▌ Article ▌

Employment Gap between Immigrant and Native Women in South Korea: Discrimination in the Labor Market Pre-entry Stage*

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Abstract

Using an extended version of the Oaxaca decomposition method, this study's objective is to systematically examine the magnitude of discrimination within the South Korean labor market by focusing on the different employment opportunities available to immigrant and native women. Specific focus is accorded to what occurs to immigrant women in their labor market pre-entry stage. Data from Korea's National Survey of Multicultural Families (NSMF) and the Korean Labor & Income Panel Study (KLIPS), both conducted in 2009, have been used. The results show that immigrant women experience considerable barriers prior to entering the Korean labor market. Moreover, the Oaxaca decomposition result suggests that when all individual factors were controlled for, a significant proportion of the employment gap remained unexplained. Such a result suggests that there is a systemic discrimination that extends beyond the individual's scope.

▌ *Keywords* : female marriage migrants, discrimination, employment gap,
　　　　　　　labor market, South Korea

Introduction

Studying the integration of immigrants in the Korean labor market

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is a matter of great interest as South Korea is currently experiencing societal changes associated with unprecedented increases in its immigrant population. According to the Ministry of Government Administration and Home Affairs, as of January 2014, the size of the immigrant population[1] in South Korea was 1,569,740 persons. Immigrants represent 3.1 percent of the total Korean population, which has grown to 51,141,463. Although the absolute rate is not that high, the rate of increase has been very dramatic within the past decade, as witnessed in national statistics that indicate an average of a 9.7 percent point increase each year since 2006 (Shin, 2013).

Such an expanding presence of immigrants, who are primarily female marriage migrants from third-world countries, poses challenging questions regarding how to facilitate the long-term economic settlement and integration of this population. The analysis of economic integration of immigrants is particularly important because "it is known to facilitate the access to [various] spheres within a society" (Ugbe, 2006, p. 1). In fact, the stream of research on immigrants' socioeconomic assimilation/integration asserts that "one's economic role within a society is instrumental in providing inroads to the social, cultural, and political spheres of society" (Ibid., p. 12). However, due to the recentness of the migratory phenomenon in South Korea and the paucity of available datasets, systematic research on economic integration is very scarce. The employment gap, which is an important indicator of economic integration, has rarely been discussed in the literature on migrant integration in the labor market despite the significance of employment in social welfare research. This occurrence is a glaring omission considering that employment has been considered one of the key indicators of a person's economic role in society; being employed in the labor market has been generally observed as a means of facilitating integration into the economic fabric of a society (Sen, 2000).

Given the crucial role of employment in individuals' economic integration, this study explores the possible driving forces behind the lower employment probability of immigrant wives compared with their native counterparts. This study posits that the lower employment rate of immi-

grant women is not simply a result of certain individual-level attributes. Instead, the study focuses on the possibility that the gap may be a manifestation of systemic discrimination that exists in the South Korean labor market. In fact, for example, statistical discrimination theorists have argued that the causes of the employment gap should not be understood as limited to individual-level factors; instead, they incorporate a broader context that includes labor demand side factors. Nevertheless, prior research has been primarily approached from the human capital context while focusing closely on observable individual supply side factors. The conceptual underpinning of the human capital model is that higher levels of education are associated with better labor market outcomes. Individual supply factors are the focus of research because the approach imputes the reason why a certain group is underemployed to the background characteristics of the workers themselves. Naturally, this line of research restricts the focus to individual level factors in understanding one's labor market success, failing to address the possibility of a broader context which might also influence the employment gap.

This study is an effort directed toward filling this void in research. By examining the employment gap at the individual level in relation to the possible systemic discrimination at the macro level, this study hopes to add new knowledge regarding the uneven distribution of employment opportunities between native born Korean and immigrant women in South Korea. Specifically, by utilizing an extended Oaxaca decomposition method, the study considers the possible discriminatory opportunity structure that produces differential outcomes between immigrant and native women in the labor market. Such an approach allows for separating the effect of individual related supply factors from the demand side effect of the labor market. Addressing this possibility is important because decisions on which intervention strategies to employ to reduce the employment gap would substantially differ depending on the understanding of the factors that are viewed as causes of the employment gap. In summary, this study posits the following question: of the total employment gap to be explained, how much is attributable to systemic discrim-

ination that extends beyond the individual's scope?

This study extends research regarding underemployment dynamics by several means. First, although past studies have examined the differential outcomes between immigrant and native born workers using the wage gap, this study projects the economic integration using an "employment status," which focuses on what occurs to immigrant women in their labor market pre-entry stage. Where the labor market integration process occurs in both the pre- and post-labor market entry stage, this study allows us to understand the barriers experienced prior to entering the labor market. Considering that the history of the immigrant wives' activity in the Korean labor market is relatively short, it is more rational to focus on the labor market pre-entry stage. This paper also shifts the focus to a new setting other than the North American setting; relatively few studies have examined immigrant integration in East Asia. This study's findings may contribute to the scholarly dialogue that regards the intersection of immigration and labor, thus provoking further inquiry into the integration process of immigrant women from an international scale.

Conceptual Background

Individual Supply Side Factors Affecting Employment Opportunity: Approach based on Human Capital Theory

Employment opportunity is largely a function of a variety of factors. Factors that have been identified to contribute to employment stretch over an array of domains ranging from individual-level factors to larger contextual conditions within the labor market. The following section specifically reviews research in which the theoretical basis is based upon human capital theory. Thus, studies that focus on individual supply side factors will be reviewed.

Productivity factors. Previous studies on labor market incorporation among immigrants analyze earnings and employment probability largely as a function of human capital variables that are the vectors of productivity.

These variables include items such as years of formal education, previous employment experience, and language competency (Cornelius, Tsuda, & Valdez, 2003). As previously discussed, human capital theorists (Becker, 1971; Mincer, 1994) attribute different performance (or outcomes) in the labor market to individual characteristics: those who have accrued more education and training experience receive higher pay and higher rates of labor force participation.

However, one problem with this theory is that for immigrants, the work experience and education acquired in their native countries are not necessarily transferable in the destination country (Chiswick & Paltiel, 2009). Due to national differences in the rate of educational expansion, immigrants tend to have lower levels of educational qualifications (on average) than the native-born population; the act of migration leads to a devaluation in immigrants' human capital (Chiswick, 1978; Chiswick, Cohen, & Zack, 1997; Friedberg, 2000). Consequently, immigrants who have an equal amount of education compared to the native-born worker benefit considerably less from their educational attainment.

However, with the passage of time human capital differences between the natives and immigrants may narrow as immigrants make investments to supplement their pre-migration labor skills (Toussaint-Comeau, 2006). A stable pattern of earning growth is expected to be associated with immigrants' duration of residence in the host country. This line of research also suggests that as the time spent in the host country increases, immigrants are more likely to invest in increasing their human capital stock (Stier & Tienda, 1992). Such investments include the development of networks necessary for employment, the acquisition of labor market information, language fluency, and other task-specific skills. In fact, in accordance with Chiswick (1978) and Borjas (1985), numerous studies have shown that immigrants have an earnings disadvantage upon arrival in the destination country, which is explained by their lack of capital that is suited specifically to the labor market of the receiving country. However, as the time of residence in the host country increases, immigrants accumulate country-specific forms of human capital, thus nar-

rowing the initial earning gap. As Chiswick (1978) argues, immigrants tend to experience an occupational trajectory that follows a U-shape pattern.

Household-related factors. Another important supply side factor that needs to be considered in understanding women's employment opportunities are household-related factors. This view focuses on the possibility that labor market integration processes may be considerably different for women than for men, particularly in relation to family compositions. In fact, women's labor market entrance opportunities are largely conditioned to family household circumstances such as family formation, child-care arrangements, and household budget constraints (Baker & Dwayne, 1997; Cohen & Bianchi, 1999; Evans, 1996; Foroutan, 2008).

The corollary of this reasoning is that under the traditional "division of labor" in the family, husbands are expected to specialize in market work, providing income, whereas wives are responsible for child rearing and household work (England, Carmen, & Garcia-Beaulieu, 2004). The influence of children on labor market involvement is substantial, particularly when the children are young. Because women are generally expected to be more responsible for child care than men, particularly during the early stages of child development, women replace their unpaid market *labor* with market *activity*. Foroutan (2008) found that for both immigrants and native women, the presence of young children and the age of the youngest child were "the most important single influence in female participation in the labor market" (Brooks & Volker, 1985, p. 740). However, as the children grow, the net income required for childcare (payment for childcare and tuition) dramatically increases. To maintain their accustomed levels of consumption, women are inclined to re-enter the labor market (Glass, 1988; Greenless & Saenz, 1999).

Household financial insufficiency also plays a crucial role in women's employment involvement (S. Cotton, Antill, & Cunningham, 1989; Glass, 1988; Gordon & Kammeyer, 1980; Greenless & Saenz, 1999). Where there is a trade-off between demands for women's time and efforts in home production versus the financial benefits of generating income

in the market, tight budget constraints may influence the wife's decision to seek employment. In fact, when the husband's budgetary contributions are low (i.e., the husbands are either unemployed or employed in low-income occupations), this increases the likelihood of their wives being employed (Glass, 1988; Stier & Tienda, 1992). These results appear to agree with traditional gender role expectations in which women are perceived as secondary wage earners. In such cases, if the husband's income, which represents the household's economic situation, is low, this may affect the spouse's employment outside the home. This supposition appears to be the case in Korea. Most Korean men who choose international marriage are disproportionately occupied in low-wage jobs. Because the earning from the husbands alone is not considered sufficient to finance their families' consumption, empirical evidence suggests that increasingly more immigrant wives are entering the labor market (S. K. Kim et al., 2009).

It is also necessary to consider the discontinuous labor market experience of married women. Married women, more than men, encounter the prospect of discontinuous work experience and constraints to their job mobility. For instance, as previously discussed, married women's potential labor mobility is often restricted by family commitments. Cardia and Gomme (2011) argue that the labor force participation pattern of women shows a double-humped structure in which the first peak occurs around child-rearing age, and the second peak occurs around the age of 40. As women attain child-rearing age, they leave the labor market to have and raise children; many, but not all, reenter after those children begin attending school. Thus, the participation rates reach another local peak around age 40.

Conceptualizing the Employment Gap between Native and Immigrant Women as Systemic Discrimination

Although such supply factors may unquestionably contribute to the differences in income and employment opportunity, Loury (1977) argues

that these individual factors are not sufficient to explain the entire differential outcomes in the labor market, hinting at the possibility of systematic discrimination within the labor market. In fact, one may reasonably argue that there is more to be considered in understanding the employment determination process other than individual attributes.

For instance, statistical discrimination theorists argue that higher wages and a higher employment rate for the majority group of workers may be driven by an undeserved premium given to this group due to employer's preference over minority group workers. Theorists in this stream argue that the discrimination against a certain group often takes the form of "applying stereotypes to individuals and judging them accordingly" (Doyle, 1995). In fact, if employers do not have sufficient information to assess the productivity of a certain group accurately, they may base their decisions on information that is believed to be correlated with productivity (e.g., education, experience). By basing their decision on the average measurable characteristics of a group, employers may provide systematic preference or disadvantage to one group over another. Because the employers base their judgment on the mean of abilities between the groups (i.e., that the majority group of workers have higher mean ability than the minority), there is a tendency for the minority group of workers to receive lower compensating wages compared to the members of the majority for the same qualification. In such cases, an employer either pays a premium to the majority group or "screens the potential employees on the basis of the characteristics of the group of which they are a member" (Sloane, 1984, p. 89). The market implications of these preferences can be differential returns to otherwise identical minority and majority workers.

It is equally possible that the labor market structure is structured in a manner that hinders minority group workers from competing with the majority group workers on an equal basis. The crowding hypothesis originally proffered by Edgeworth (1972) and later developed by Bergmann (1971, 1974) suggests that minority group workers fail to gain access to preferable jobs not because they lack the appropriate character-

istics but because of the structural barriers, which exclude them from high-paying primary jobs. As Jain, Sloane and Horwitz (2003) stated, "by recruiting only through limited ports of entry and relying on internal promotion for more senior jobs," members of the minority groups are structurally excluded from entering the core sector, thus flooding into undesired jobs. In fact, the depiction of such discrimination is that minority group workers are usually not granted the same opportunity to enter into the majority-dominated professions.

In sum, although individual supply side factors unquestionably affect employment opportunity, the functioning of the labor market may involve a wider range of factors other than individuals' characteristics. Thus, this study concedes that immigrant wives' low employment rate may partly derive from differences in their individual attributes and human capital as proposed by human capital theorists[2] but theorizes that it may also reflect an innate structural discrimination embedded in the labor market. This study posits that the employment gap between native and immigrant wives may be at least in part a manifestation of systemic discrimination ingrained in the Korean labor market.

However, verifying systemic discrimination in the labor market has been a great challenge because it is usually difficult to single out the effect of individual related supply factors from the demand side effect of the labor market. Alternatively, a "residual approach," also known as the decomposition method, introduced by Oaxaca, has been widely used (Oaxaca & Ransom, 1994). Largely motivated by Becker's human capital model (Becker, 1971), the method is based on wage regressions estimated at the individual level. Where the total gap consists of an explained and unexplained gap, an explained gap includes all of the observable reasons that may contribute to a gap between workers. If, after controlling for all these observable factors, a gap still emerges between groups, researchers can assume that there are unobservable factors that influence this gap, which suggests evidence of discrimination within the labor market. Discrimination, here, is defined as "the receipt of lower pay or unequal treatment in terms and conditions of employment for

groups of equally productive workers" (Sloane, 1985, p. 89). In sum, the method provides a useful framework to gauge the magnitude of discrimination experienced by immigrant women compared with ethnic Koreans in relation to the employment probability. The following section reviews the specific analytical procedure of the Oaxaca decomposition method.

Method

For standard linear regression models, coefficient estimates from the linear regressions and sample means of the independent variables are used to identify the inter-group differences. As the first step of the decomposition, separate logistic regression analyses are run for two groups in comparison: immigrant women (I) and native Korean women (K). Equations 1 and 2 represent the employment probability function for both groups. A total of 12 predictors were included in the model to equate all of the conditions to be the same between the two groups.

$$\overline{Y^K} = + \beta_1^K(X_{1i}^K) + \beta_2^K(X_{2i}^K) + \cdots + \beta_{ni}^K(X_{ni}^K) + u_i^K \tag{1}$$

$$\overline{Y^I} = + \beta_1^I(X_{1i}^I) + \beta_2^I(X_{2i}^I) + \cdots + \beta_n(X_{ni}^I) + u_i^I \tag{2}$$

$\overline{Y}$ is the average value of the dependent variable, whereas β^K and β^I are the coefficients of estimated parameters for each group. For an OLS regression analysis with wage as the dependent variable, these beta values reflect how workers are paid in relation to their individual characteristics, which signify the wage structure in the labor market (Shaprio & Stelcner, 1987). By subtracting the beta coefficients and the mean value of X predictors, it is possible to decompose earnings into two parts. In other words, the total gap, which is $\overline{Y}^K - \overline{Y}^I$, can be partitioned into an explained gap and an unexplained gap as follows:

$$\overline{Y}^K - \overline{Y}^I = \sum \beta^K(\overline{X}^K - \overline{X}^I) + \sum(\beta^K - \beta^I)\overline{X}^I \tag{3}$$

Shapiro and Stelcner (1987) summarize "that this technique addresses

the question, 'How much would the wage gap between immigrant and native women narrow if immigrant women were paid according to the native women's wage structure, but their work-related characters remained as they are?'" (p. 463). Note that is multiplied by the first part of the equation, which assumes that immigrant women are employed according to Korean women's employment probability structure. The first half of the equation, $\sum \beta^K (\overline{X}^K - \overline{X}^I)$, reflects a gap that is explained by differences in the mean values of Xs between two groups. Thus, a significant portion of the explained gap reflects the extent to which immigrant women may be less employed compared with Korean women due to a lower productivity level[3] (i.e., less work experience, lower language proficiency level, and lower education level).

The second part of the equation, $\sum (\overline{\beta}^K - \overline{\beta}^I) \overline{X}^K$, can be interpreted as an unexplained gap due to a difference in the immigrant and Korean women's labor market reward structures (i.e., beta coefficients). This value is obtained by subtracting "the actual wage of immigrant women if they were paid under their own employment structure" from "the wage of immigrant women if they were employed under Korean women's' employment structure."[4] This part of the equation reflects whatever remains unexplained. If, after controlling for all possible observable factors, the probability of being employed still emerges, it is possible to assume that there are unobservable factors, which presumably stem from discrimination, that influence this gap.

For models that use a binary dependent variable and whose coefficients are from a logit or probit model, as in this study, an alternative expression for the decomposition should be used. The decomposition for a nonlinear equation, $Y = F(X\hat{\beta})$, can be re-written as:

$$\overline{Y^K} - \overline{Y^I} = \left[\sum_{i=1}^{N^K} \frac{F(X_i^K \hat{\beta}^K)}{N^K} - \sum_{i=1}^{N^I} \frac{F(X_i^I \hat{\beta}^K)}{N^I} \right] + \left[\sum_{i=1}^{N^I} \frac{F(X_i^{KI} \hat{\beta}^K)}{N^I} - \sum_{i=1}^{N^I} \frac{F(X_i^I \hat{\beta}^I)}{N^I} \right]$$
$$F(\beta^K X_i^K) = \exp(\beta^K X_i^K) / (1 + \exp(\beta^K X_i^K)) \qquad (4)$$

where N^j is the sample size for j (Fairlie, 2005). Although the numerical

expression is slightly different, both equations 3 and 4 carry the same meaning in which the first half of the equation represents the racial gap that is due to group differences in distributions of X, and the second half is the racial gap due to group differences in immeasurable or un-observed endowments.[5] In Fairlie's words, "This alternative expression for the decomposition is used because does not necessarily equal $F(X\hat{\beta})$ (p. 306)." In contrast to linear regression models, the predicted mean and the actual mean are not the same for logit and probit models. Thus, when calculating the decomposition, instead of using the sample means of each independent variable and the coefficient estimates, in-dividual-specific measures of discriminations are required for binary out-come models. Because this study utilizes employment status as the de-pendent variable, the non-linear decomposition technique was used.

The difference in average wage function can be further parti-tioned by allowing weights represented by (omega) as below[6]:

$$\overline{\ln Y^M} - \overline{\ln Y^F} = \overline{(X^M} - \overline{X^F)}[\Omega\beta^M + (1-\Omega)\beta^F] + [(1-\Omega)\overline{X^M} + \Omega\overline{X^F}](\beta^M - \beta^F) \text{ (5)}$$

Omega operates as a vector with a value ranging from zero to one, which reflects the relation between the observed wage and the wage struc-ture void of discrimination. Largely echoing the study by Yamasaki (2010), the analytical framework used for this paper adopted Cotton's (1988) version of omega in the decomposition procedure. In Yamasaki's (2010) words, "Cotton (1988) used a weighting matrix $\Omega_c = l_w I$ where the l_w is the fraction of the sample made up by a majority group, claiming that the nondiscriminatory structure should be more similar to the struc-ture that holds for the larger group" (p. 79). Thus, the study was able to consider both the human capital perspective and the statistical discrim-ination theory in understanding the discrimination in the labor market.

Data and Measures

To date, there is no nationally representative Korean data with in-

formation on both groups. Thus, two separate datasets were used in this study, one for each group, which contain the same type of information for each group.[7] First, the "National Survey on Multicultural Families" dataset from 2009 was used to obtain information on immigrant wives. The survey was based on the number of multicultural families recorded in the "Basic Status Report on Multicultural Families," which was conducted by the Ministry of Public Affairs and Security (MPAS) in 2009. To correct disproportional data and adjust the collected data to represent the marriage migrant population in Korea, the survey employed post stratification weights (H.-M. Kim, 2012). The data were also weighted to have the same distribution of gender, ethnicity, and regional characteristics as suggested in the "Basic Status Report on Multicultural Families" conducted by the Ministry of Public Affairs and Security in 2009.

With regard to the selection of counterpart data, the "Korean Labor & Income Panel Study" (KLIPS), which is a longitudinal survey of the labor and income activities of native Korean households and individuals, was used. As an annual survey of each adult member of a nationally representative sample of approximately 6,000 households, the data produce a total of 10,550 to 13,000 respondents. KLIPS data are considered to be the closest to the immigrant data in the variable compositions.

The dependent variable in the model is a dummy variable that reflects the employment status in the Korean labor market. The dummy variable is set equal to 1 for an individual who is employed and 0 for an individual who is unemployed. To observe the effect of individuals' background characteristics on employment probability, age, squared term of age and health status were included. Age and squared term of age were coded as continuous variables. Health status was measured on an ordinal scale in which 1 represents very poor health status and 5 represents a high degree of health.

To observe the effect of household factors on immigrant wives' employment status, individuals' background characteristics were included in the model.[8] The status in which the spouse was employed was coded as 1, and the status that signifies an unemployed spouse was coded as

0. The number of children aged from 0 to 2, 3 to 6 and 7 to 12 within each household were also included in the model as continuous variables. Monthly household income, which was measured as an ordinal variable was also included in the model: 1 represents a monthly income level of less than 50 thousand Korean won (approximately US $450) and 9 represents an income level of more than 7 million Korean won (approximately US $6,300).

Immigrant wives' education level was also included in the model. Four dummy variables were included in the model: middle school graduate or lower,[9] high school graduate, college graduate, and graduate-level degree. Foreign work experience prior to immigration was also included in the model. Those who have had prior work experience were coded as 1, whereas those who had no previous work experience were coded as 0. Whether the immigrant women have had any training that was funded by the Korean government was included in the model. The status in which an individual had training experience was coded as 1.

Results

Descriptive Summary

As shown in Table 1, the employment rate of Korean women is higher compared to that of immigrant wives. However, in the older age group, immigrant wives showed a higher employment rate (mean value 0.604) than native Korean women (mean value 0.488). Thus, the decomposition analysis was only conducted for the younger age group.

Where tight budget constraints may influence women's decisions to seek employment (Long, 1980), the lower employment rate of the older Korean women may indicate a stabilization of their financial status, meaning less incentive for employment. Note that without the age restriction, household income had a positive effect on employment for both immigrant and Korean women. However, as suggested in models 6 and 7, when restricted to the older group, native Korean women's household

income did not have a significant effect, whereas for immigrants, house-hold income had a positive influence. It is also important to note that across all age groups, immigrant wives had a lower household income level than Korean women. This finding was particularly the case for older immigrants with lower household income compared with the younger age group. Conversely, among native Koreans, the older group showed higher monthly household income levels. To an extent, the higher em-ployment rate of the older immigrant wives may mirror the poor financial status of the group, increasing their likelihood for employment.

Table 1

Descriptive statistics for variables

	Entire age group (18-70)		Younger age group (18-39)		Older age group (40-70)	
	Immigrant wives	Korean women	Immigrant wives	Korean women	Immigrant wives	Korean women
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Employment	.377(.485)	.467(.499)	0.311(.486)	.420(.489)	.604(.489)	.488(.500)
Age	32.762(9.223)	46.344(11.013)	28.892(5.819)	33.844(3.805)	46.155(5.569)	51.901(8.271)
Age square	1158.401(670.305)	2269.032(1057.184)	868.579(339.089)	1159.898(250.063)	2161.265(556.587)	2762.062(892.556)
Health	3.612(0.920)	3.471(.832)	3.702(.893)	3.815(.651)	3.298(0.943)	3.319(.858)
Husband's employment status	.877(.328)	.830(.376)	.895(.306)	.953(.212)	.814(.389)	.776(.417)
Monthly household income	3.241(1.224)	4.780(2.030)	3.283(1.212)	4.790(1.888)	3.094(1.257)	4.776(2.090)
Children age 0_2	.433(.593)	.097(.312)	.541(.619)	.296(.487)	.057(.245)	.009(.097)
Children age 3_6	.204(.469)	.163(.426)	.230(.493)	.470(.621)	.114(.361)	.027(.175)
Children age 7_12	.169(.499)	.299(.600)	.146(.451)	.581(.734)	.248(.631)	.173(.480)
Education level 1	.351(.477)	.312(.463)	.348(.476)	.020(.140)	.360(.480)	.442(.197)
Education level 2	.436(.496)	.394(.489)	.428(.495)	.418(.493)	.466(.499)	.383(.486)
Education level 3	.195(.397)	.271(.445)	.205(.403)	.522(.500)	.164(.370)	.159(.366)
Education level 4	.017(.130)	.023(.149)	.019(.137)	.040(.196)	.010(.101)	.015(.122)
Training experience	.111(.314)	.044(.206)	.121(.326)	.054(.226)	.077(.267)	.040(.196)
N	50,241	4,077	39,019	1,368	11,222	2,709

Table 2
Logistics regression for formal sector employment, by age group

Variable	Entire age group (18-70)				Younger age group (18-39)			
	Model 1		Model 2		Model 3		Model 4	
	Immigrant wives		Korean women		Immigrant wives		Korean women	
	ß(SE)	Exp(ß)	ß(SE)	Exp(ß)	ß(SE)	Exp(ß)	ß(SE)	Exp(ß)
Age	.188(.008) ***	1.207	.105(.033) ***	1.111	.142(.024) ***	1.152	-.256(.271)	.774
Age square	-.002(.000) ***	.998	-.002(.000) ***	.998	-.001(.000) **	.999	.004(.004)	1.004
Health	.011(.013)	1.011	.061(.051)	1.063	-.070(.015) ***	.933	-.313(.110) **	.732
Husband's employment status	.183(.036) ***	1.201	.266(.119) *	1.305	.109(.043) *	1.115	-.503(.319)	.605
Monthly income	.096(.010) ***	1.101	.114(.020) ***	1.12	.079(.012) ***	1.082	.300(.041) ***	1.35
Children aged 0~2	-1.005(.024) ***	.366	-1.062(.145) ***	.346	-.950(.025) ***	.387	-.963(.157) ***	.382
Children aged 3~6	-.067(.023) *	.935	-.671(.095) ***	.511	.021(.025)	1.021	-.517(.118) ***	.596
Children aged 7~12	.033(.020)	1.033	-.261(.071) ***	.77	.205(.027) ***	1.227	-.242(.112) *	.785
Education level2	-.065(.026) **	.937	-.613(.106) ***	.542	-.050(.031)	.952	-.050(.472)	.952
Education level 3	-.067(.034) *	.936	-.472(.133) ***	.624	.066(.038)	1.068	.307(.474)	1.36
Education level 4	.282(.096) **	1.326	-.292(.304)	.747	.456(.103) ***	1.578	-.119(.618)	.888
Training experience	.100(.037) **	1.105	1.725(.239) ***	5.613	.147(.040) ***	1.158	1.647(.335) ***	5.191
Pseudo R^2	.125		.085		.101		.121	
N	50,241		4,077		39,019		1,368	

* p<0.05, ** p<0.01, *** p<0.001

Table 2

Logistics regression for formal sector employment, by age group (Cont'd)

	Older age group (40-70)			
	Model 5		Model 6	
	Immigrant wives		Korean women	
	ß(SE)	Exp(ß)	ß(SE)	Exp(ß)
Age	.386(.05) ***	1.472	-.043(.085)	.958
Age square	-.004(.001) ***	.996	.000(.001)	1.000
Health	.214(.026) ***	1.238	.183(.058) **	1.200
Husband's employment status	.270(.061) ***	1.310	.389(.125) **	1.475
Monthly income	.139(.022) ***	1.149	.044(.024)	1.045
Number of children aged 0~2	-1.304(.106) ***	.271	-1.976(.577) ***	.139
Number of children aged 3~6	-.366(.060) ***	.693	-1.207(.286) ***	.299
Number of children aged 7~12	-.131(.034) ***	.878	-.223(.122)	.800
Education level 2	-.105(.052) **	.900	-.618(.115) ***	.539
Education level 3	-.326(.073) ***	.722	-.704(.169) ***	.495
Education level 4	-.235(.239)	.791	.403(.520)	1.496
Training experience	-.098(.086)	.906	1.834(.353) ***	6.259
Pseudo R^2	.054		.091	
N	11,222		2,709	

As suggested in Table 2, six logistic regression models were conducted.[10] Models 1 and 2 serve as preliminary analyses prior to examining the employment gap according to female workers' age range. Where the two models incorporated women between the ages of 18 and 70, models 1 and 2 were run separately for immigrant wives and Korean women. In an effort to explain the discontinuous labor market experience of married women, the remaining four models were analyzed based on women's age group.

Oaxaca Decomposition[11]

Table 3 presents the Oaxaca decomposition results derived from decomposing models 1 and 2 and models 3 and 4 respectively.

Table 3

Employment probability decomposition results

	Entire age group ($\Omega = .94$)		Younger age group ($\Omega = .97$)	
	Coef.	%	Coef.	%
Productivity	.029	32.12	.033	30.61
Advantage	-.008	-9.38	-.002	-1.48
Disadvantage	.070	77.26	.077	70.86
	.090	100	.109	100

The first column shows the decomposition result of the entire group without age division, whereas the second column shows the result of the younger age group. Where 100 percent represents the entire employment gap to be explained, 32.12 percent of the gap was explained by the variables entered in the model,[12] -9.38 percent was explained by premiums given to Korean women, and 77.26 percent remained unexplained. In the 18–39 age range, of the total gap to be explained, the gap explained by control variables was 30 percent, -1.48 percent was explained by premiums, and the proportion that remained unexplained was 71 percent. Such results suggest that there is systematic discrimination that extends beyond the individual's scope before immigrant women enter the labor market (pre-entry stage); the 70 percent of the gap that remained unexplained suggests a discrimination that manifests on a structural level.

In addition, note that for both cases, the percentage of the premium value is negative. This finding indicates that there is no systematical preference provided to ethnic Korean women. Although it is difficult to ascertain the source of discrimination, the following point appears reasonably credible. Given that the premium values were negative for both the younger age group and the joint age group, at least Korean women are not benefiting from being ethnic Koreans in terms of employment; as the data show, no premiums were given to the majority group.

Discussion and Conclusion

Due to the recent nature of the migratory phenomenon in South Korea and the lack of available datasets, research on the economic integration of immigrant women is very scarce. As an effort to fill the gap in research, this study's objective was to empirically examine the employment gap between native born Korean and immigrant women in South Korea. This study also acknowledges the limited ability of human capital theory to explain the discriminatory experiences of immigrant women. Although the individual level supply factors unquestionably may contribute to the differences in employment opportunity, they may not be sufficient to explain the entire differential outcomes in the labor market (Boushey, Fremstad, Gragg, & Waller, 2007; Loury, 1977). In summary, this study posits that the employment gap is evidence of both individual reasons and systemic discrimination ingrained in the labor market. As such, by utilizing an extended Oaxaca decomposition method, this study considered the possible discriminatory opportunity structure that produces differential outcomes between immigrant and native women in the labor market.

The study confirms the designation of immigrant wives as one of the disadvantaged groups in the Korean labor market. As suggested in the lower employment rate of the younger age immigrant group, it is possible that immigrant wives experience a considerable amount of difficulties in the labor market pre-entry stage. Moreover, the Oaxaca decomposition result suggests that when all individual factors that are expected to affect the employment probability function were controlled between the two groups, a significant proportion of the gap remained unexplained, hinting at a possibility that there are other possible reasons behind immigrant wives' underemployment. This statement challenges the human capital perspectives that link the underemployment of immigrants solely to the characteristics of individual workers themselves; it appears that there is more to be explained than individual-level supply side variables.

If a huge proportion of the employment gap is closely linked to

structural barriers within the labor market, strategies for employment gap reduction for immigrants may need to be developed based on a comprehensive framework that factors in such systemic discrimination. However, to date, most intervention strategies that address the employment gap in South Korea have been developed based on the human capital approach. Most interventions focus on improving individuals' productivity (i.e., education and training). Since 2008, the Multicultural Family Support Centers (hereafter, MFSC) have been providing an array of services that include computer and Internet classes and counseling and interventions for those in need. The 2013 report from the Ministry of Gender Equality and Family announced that among the various support services provided by the MFSCs, language training showed the highest usage rate (45.6 percent) followed by the multicultural family assistance program (10.1 percent), both of which are individual-based intervention approaches.

Given that only 30 percent of the gap was explained by individual factors, the exclusive focus on the extensive Korean language or education programs may improve employment only to a limited extent. Such interventions would be more effective when they are practiced in addition to structural approaches within the labor market. One direct policy recommendation would be the enactment of strong antidiscrimination protections in the Korean labor market. Because the significant proportion of the employment gap was stemming from discrimination, the enactment of such protection may reduce pre-entry stage discrimination.

The study has several limitations. First, due to the nature of the dataset (i.e., cross-sectional), the causal relations between certain independent variables and the outcome variable were difficult to infer. Although the main focus of the study was the magnitude of discrimination within the labor market, had the dataset been longitudinal, more accurate causal inferences would have been possible. Second, the study used a generic approach, which assumed the Korean labor market to be a homogenous entity. However, recent studies suggest that the Korean labor market is polarized into multiple distinctive entities in which the educational

qualifications of individuals are rewarded differently (Seong & Lee, 2007). In such cases, a sectoral analysis may better capture the Korean labor market. Thus, the discussion of the findings should be extended and supplemented with studies that capture a more detailed account of the labor market experience of immigrant wives.

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1) Immigrant includes long-term resident aliens, naturalized citizens, marriage migrants, and children of multicultural families.

2) The human capital theory suggests models for econometric estimation in which the methodology itself implies such an individualistic approach. The wages of different workers are expected to be in a regression to independent variables that represent the level of human capital. Such an approach implies that the reasons why workers are either unemployed or underemployed in the labor market emanate primarily from the background characteristics of the workers themselves; therefore, immigrant employment rates would be lower even in the absence of discrimination.

3) The interpretation of explained gap warrants caution as besides the traditional proxies of productivity, the Xs also include all other observable characteristics that may contribute to explain Y.

4) $\sum(\beta^M \overline{X}^F - \beta^M \overline{X}^F)$

5) The first term in the bracket is obtained by subtracting 'average employment probability obtained from applying immigrants' traits to Korean women's employment model' from 'employment probability of Korean women.' The second term in the bracket is obtained by subtracting 'immigrant women's employment probability' from 'average employment probability obtained from applying Korean women's traits to immigrant women's employment model.'

6) Application of omega is also possible for the non-linear decomposition technique. However, for illustrative purposes and brevity, the linear version is presented.

7) Although from different organizations, the two datasets share structurally similar questionnaires.

8) As the decomposition procedure requires both groups in a comparison to have identically defined sets of variables, information that was not available for both groups was omitted from the Oaxaca decomposition. Consequently, immigrant-specific variables such as length of residence, place of birth and acquirement of Korean citizenship were not included in the analyses.

9) The first dummy category was used as the reference group.

10) Each variable has minimal significance in the decomposition procedure because only

the mean value and positive/negative signs of each variable are used to calculate the employment gap. Thus, the logistic and descriptive statistics results in tables 1 and 2 will be briefly discussed.

11) The study acknowledges that due to the small number of control variables, the discrimination size may have been over-estimated.

12) The proxies of one's productivity (education level, training experience) as well as age, health, and household-related factors (husband's employment, number of children) collectively represent 30 percent of the employment gap.

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Appendix
Operational Definition of Variables for Oaxaca Decomposition

Variable (variable name)	Variable type	Definition
Employment	Dichotomous	0 = non-employee
		1 = employee
Age	Continuous	Women's age
Age square		Age^2
Number of children age 0~2 Number of children age 3~6 Number of children age 7~12	Continuous	Number of children in the household
Husband's employment status	Dichotomous	0 = Unemployed
		1 = Employed
Monthly household income	Ordinal	1 = Less than 500 thousand Korean won
		2 = 500 thousand ~7 million Korean won
		3 = 1~2 million Korean won
		4 = 2~3 million Korean won
		5 = 3~4 million Korean won
		6 = 4~5 million Korean won
		7 = 5~6 million Korean won
		8 = 6~7 million Korean won
		9 = over 7 million won
Education level 1 - 4	Dummy	Edu1= less than middle school graduate (reference group)
		Edu2 = high school graduate
		Edu3 = college graduate
		Edu4 = graduate school graduate
Training experience	Dichotomous	(Experience of Korean government funded training programs)
		0 = No experience
		1 = Had training experience
Health	Ordinal	1 = Very poor in health
		2 = Not healthy, ...,
		5 = Very healthy

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