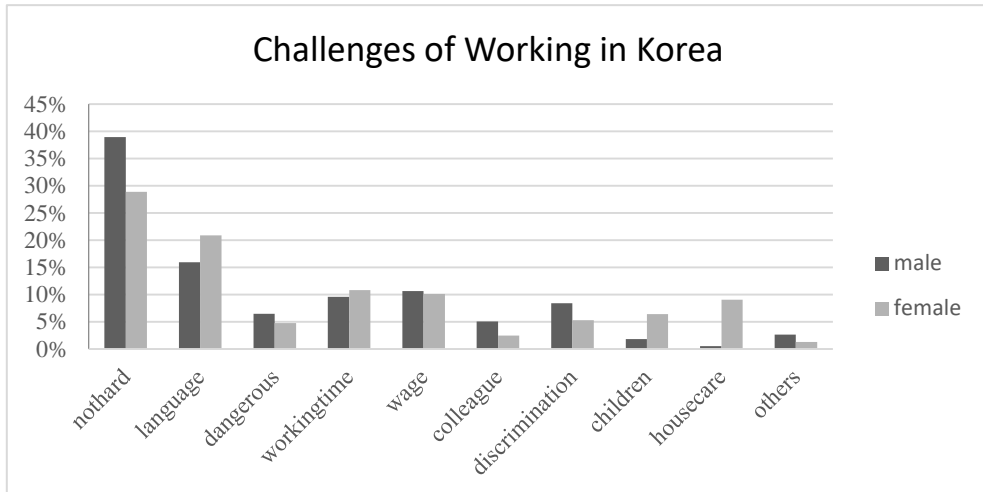


Figure 2 Challenges of Working in Korea

Source: Ministry of Gender Equality & Family (2013)

Figure 2 further explains about the hardships migrant workers face while working in Korea. While figure 1 is answered by non-working group, figure 2 is done by the working group on the characteristics of challenges they face during their labor. In this sense, 39 percent of male and 29 percent of female respond that they are not undergoing any difficulties while 16 percent and 21 percent of male and female workers respectively choose Korean language barrier as the challenge. Statements such as “Too long working hour” and “Low wage” are also picked by 10 percent from each sex. The selection criteria of “Having to care their children” and “Manage household” are mostly answered by women workers.

From this point, the analysis is based on the limited sample which is used for the regression analysis. The sex ratio of spouse of citizen is largely unbalanced. Among the sample, 4,492 are female and 1,405 are male; male is only one third of the female sample population.

Looking at the educational attainment both sexes on Figure 3, men are having higher level of educational degree compared to the women. The value on vertical axis refers to the

percentage of both sexes on their last educational attainment, illustrating 76 percent of women have achieved up to high school level of education attainment while that of men is 49 percent. Women’s ratio on high school completion as last educational degree is higher than their counterparts but from the college level onwards, men take over. For example, 40 percent of men but only 22 percent of women hold undergraduate school level, while for the graduate level of education, 10 percent of men but only 2 percent women migrant belong to this cohort respectively.

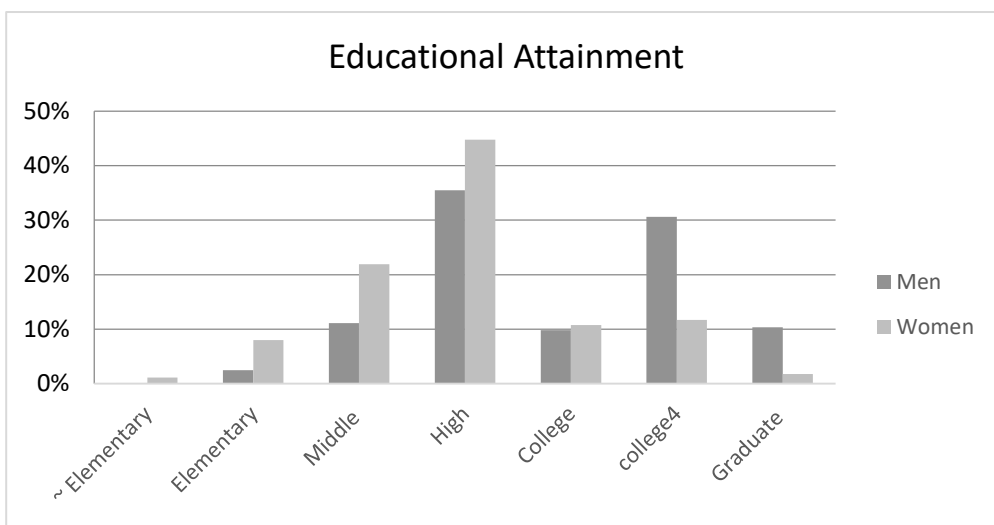


Figure 3 Educational Attainment

Source: Ministry of Gender Equality & Family (2013)

Table 5 explains about the composition on countries of origin of the samples. As shown, around 24 percent of both male and female migrants are Korean-Chinese (*Joseon-jok*), as the early generation of multicultural families is encouraged and formed by marriages with ethnically same group of people, Joseon-jok. Migrants from countries in East Asia are large and sex balanced due to close distance and, similar culture and ethnicity as well. The composition of female migrant workers from South East and South Asia is almost 40 percent of total female sample while male migrants from Mongolia, Vietnam, Philippines, Thailand, Cambodia, Uzbekistan and Russia are less than 1 percent. In accordance with this statistics,

Jeon (2008) claimed that a large number of women in such developing countries decide to marry Korean men and migrate to their husbands' country in a wish to escape from poverty and stabilize their income level in a wealthier environment for their families back home and for themselves. Korean men who are not able to find Korean women for their marriage partner find 'International marriage' as the substitute option. This reason behind the scene has been a social concern from the beginning of era of multiculturalism in Korea and raised many social consequences both for Korean men and migrant women.

Table 5 Countries of origin

Country	Male	Female	Country	Male	Female
China	14%	21%	Cambodia	0%	5%
China (Joseonjok)	24%	24%	Uzbekistan	0%	2%
Taiwan & Hong Kong	9%	1%	Russia	0%	1%
Japan	2%	5%	US & Canada	23%	2%
Mongol	0%	4%	South East Asia (The rest)	7%	1%
Vietnam	0%	16%	South Asia (The rest)	8%	1%t
Philippines	1%	12%	West Europe & Oceania	7%	0%
Thailand	0%	4p%	Others	3%	1%
			Total	100%	100%

Source: Ministry of Gender Equality & Family (2013)

While women's population percentage is bigger among the developing countries, the large percentage for male can be found among the countries in North America and Europe. Note that while many of specific countries from South East and South Asia indicated on the table have bigger female composition, the rest in the same region have higher male composition. This tendency can be connected to the cases of Korean women marrying men from the Global North and some Islamic countries in South Asia.



Figure 4 Occupational Type

Source: Ministry of Gender Equality & Family (2013)

The graph above indicates the different types of jobs in which migrant workers are employed. Segregation of jobs by sex visibly illustrates that male migrant workers are largely employed for highly paid and skilled works such as managers, experts and skilled laborers. On the other hand, a lot of female migrant workers are hired in service, sales and simple labors that does not require high skills but at the same time pay low wages.

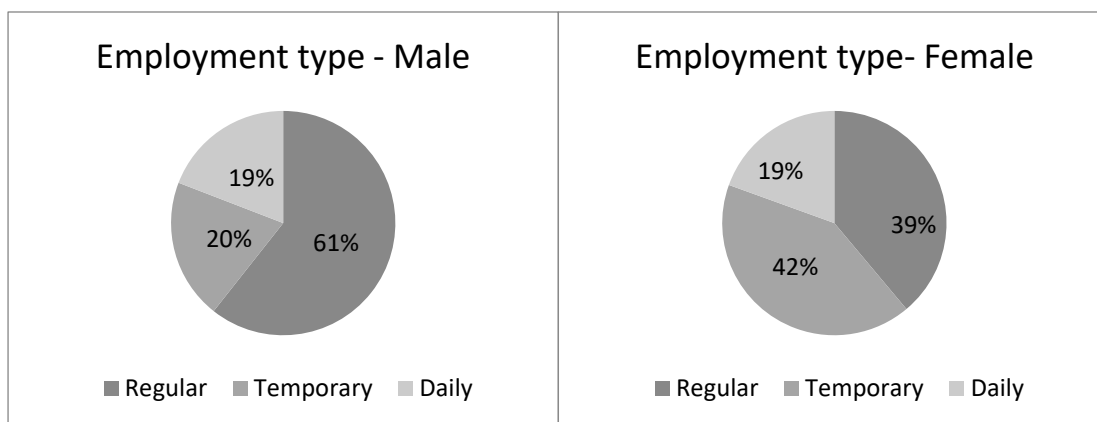


Figure 5 Employment

Source: Ministry of Gender Equality & Family (2013)

Next, the employment type of two genders is compared. In this graph, 61 percent of men are regular workers while only 39 percent of females are on the same legend. More than 20 percent of women workers are enrolled in temporary positions compared against men and for both groups daily worker percentage is the same. Knowing that regular workers have a more stable labor status and benefits than temporary and daily workers, an assumption can be made that more of male migrant workers are likely to have better labor environment and benefit mechanism than the female workers.



Figure 6 Wage by Residence

Source: Ministry of Gender Equality & Family (2013)

Figure 6 indicates the wage difference by residence of the migrant workers. Urban is for those who live in Metropolitan cities or *Dong-bu* while rural is for those who live in *Uep* and *Myeon-bu*. The wage shown in the graph is the mean of 4,201 samples living in urban and 1,694 samples living in rural. Simply by comparing the two means, urban residences earn around 500,000 Korean Won more than the rural residence.



Figure 7 Monthly Income

Source: Ministry of Gender Equality & Family (2013)

Lastly, the wage differences by gender is described. This graphically tells how the income level of the two sexes is distinguished. In this regard, 83 percent of female migrant workers earn less than 1,250,000 Won and starting from 2,750,000 Won women wage earners belonging each level is less than 1 percent of the total female sample. For men, the wage among themselves is little more evenly distributed than female but still a lot of them are clustered in the low income level that almost reaches 60 percent of the male sample receiving incomes ranging from 1,250,000 to 2,250,000 Won.

The wage gap of two sexes that is shown above may come from productivity characteristics such as educational attainment level, performance or different industries but some may come from unexplained discriminations like gender and country of origin. The next chapter of this paper examines which factors of the wage determination largely influence on the income of migrant workers.

2. Empirical results

The first regression table on the whole sample shows the result of OLS multiple regressions based on the 4 models formulated to see the gender wage gap among the married migrant workers in Korea. The unit of coefficient is 10,000 Korean Won and when the model 1 was run, female migrant workers were to receive 1,400,000 Won less than their counterparts. In model 2 with personal characteristic variables being controlled, the wage difference went down up to around 700,000 Won. In this model, the migrant workers from developed countries such as North America, Europe, and Oceania were to earn 2 Million Won more than the reference group, Joseonjok. Moreover, Model 3, which held the personal and human capital variables constant, showed strong positive returns of education and proficiency in Korean.

The fourth model which held all the variables constant including the labor characteristic variables marked a result of female married migrant workers having wage earning disadvantage of approximately 630,000 Won. Among the countries of the origin, migrants from China earned little less of wage to Joseonjok and migrants from Japan earned little more, their coefficients did not have any statistically significant result. However, despite of their geographical and cultural closeness with Chinese (mostly Han ethnic) and Joseonjok, the migrants from Taiwan and Hongkong received significantly higher wage and that should have been derived from personal economic and human capital characteristics the migrants hold. The same went with migrants from North America, Europe and Oceania that when whole set of variables were controlled, they received almost 1,500,000 Won more than the Joseonjok and it could be explained via their human capital and labor characteristics which is welcomed and favored by Korean labor market toward foreigners.

Contrastingly, migrants from Vietnam, Philippines and other countries in South East

Asia and South Asia all were found to receive less income. Such tendency may have been derived from the commonly low educational attainment and human capital characteristics that many of the migrants held which were originated from their economically disadvantaged background at home countries. A large percentage of migrants from those regions are women marriage migrants and such result may partially explain the income status of marriage migrants in the labor market.

In terms of human capital variables for the whole sample, educational attainment impact had positive returns on income thus having undergraduate degree increased the wage of 150,000 Won and post graduate degree up to 780,000 Won. But the ones who worked in their home countries before migrating to Korea received lower wages than those who did not, breaking an assumption that the working experience would be another value to increase the wage. In this sense, this may imply that the working experience back home is not transmitted and recognized in the Korean labor market or another theory can be that those who did not participate in labor market for pursuing higher education back home migrated to Korea and were able to get highly paid jobs. This relationship may have been more clearly studied if data on their labor activities and year of working experience back home was available.

Moreover, compared to the service industry employee, which is the reference group, managers, experts, and office clerks received higher wages and in terms of employee types, regular workers earned higher income compared to temporary workers. This is well expected as the wage difference of migrant workers by occupational type and employment type is similar to that of domestic workers in Korea. Residing in rural residence also indicated around 50,000 Won less income than those living in urban regions.

The first regression analysis was able to compare the wage largely between men and women migrant workers. However, the nature and characteristics of two gender group may be

genuinely divergent as their primary purposes of migrating to Korea vary. Large percent of male migrant workers who participated in this survey may be from developed countries and have arrived in Korea due to their vocations while many women migrant workers would be marriage migrants coming from developing countries. To compensate such issue, the second regression table was designed to draw a result on the migrants from specific countries. Joseonjok, Chinese, Vietnamese, and Filipinos were selected due to their large population and model 4 of first regression table excluding the countries of origin variables was used.

When age, educational attainment, experience of working in home country, Korean language proficiency, industrial type, employment type, weekly working hours and region of residence were held constant, women from all 4 countries had lower incomes than men, women workers having the worst wage gap with 530,000 Won lesser pay per month. Further, only Joseonjok and Filipinos had significant returns with undergraduate degree and all had big wage increase with postgraduate degrees. This result supports Cho and Byoun (2015)'s result on positive educational return of migrants from the Philippines to employment.

There were no workers in the managerial level among the Joseonjok and Vietnamese groups, proving the fact that many of the migrant workers are located in low wage earning industries. Vocations of earning high wage were largely different by the countries of origin that experts and office clerks earned higher wage than service clerks only among Joseonjok, Chinese, and Filipinos. Only Joseonjok skilled workers earned notably high wages. Many of the occupations, except the few noted above did not show statistical significance and among Vietnamese, no statistical significance was shown on any occupational type. This propensity might be due to the small number of observations in the group of Vietnam to properly distinguish the wage differences by occupational types; or the vocational skill of the migrant works is weak and not specialized that they do not receive distinct amount of wage regardless of different occupations.

For employee type, regular workers from all 4 countries earned more than temporary workers while daily workers received less and one more working hour increase around 10,000 Won of wage for all. Residing in rural area decreased the income level but did not show much statistical significance.

VI. CONCLUSION

1. Summary of the Study

This research aimed to analyze the monthly income of migrant workers who are married to Korean citizens and study on their gender wage gap using the data set from “A Study on the National Survey of Multicultural Families in 2012”. To see the impact of several personal and labor characteristic variables on determination of one’s wage, OLS multiple regression method was utilized. From the original sample set, the sample for this study was limited to the married migrants who participated in wage earning labor activities for more than 20 hours per week.

When solely the gender wage gap was computed with no consideration of other personal and productivity variables, the wage gap was around 1,400,000 Won but as other features of wage determination were controlled, the gap decreased to 630,000 Won. But even after controlling for all the personal, human capital and labor characteristic variables, women married migrant workers still received less income than male migrant workers.

The migrants also had wage differences by their countries of origin since the ones coming from developed countries, such as Taiwan & Hongkong and North America& Europe, received much higher income and the ones coming from developing countries of South East Asia and South Asia earned much lower income than the reference group. On

another note, educational attainment had a positive relationship with income but working experience at home country and language proficiency did not. Occupational types suggested wage differences since white-collared workers earn higher wages and blue-collared workers earn lower wages, and in terms of employment type, the wage is hierarchized from regular to temporary as well as daily.

In addition, personal characteristic variables, especially the country variables, were suggested as an influential factor in wage determination of the samples when compared to others. It may be due to many different features that migrant workers possess which are differentiated by their countries and background, and asymmetrically favored in Korean labor market such as language, educational system and work ethics. However, it is important to observe carefully if the coefficients from country variable also include any form of racial discrimination against the migrant workers.

When the variable of specific countries of origin was extracted and done the same evaluation on wage determination factors, the migrants from the Philippines had biggest gender wage gap among them yet the Vietnamese group having the smallest gap, nonetheless, still all the countries showed female disadvantages. Similarly, level of returns to education all varied among the countries but Joseonjok and Filipinos had a distinguishable income increase by higher educational attainment. This may be related to migrants from the Philippines and China working as language instructor to teach English and Chinese and necessity of them to have required high level of education. Types of employment had consistent and acceptable wage differences throughout all four country groups but industry type did not, as most of the migrants were employed in simple manufacturing industries, which led to insignificant differences in salary. Finally, living in country side also decreased the monthly wage of the migrant workers.

2. Policy Recommendation

As shown, Korean language proficiency was not an impactful factor in affecting wage of the migrant workers regardless of their nationalities. So far, many studies have focused on the Korean language skills as a boost for the migrants to adapt in the society and pursue better living standards. On the one hand, it may have been effective in enhancing their chance to get employed and reconciled with the society but this study figured out that the language skill does not mark much in terms of wage increase.

In this sense, this study suggests that the framework of the policies for supporting migrant workers needs to be shifted towards more practical assistances including skills that can be transmitted to instant labor activities. This includes a need of curriculum development on Korean language classes. The current curriculum and books developed for Korean language classes to marriage migrants are mostly focused on daily communication which lacks a tool to train the migrants in terms of their wishes to be exposed to the labor market. Korean language education diversified to different programs and purposes is much needed. For example, provision of vocational language training to their foreign employees from firms hiring certain number of migrant workers is proposed. This could be well established if incentive is given to the firms implementing such programs and relevant campaign is advocate. This eventually will increase the productivity of the migrant workers and return with a greater benefit.

In addition, many female marriage migrant workers are hired in low wage industries due to lack of technical skills. Once trainings are given for an enough period of time, it would not only help increase the wage by encouraging large percentage of workers to get jobs with higher income, but also raise the employment rate of the marriage migrants who wish to participate in the labor activities. More, since the female migrant workers are less equipped

with technical skills than the male migrant workers, it may also have an effect of counterbalancing the gender wage gap.

Lastly, the job trainings given to migrant workers should be differentiated by the characteristics of regions in which they reside. A vast number of marriage migrants are more prominent in provinces rather than metropolitan cities and more than half of the women marriage migrant in rural area participate in agricultural labor activities. Their participation for 3 months and up is 48 percent (Lee & Chung, 2014), thus the job trainings would have bigger effect if the training is suitable to the needs and demands for the local economies, which largely varies between cities and rural areas. Ultimately, this emphasizes the local government's role and Multicultural Family Supporting Centers to research and develop vocational training platforms that better fits to their particular situation in accordance of assistance from the central government.

VII. LIMITATION OF THE STUDY AND RECOMMENDATION FOR FURTHER STUDY

The background and human capital characteristics of male and female migrant workers vary broadly as most of the men are from developed countries while women are from developing countries. Questions whether the gender wage gap is truly on gender or based on human capital of the sample may rise. To compensate such matter, numerous independent variables were controlled and regression analysis on male and female migrant workers from specific countries was done as human capital characteristics of migrants from same country were assumed to be similar. Yet, the question if that was enough to control the different characteristics of the sample and the concern on unbalanced number of male and female observation on each country could hover on.

And, due to the design of the original raw data, wage variables of the samples were collected in categorical levels and the mid value of each category was taken to conduct this study. Hence, the future study might suggest more precise results if the wage is purely collected on numerical values.

Moreover, this study employed only quantitative methods to analyze the wage gap of the married migrant workers. However, to acquire a more thorough study on the hardships the migrant workers go through during their labor activities, qualitative methods of study, such as interviews, are recommended as to broaden and enrich the research's content.

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Appendices

APPENDIX 1
REGRESSION ON WHOLE SAMPLE

VARIABLES	(1) wage (in ₩10,000)	(2) wage (in ₩10,000)	(3) wage (in ₩10,000)	(4) wage (in ₩10,000)
Gender (Female)	-140.092*** (2.961)	-70.925*** (2.981)	-67.997*** (2.929)	-63.982*** (2.878)
Age		0.001 (0.128)	0.062 (0.127)	0.115 (0.123)
Countries				
China		-2.963 (3.203)	-2.601 (3.191)	-4.425 (3.003)
Taiwan & Hongkong		97.865*** (6.761)	82.431*** (6.880)	56.863*** (6.628)
Japan		18.776*** (5.295)	5.181 (5.401)	3.486 (5.252)
Vietnam		-22.141*** (4.297)	-16.673*** (4.458)	-12.171*** (4.257)
Philippines		-11.691*** (4.167)	-19.145*** (4.429)	-17.068*** (4.231)
South East Asia		-10.835** (4.283)	-11.325** (4.403)	-9.885** (4.185)
South Asia		-8.682 (7.183)	-15.431** (7.168)	-21.294*** (6.785)
Central Asia		6.608 (5.001)	-8.129 (5.143)	-7.532 (4.859)
North America, Europe & Oceania		207.934*** (4.598)	170.481*** (5.253)	146.461*** (5.368)
Education				
Basic			-4.251 (3.926)	0.380 (3.704)
Undergraduate			26.250*** (2.810)	15.477*** (2.807)
Graduate			97.924*** (6.143)	77.923*** (6.034)
Worked at home country			-5.422** (2.711)	-4.803* (2.550)
Language proficiency			2.331** (1.035)	-0.457 (0.985)
Occupational type				
Manager				168.122*** (12.038)
Expert				22.079*** (4.330)
Office clerks				42.533*** (5.199)
Sales clerk				-6.899 (5.595)
Skilled laborer				-3.957 (4.049)
Mechanics				-9.630*** (3.494)
Physical laborer				-12.562*** (2.992)
Employment type				

Temporary				-25.267*** (2.284)
Daily				-33.401*** (2.910)
Weekly working hour				0.976*** (0.075)
Rural residence				-4.918** (2.254)
Constant	396.497*** (5.366)	257.925*** (8.461)	241.497*** (9.494)	222.511*** (10.911)
Observations	5,895	5,895	5,895	5,895
R-squared	0.275	0.505	0.528	0.584

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

APPENDIX 2

REGRESSION ON SELECTED GROUP OF SAMPLE

Group VARIABLES	(1) Joseonjok wage (in ₩10,000)	(2) China Wage (in ₩10,000)	(3) Vietnam wage (in ₩10,000)	(4) Philippines wage (in ₩10,000)
Gender (Female)	-43.279*** (3.198)	-36.651*** (4.377)	-28.839** (11.686)	-53.608*** (9.578)
Age	-0.005 (0.148)	0.047 (0.182)	0.106 (0.225)	-0.231 (0.236)
Education				
Basic	-7.107 (4.544)	4.640 (5.650)	0.861 (2.900)	2.025 (10.684)
Undergraduate	16.404*** (4.113)	7.555 (4.969)	-1.240 (6.032)	10.699*** (3.778)
Graduate	128.064*** (17.799)	85.764*** (17.436)	76.074** (31.703)	96.143** (41.134)
Worked at home country	-0.230 (3.664)	-12.002*** (4.255)	-4.292* (2.569)	-6.344 (4.781)
Language proficiency	-0.537 (1.458)	-2.343* (1.367)	0.894 (1.383)	-1.049 (2.036)
Industry type				
Manager		7.113 (51.240)		1.680 (41.630)
Expert	14.120** (7.090)	27.390*** (8.592)	-4.646 (10.249)	25.881*** (8.254)
Office clerks	14.921* (7.774)	50.221*** (8.092)	0.925 (10.725)	9.952 (13.124)
Sales clerk	-3.343 (6.306)	-3.071 (8.324)	-4.639 (8.486)	-8.953 (12.816)
Farmer & Fisher	-9.750 (17.465)	-27.953 (23.323)	-13.656 (12.843)	-13.848 (24.546)
Skilled laborer	17.655*** (5.112)	9.603 (6.135)	-0.410 (4.462)	3.154 (8.709)
Mechanics	3.950 (4.187)	0.913 (5.061)	-1.343 (4.142)	-3.355 (7.535)
Physical laborer	-4.883 (3.296)	-7.278* (4.027)	-5.695 (3.816)	-9.002 (7.097)
Employment type				
Temporal	-11.015*** (3.006)	-17.747*** (3.689)	-14.299*** (2.615)	-19.678*** (3.840)
Daily	-23.313*** (3.428)	-24.889*** (4.189)	-23.535*** (3.385)	-30.817* (6.214)
Weekly working hour	0.901*** (0.088)	1.007*** (0.108)	0.810*** (0.098)	0.895*** (0.149)
Rural residence	-2.828 (2.943)	-5.089 (3.730)	-1.109 (2.334)	-5.589 (3.540)
Constant	132.000*** (11.979)	136.363*** (13.499)	98.460*** (16.436)	148.033*** (19.095)
Observations	1,396	1,155	706	570
R-squared	0.294	0.247	0.226	0.271

Standard errors in
parentheses

*** p<0.01, ** p<0.05, * p<0.1