

## I. Introduction

Some scholars and policy-makers are concerned that the quality of immigrants in US has decreased over time. This concern can be mitigated if those immigrants invest in additional human capital relatively more than the native US citizens. Some empirical studies about Western European countries suggested that the immigrants were indeed more likely to invest in additional human capital after they immigrated into their host country. In this study, I explore if the US immigrants also share the similar patterns found in other western European countries. If so, the quality of immigrants of US would be less of a concern because the immigrants would quickly improve their economic productivities to the level comparable to the US native citizens. However, if the immigrants in US are less likely than the natives to acquire additional human capital after their entry to US, this issue deserves more attention from policy makers.

In this study, I intend to provide empirical answers to this critical issue. In particular, I investigate whether the immigrants in US are more likely to engage in additional human capital investment compared to US natives; what type of education or training they are more likely to engage in; how intensively the immigrants invest in additional human capital and whether the immigrants are less likely to receive the supports from employer in pursuing additional human capital; the extent to which immigrants' human capital investment is associated with their earning.

## II. Data

To explore the patterns of immigrants' and natives' additional human capital investment, I use the data from the National Household Education Surveys Program (NHES). The NHES had conducted adult education surveys in 1991, 1995, 1999, 2001, 2003, and 2005. In this analysis I used the data from 2005 adult education survey. The adult education survey was conducted to people who were age 16 or older, not enrolled for grade 12 or below, not institutionalized, and not on active duty in the US army in 2005. Data contains the information about whether to participate in different types of formal and informal education and the information about socio-demographic background for total 8,904 survey participants. Total number of observation used in the analysis is 8,889. About 12 percent, 1,082 participants are immigrants who were born outside of US, while about 88 percent, 7,807 participants were born in US.

## III. Empirical Models/Research Methods

To investigate whether or not the immigrants in US are more likely than US natives to invest in additional human capital, first I estimate the equation below using a simple probit model.

$$(1) PARTICIP_i = \beta_0 + \beta_1 Imm_i + \beta_2 Imm_i * Edu_i + \beta_3 X_i + \varepsilon_i$$

where *PARTICIP* is an indicator variable whether or not the individual *i* participated in any type of training, or adult education in last year, *IMM* is a dummy variable whether or not the individual *i* is an immigrant, *Edu\*Imm* is the interaction between the level of education

and the immigration status of individual  $i$ ,  $X$  includes socio-demographic characteristics of individual  $i$ , and  $\varepsilon$  is an error term. In this analysis, I examine two different types of participation – one is the participation in any types of training and education and the other is the participation in distance learning. I include the interaction term between the education level and the immigration status to see if there are different effects of immigration status depending on the education level.

To understand the potential differences between immigrants and natives in choosing the type of human capital investment, I estimate the equation below using multinomial logit model.

$$(2) Type_j = \beta_0 + \beta_1 Imm_i + \beta_2 Imm_i * Edu_i + \beta_3 X_i + \varepsilon_i$$

where Type is a category variable representing different types of training and adult education. For example, the base category,  $j=1$ , is the category of not obtaining any type of training or adult education last year; the second category,  $j=2$ , represents the category of taking GED preparation course or any basic education courses such as improving reading proficiency or math proficiency or basic computer skills; the third category,  $j=3$ , represents the category of obtaining job- or career-related training or education; the last category,  $j=4$ , represents the category of participating in any other types of training or adult education.

Even if the estimated results of equation (1) & (2) suggest that immigrant are less likely to participate in any types of training or adult education, it is possible that immigrants take more courses and participate in more trainings when I look at only those who participate in training and adult education. To explore this possibility, I estimated the equation below using Poisson regression.

$$(3) Num_i = \beta_0 + \beta_1 Imm_i + \beta_2 Imm_i * Edu_i + \beta_3 X_i + \varepsilon_i$$

where Num represents the number of job- or career-related courses taken in last year.

I also explore the possibility that the immigrants are less likely to invest in additional human capital because they can less support from their employers by estimating the equation below using a simple probit model.

$$(4) Support_i = \beta_0 + \beta_1 Imm_i + \beta_2 Imm_i * Edu_i + \beta_3 X_i + \varepsilon_i$$

where Support is an indicator variable whether or not the individual  $i$  received the support from his/her employer when s/he took the job- or career-related training courses in last year. The employer's supports include financial support such as tuition reimbursement, or providing in-kind support, or allow the employee's to take courses during their work hours.

Lastly, I examine the relationship between the labor earnings and the additional human capital investment based on the immigration status. To answer this question, I estimate the equation below.

$$(5) Earn_i = \beta_0 + \beta_1 Particip_i + \beta_2 Imm_i * Particip_i + \beta_3 X_i + \varepsilon_i$$

where *Earn* is the annual labor earning of individual *i*, and *Particip* indicates the participation of a certain type of human capital investment by individual *i* in past year. The variable, *Imm\*Particip*, represents the interaction effect of participating in a certain type of human capital investment based on the immigration status of individual *i*.

#### IV. Preliminary Findings and Discussion

For the question whether or not the immigrants in US invest more in additional human capital than their counterparts, US natives, the preliminary results suggest the negative picture on the issue. The results from probit estimation report that the immigrants in US are less likely to participate in any types of additional human capital investment and they are less likely to participate in distance learning, compared to the US natives.

I also examine what types of human capital investment the immigrants are more likely to participate. The preliminary results suggest that the immigrants are less likely than the US natives to participate in job- or career-related training. Moreover, the preliminary results indicate that the immigrants are no more likely than US natives to participate in basic education courses such as ESL courses or the courses to improve basic reading and math skills. For those who participated in any continuing education and training, it is found that immigrants tend to take smaller number of job- or career-related courses than the natives.

However, this lack of human capital investment by immigrants does not appear to be associated with the employer's support. There is no statistically significant difference in the probability of obtaining the employer's support by their immigration status.

When I examine the relationship between different types of human capital investment and the annual earning, it is found that both participating in work-related courses and taking part-time coursework in past year are positively associated with high labor earnings regardless of their immigration status.

#### V. Contribution

In this paper, I examine the extent to which the immigrants in US engage in additional human capital investment compared to their counterpart, US natives. Although some empirical studies examined the immigrants' human capital investment in comparison to the natives using data from other developed countries, less attention has been given to this issue in the context of United States. This issue is particularly more important in US because many policy makers and scholars are concerned that the quality of recent immigrants are lower than before. This study intends to fill this gap in the existing literature and describe where the immigrants in US stand relative to the natives in terms of additional human capital investment. This study brings out the urgent policy needs to encourage more immigrants to acquire additional human capital and to enhance their economic productivity.