Transferability of Human Capital: An Analysis of Immigrants from China, India, Korea, Philippines, and Vietnam in the United States

Lu Liao
Illinois Wesleyan University, lliao@iwu.edu

Follow this and additional works at: https://digitalcommons.iwu.edu/israel_economics

Part of the Economics Commons

Recommended Citation
https://digitalcommons.iwu.edu/israel_economics/1

This Article is protected by copyright and/or related rights. It has been brought to you by Digital Commons @ IWU with permission from the rights-holder(s). You are free to use this material in any way that is permitted by the copyright and related rights legislation that applies to your use. For other uses you need to obtain permission from the rights-holder(s) directly, unless additional rights are indicated by a Creative Commons license in the record and/or on the work itself. This material has been accepted for inclusion by faculty at Illinois Wesleyan University. For more information, please contact digitalcommons@iwu.edu.
©Copyright is owned by the author of this document.
Transferability of Human Capital: An Analysis of Immigrants from China, India, Korea, Philippines, and Vietnam in the United States

by

LU LIAO

Michael C. Seeborg, Advisor

A paper submitted in partial fulfillment of the requirements for the Mark Israel Summer Research Fellowship

ILLINOIS WESLEYAN UNIVERSITY
Bloomington, Illinois USA

October 2015
Abstract

This paper uses the data from American Community Survey (ACS) to study the transferability of human capital for immigrants from China, India, Korea, Philippines, and Vietnam. The results of this study suggest that, first, human capital acquired in the U.S. is valued generally higher than that acquired in the home country, with a few exceptions. Moreover, there exists significant difference in the transferability of human capital among different places of origin in Asia. In addition, this paper further concludes that education obtained from the source country is more transferable for immigrants from the countries that have colonial history either under the United States or the Great Britain; the labor market experience, however, is more transferable for immigrants from the countries that are more economically developed.
Contents

1 Introduction
   1.1 Overview
   1.2 Motivation and Summary
   1.3 Organization

2 Theoretical Background
   2.1 Human Capital Theory
   2.2 Roy Model

3 Data and Empirical Model
   3.1 Data
   3.2 Empirical Model
      3.2.1 Comprehensive Model
      3.2.2 Country Specific Model

4 Results
   4.1 General Results
   4.2 Country Specific Results
   4.3 Transferability

5 Conclusion

Reference

Appendix
1. Introduction

1.1 Overview

Earlier research on the economic performance of immigrants in the U.S. labor market focuses on the wage differentials between immigrants and natives and immigrant economic assimilation in the U.S. In order to make comparisons between immigrants and natives and to simulate the economic outcome of one group from another, these studies only include variables and characteristics that apply to both immigrants and natives. For example, many studies control for educational attainment without considering whether immigrants acquired a portion of their education from the source country and the rest from the destination country, which could yield different returns. If where immigrants obtain education matters, age of immigration might have an impact on the immigrants’ outcomes. Even the early groundbreaking works of Chiswick (1978) and Borjas (1985) fail to take into consideration of the effect of age of immigration on earnings.

A number of subsequent studies, however, recognize the effect of age of immigration on earnings profiles. Borjas (1987) finds that age at migration has a negative impact on the initial relative earnings of immigrants in the United States. Moreover, Kossoudji (1989) allows the returns of human capital (education and experience) to vary by whether the human capital was acquired in the home country or in the U.S. She finds that there is nearly no return to the job experience obtained from home country, and she also observes a small difference between the pre- and post-immigration education. Friedberg (1993) extends immigrant assimilation topic by adding “age of immigration” to the immigrant earnings function, and finds that age of immigration has a huge negative effect on immigrant earnings. This implies that a failure to control for age of immigration will cause immigrant earnings gains to be overstated for those
immigrants who arrive in the U.S. at an older age. Schaafsma and Sweetman (2001) also find that a correlation between age at immigration and earnings exists in Canadian census data, and work experience in the home country has virtually no return in the host country. Studying immigrants in Israel, Friedberg (2000) finds that education and labor market experience obtained abroad are significantly less valued than human capital acquired in Israel, with the return to foreign experience generally insignificant. In addition, the difference between returns of human capital acquired from home country and that acquired in Israel can fully explain the earnings disadvantage of immigrants compared to their Israeli counterparts. Similar patterns are also observed in Spain (San Roma et al, 2009) and in Germany (Basilio & Bauer, 2010). Finally, Kee’s (1995) study of male immigrants in the Netherlands finds that the returns to pre-immigration measures are higher for immigrants from similar school systems.

Therefore, there seems to be a pattern observed in recent research that immigrants’ returns to educational attainment are greater when the education is received in the host country, which suggests that human capital skills obtained in the country of origin may not be perfectly transferable to the host country.

1.2 Motivation and Summary

Although a few studies exploring the transferability of human capital are conducted worldwide, it is surprising that Asian immigrants in the United States received relatively little attention in the economic literature. This lack of attention is particularly surprising since Asians have been the fastest growing immigrant population in the U.S. over the past few decades. According to the United States Census Bureau, five of the top 10 source countries of immigrants in the U.S. are China, India, Philippines, Vietnam, and Korea. Immigrants from these five countries account for 20.8% of the total immigrants in the United States and more than 80% of
the total Asian immigrant population as of the year 2013 (U.S. Census Bureau). Therefore, it is important to gain a greater understanding of the transferability of human capital of this growing group of immigrants.

Using American Community Survey (ACS) data for the year 2013, this study investigates the transferability of human capital for immigrants from China, India, Philippines, Vietnam, and Korea. China is further separated into mainland China, Hong Kong, and Taiwan, due to the different economic and political systems among the three regions.

Due to the imperfect transferability of human capital, it is expected that there are lower rates of return from human capital acquired in all of these places of origin relative to the United States. It is also expected that the rates of return to education from different places of origin to vary considerably with the highest rates of return in those places that are the most similar to the United States in terms of language traditions and level of development.

1.3 Organization

This paper proceeds as follows. The next section examines the theoretical background of the study and states the hypothesis derived from the theories. Section 3 explains the data and empirical strategies that are used for this study. Section 4 presents the first-stage empirical results, and Section 5 examines the difference in the returns to human capital among the five countries in greater detail. The last section concludes the paper.

2. Theoretical Background

2.1 Human Capital Theory

An important conceptual framework that motivates this research is human capital theory, in which immigrants are distinct from natives in that they are very likely to have acquired human
capital in two different places, the source country and the country of destination. While human capital can be attained from a number of investments, among the most important are formal education and on-the-job training that comes with work experience. Since investments in human capital in source countries are oriented to skill requirements in those labor markets, they may not be completely transferable to the U.S. labor market. This is true whether the human capital is attained through formal education or work experience. The idea that human capital is not directly transferable leads to several hypotheses concerning Asian immigrants to the U.S.:

1. Returns to human capital for Asian immigrants acquired in the source country are less than the returns to human capital that they acquired in the U.S.

2. Returns to human capital acquired in the source country are higher for immigrants from those countries that are more similar to the United States in terms of economic development.

3. Returns to human capital acquired in the source country are higher for immigrants from countries where the language background is more similar to the U.S.

2.2 Roy Model

In addition to the human capital theory, a theory of labor mobility developed by Andrew D. Roy also provides supports for this research. The Roy model has more recently been adapted to immigration by George Borjas (1990). According to the Roy model, positive selection appears when the payoff for human capital in the destination country exceeds the payoff for human capital in the source country. Positive selected immigrants, in general, have relatively high levels of human capital as measured by what Borjas refers to as “efficiency units”. The number of “efficiency units” achieved by a prospective immigrant depends on their actual investments in human capital (e.g., years of schooling and years of on-the-job training) and their ability. The
important idea here is that more “able” individuals are able to turn an additional year of schooling or experience into more efficiency units than less able individuals. Therefore, positively selected immigrants to the U.S. will have higher than average educational attainment and will also have higher ability levels than those who do not emigrate from the source country. Because selection is partly based on ability, it follows that immigrants in the United States from source countries that exhibit positive selection could have higher rates of return from an increase in schooling (or on-the-job training) than natives who do not go through the selection process that immigrants go through.

Another characteristic of immigration from Asia to the U.S. is that the cost of migration is high. The difficulty of migrating might also influence the types of people who make the decision to incur these high costs. For example, people who have high level of motivation and tend to be risk takers may be more likely to attempt migration compared to equally able individuals who are less motivated and risk averse. If motivation and risk taking are valued in the U.S. job market, immigrants from Asia would be at some advantage because of this.

Negative selection, on the other hand, happens when the payoff for human capital in the source country exceeds the payoff for human capital in the destination country, and negative selected immigrants are usually unskilled and perform poorly in the destination country. Using the same line of reasoning, negative selection implies that the immigrant flow will have both lower levels of education and job experience, and lower levels of ability. If negative selection dominates, one would expect immigrants to have lower rates of return from an increase in schooling (or on-the-job training) than natives who do not go through the same selection process as immigrants.
Thus the Roy model has different implications for returns to immigrant investments in human capital when there is positive selection than when there is negative selection. If positive selection dominates in determining who emigrates from a certain country, the returns to education and job experience in the U.S. should be relatively high, and could possibly even exceed the returns to education and job experience for the U.S. natives. On the other hand, if negative selection dominates in the immigrants from the five source countries, the returns to education and job experience in the U.S. should be relatively low, and should be lower than the returns to education and job experience for the U.S. natives.

3. Data and Empirical Model

3.1 Data

The data used in this study are drawn from Integrated Public Use Microdata Series (IPUMS) for the year of 2013. The data are constrained to those who are natives, and those who were originally from Mainland China, Hong Kong, Taiwan, India, Korea, Philippines, or Vietnam. Also, only those who are between 18 and 65 years old and have positive earnings during the previous year are included in this study for the purpose of earnings analysis. In total, 1,224,168 observations are left, of which 3.7% (45,410 observations) are immigrants from the five Asian countries.

A shortcoming of the ACS data on immigrants is that it does not report the exact number of years of education and work experience received in the country of origin and the United States separately. It only reports the total amount of education received, age and year of immigration. However, it is possible to use age, year of immigration, and total years of education to construct plausible estimates of years of education and work experience in the country of origin and years
of education and work experience in the United States. The procedure used for making these estimates is detailed in the Appendix. While the approximation cannot perfectly capture source country educational attainment and work experience for immigrants, it is a reasonable approximation given the limitations of the data.

Table 1 presents some descriptive statistics for the sample of natives and immigrants who had positive wages and salaries from the previous calendar year. It shows significant variation in both Weekly Salary and Hourly Wages across places of origin with immigrants from India having the highest average weekly and hourly salaries and natives having the lowest. Interestingly, the usual hours worked per week are very similar between all groups, ranging from 38.0 for immigrants from Mainland China to 40.6 for immigrants from India.

Table 1 also shows that average educational attainment varies a good deal across Asian immigrant groups, from 11.1 years for Vietnamese immigrants to 16.2 for Indian immigrants. Every Asian immigrant group included in this study, except for Vietnamese immigrants, has higher educational attainment than natives. Since a major focus of this study is the transferability of human capital from country of origin to the U.S., it is important to measure the amount of education received in the country of origin and the amount of education received in the United States. There is great difference between groups with immigrants from Hong Kong, Taiwan and Korea receiving much more formal education in the United States and immigrants from India and Mainland China receiving much less.

Work experience also varies greatly across groups with Vietnamese showing the most experience and Indian immigrants the least. Immigrants from Vietnam have the most years of work experience in their home country and immigrants from Taiwan the least. Since we argue that human capital acquired in the country of origin may not be perfectly transferrable, it is
interesting to see if a year of experience received in the country of origin actually has lower returns than a year of experience in the United States.

3.2 Empirical Model

The empirical analysis proceeds in two stages. The first stage of the analysis includes both U.S. natives and immigrants from the five source countries to compare returns to human capital investments made by immigrants in the home country and in the United States to the returns received by natives in the United States. The second stage of analysis focuses on the earning profiles of immigrants from each source country and aims to explore the differences in returns to human capital for the five source countries, which is also expected to further confirm the hypothesis that human capital acquired in the home country is valued less than that acquired in the U.S.

The analysis is conducted in the context of log earnings model, which was developed by Jacob Mincer (1958) and is widely used in analyses of immigrant earnings profile.

3.2.1 Comprehensive Model

The first stage of the analysis uses OLS regression to estimate a single earnings function for the entire sample of working age Asians and natives using:

\[ \ln_{\text{Wage}} = \beta_0 + \beta_1 Edu + \beta_2 I*Edu_{\text{Home}} + \beta_3 I*Edu_{\text{US}} + \beta_4 Exp + \beta_5 I*Exp_{\text{Home}} + \beta_6 I*Exp_{\text{US}} + \beta_7 Uhrswork + \beta_8 female + u, \]

where \( \ln_{\text{Wage}} \) is the natural log of weekly wage (annual wage divided by weeks worked last year), \( Edu \) refers to years of overall education, \( I*Edu_{\text{Home}} \) and \( I*Edu_{\text{US}} \) are immigrant interacted with education from home country and immigrant interacted with education from the U.S. respectively, \( Exp \) represents years of overall labor market experience, \( I*Exp_{\text{Home}} \) and \( I*Exp_{\text{US}} \) are immigrant interacted with experience from home country and immigrant interacted
with experience from the U.S. respectively. Uhrswork and female are control variables in this equation, representing usual hours worked per week and being a female.

Unlike the commonly used earnings function which includes age, this model is not identified if age is included because both Edu and Exp are already in the model and \( \text{age} = 6 + Edu + Exp \). Therefore if all three variables (Edu, Exp and Age) were included in the model, the model would be over determined. In addition, the variable age in other studies usually serves as a proxy for potential job experience, while the empirical model this study uses contains more explicit variables addressing years of labor market experience.

### 3.2.2 Country Specific Model

The second stage of the analysis uses OLS regression to estimate separate earnings functions for immigrants from the seven places of origin:

\[
\text{Ln}_\text{Wage} = \beta_0 + \beta_1 \text{Edu}\_\text{Home} + \beta_2 \text{Edu}\_\text{US} + \beta_3 \text{Exp}\_\text{Home} + \beta_4 \text{Exp}\_\text{US} + \beta_5 \text{Uhrswork} + \beta_6 \text{female} + u,
\]

where Edu\_Home and Edu\_US refer to years of education obtained by immigrants from home country and from the U.S. respectively, Exp\_Home and Exp\_US represent years of potential job experience acquired in the home country and in the U.S. respectively. Again, Uhrswork and female serve as control variables in this equation, representing usual hours worked per week and being a female.

### 4. Results

#### 4.1 General Results

Table 2 presents estimates of the first-stage empirical model, the one focusing on the difference between returns to human capital for Asian immigrants and returns to human capital for the U.S. natives. As expected, accumulation of human capital affects wages positively and
significantly. There is a 7.7% return to an additional year of schooling for natives. The return to an additional year of schooling for immigrants, however, is higher no matter where the education is obtained, with an 8.6% return to another year of schooling from the home country and a 9.3% return to another year of schooling from the U.S. A slightly different pattern is observed for returns to labor market experience, with a lower return to experience acquired in the home country for immigrants compared with the return to experience for natives. Native earnings rise by 1.8% for each year of job experience, while immigrants gain 0.9% for each year of job experience from the home country and 2.1% for each year of job experience in the U.S. In addition, another usual hour worked per week adds 4% to the weekly wage. Furthermore, as expected, gender is an important determinant of earnings, with females earning 18% less than their male counterparts after controlling for usual hours worked, educational attainment, and potential job experience.

The results support the first hypothesis which claims that immigrants’ human capital obtained in the source country has lower returns than human capital that they acquire in the United States. For immigrants, the return to another year of schooling in the U.S. is 0.7% higher compared to the return to another year of schooling in the home country, and the return to an additional year of job experience from the U.S. is 1.2% higher than the return to an additional year of foreign labor market experience.

Moreover, the returns to human capital for immigrants accumulated in the U.S. are higher than the returns to human capital for natives, and this holds true for both ways to obtain human capital – schooling and job experience. The return to an additional year of schooling in the U.S. for immigrants is 1.6% higher than the return to schooling for natives; the return to another year of labor market experience in the U.S. for immigrants is 0.3% higher compared to the return to
job experience for natives. Both advantages of the returns to domestic education and job experience for immigrants over natives are statistically significant. This finding is consistent with the Roy model under conditions of positive selection. As argued earlier, positively selected immigrants will have greater ability compared to those who choose to not immigrate, and thus the higher ability immigrants could have higher rates of return to human capital than natives who do not go through a similar self-selection process.

4.2 Country Specific Results

The previous section ran a single earnings function for the entire sample of Asian immigrants and natives and found, as expected, that human capital acquired in the place of origin had lower rates of return compared to human capital acquired in the United States. This section examines separate earnings functions for each place of origin to determine if the same pattern persists across all countries. It is expected that there are differences in returns across countries because of the different economic and political backgrounds among the Asian source countries. Since natives are not included in these regressions, the results are not strictly comparable to those reported for the stage 1 analysis – the results are shown in Table 3.

An analysis of these results addresses whether there are structural differences in the reward pattern between places of origin. More specifically, it is addressed that whether there are differences in the returns to education and potential work experience between countries of origin. As mentioned above, it is rational to believe differences in returns are likely because countries exhibit substantial differences in economic and political systems. To determine whether these structural differences are statistically significant, a Chow test is performed on each single pair of places of origin, and the results indicates that there exists statistically significant difference in the pattern of the regressions since the F statistics for each single group of two places are all greater
than 2.01 (F stats at 5%). Furthermore, one is able to reject the null hypothesis that two regressions are the same at 1% confidence level for all groups except the pair Hong Kong and Taiwan. The fact that one could only reject the null hypothesis for Hong Kong and Taiwan at 5% level but not at 1% level indicates that Hong Kong and Taiwan are more similar than other pairings in terms of the reward patterns, but they still possess notable differences.

In general, the Chow tests show significant structural differences between the country specific earnings functions.

Next, the heterogeneity in the reward pattern is further explored in two ways. The first one is to compare the magnitude of the coefficients for human capital investments (i.e., education and work experience) across the seven earnings function. The second one is to compare the differences between returns to human capital obtained from place of origin and returns to human capital obtained from the United States.

Table 3 shows that the overall pattern of country specific results indeed supports the hypothesis that human capital investments made in the U.S. are rewarded higher than those made in the country of origin. Education obtained in the U.S. has higher returns than foreign education, and the returns to labor market experience in the U.S. are higher than the returns to the experience acquired in the home country.

In order to test whether there are significant differences between the returns to human capital acquired in home country and the returns to human capital obtained in the U.S., a Wald test is performed on each place of origin between variables $Edu_{Home}$ and $Edu_{US}$, and also between variables $Exp_{Home}$ and $Exp_{US}$. The results of the Wald tests indicate that the returns to domestic human capital are significantly different from foreign human capital for all places at 5% level of origin except the pair education from Philippines and U.S. education. In other words,
there seems no significant difference between the return to education obtained in Philippines and education obtained in the United States. Besides, the F statistics show that the difference between education from Hong Kong and education from the U.S. is also fairly small, even though the difference is still significant.

Education received in Mainland China has the highest returns, with a 6.6% increase in weekly wage for an additional year of schooling from Mainland China. Education from India, Hong Kong, and Taiwan follow, each has a return of 5.8%, 5.5%, and 5.2% respectively for another year of schooling. Education from Korea, Vietnam, and Philippines yield relatively low returns from a direct look at the coefficients of \( Edu_{Home} \).

Contrary to the hypothesis that the returns to human capital accumulated in the destination country exceed the returns to human capital acquired in the home country, immigrants from India and Philippines enjoy higher returns to education from home country than returns to education from the U.S. However, like mentioned earlier, the Wald test shows no statistical difference between the returns to Philippine education and the returns to U.S. education for immigrants from Philippines.

India is the only exception to the transferability hypothesis. The returns to Indian education are 1.2% higher than the returns to U.S. education for Indian immigrants. Immigrants from other places of origin except India and Philippines yield higher returns to their education in the U.S. than to their education from source countries. For Korean and Vietnamese immigrants, education from home country is valued the least of all, and the gaps between returns to education from home country and returns to education from the U.S. are the largest, which indicate that the education from Korea and Vietnam are the least transferable.
Returns to U.S. labor market experience exceed returns to foreign labor market experience for each place of origin. Immigrants from Korea, Hong Kong, and Taiwan have the highest returns to experience acquired abroad, with a 0.9% increase for another year of experience in Korea, and a 0.5% increase for another year of experience in Hong Kong or Taiwan. In addition, immigrants from Korea, Hong Kong, and Taiwan also have relatively small gaps between returns to foreign experience and U.S. experience, which suggests that labor market experience obtained from Korea, Hong Kong, and Taiwan are the most transferable. Mainland China ranks right after them in terms of both the magnitude of the coefficient $Exp_{Home}$ and the difference between variables $Exp_{Home}$ and $Exp_{US}$. Experience from India, Vietnam, and Philippines yield relatively low returns, with even significant negative returns to job experience acquired in India and the Philippines. Moreover, the differences between the returns to foreign experience and the returns to U.S. experience are also the biggest for immigrants from India, Vietnam, and Philippines, which implies that the labor market experience from these three countries are the least transferable to the U.S. labor market.

In general, the results are consistent with expectations. Immigrant returns to human capital investments in source countries are typically lower than returns to investments of human capital in the United States. This suggests that source country human capital is not completely transferrable. The results also show that there are significant differences across immigrant groups in the returns from source country investments in human capital. The next session conducts exploratory analysis on possible reasons for this heterogeneity in returns.

4.3 Explaining Differences in Rates of Return between Countries

This exploratory section tests the idea that variation in return from human capital investments acquired in the source countries can be explained by two characteristics of those
countries: a) the level of development using per capita GDP as proxy, and b) English language proficiency of the source country population. The basic idea is that immigrant returns from education and work experience received in the source country should be higher in countries where per capita GDP is high and in countries where English language skills are great. When a country is more developed and the English language skills within the country is great, we expect high rates of transferability of human capital acquired in source country to the United States. This section explores possible determinants of transferability of education and labor market experience separately. The general principle is that returns to human capital acquired in the source country are higher for immigrants from countries that are more similar to the United States. Thus the analysis in this section utilizes data from ACS that reflect English skills of recent immigrants in order to capture the language background of immigrants prior to their migration, and also utilizes data that represent level of development for each place of origin. The first column of Table 4 present the rankings of GDP per capita for each region where Hong Kong is ranked the highest and India the lowest. The second column of Table 4 presents the ranking of each region by the English language skill level of immigrants who arrived in the United States over the most recent five years. The English skills are measured by the percentage of recent immigrants who identify themselves as “speak English well”. Table 4 shows that India ranks first in terms of self-reported English language proficiency while Vietnam ranks last. The third and the fourth column show the rankings of returns from education, and the fifth and the sixth column present the rankings of returns from job experience. These rankings are drawn from the estimated returns from the country specific regressions. Column 3 (Table 4), for example, shows that immigrants from Mainland China rank first in terms of returns to education received in the place of origin while immigrants from the Philippines ranked last. Note that the rank of the
returns to human capital investments (education and job experience separately) from the highest to the lowest and the rank of the difference between the returns to domestic and foreign human capital from the smallest to the largest are both reported in Table 4.

Table 4 shows that, from the perspective of GDP per capita, Hong Kong and Korea are the most developed regions among the seven, and at the same time, returns to work experience obtained in Hong Kong and from Korea are the highest, and the differences between returns to domestic and foreign experience are the smallest (so the rankings are also the highest). Taiwan and Mainland China rank right after Hong Kong and Korea in terms of GDP per capita, and the ranks of transferability of job experience for Taiwan and Mainland China coincide with the rank in economic development. Moreover, Philippines, Vietnam, and India are the least developed places and also have the lowest transferability of job experience obtained from home country.

Moreover, in terms of another country-specific characteristic – English skills, Table 4 shows that immigrants from India and Philippines possess the highest level of English skills among the seven places of origin, which is reasonable due to the British colonial history in India and the American colonial history in the Philippines. These advantages in language background translate into the smallest differences between returns to domestic education and returns to foreign education. The English skills for immigrants from Korea and Vietnam, on the other hand, are the lowest, and the differences between returns to domestic and foreign education are the highest.

To test the hypothesis that returns to education and work experience in the home country is correlated with language background and level of development in places of origin, the Spearman’s rank correlation test is performed on the rank of English skills with the ranks of the returns from human capital investments. Similarly, a second Spearman’s rank correlation test is
performed on the rank of GDP per capita with the ranks concerning returns from human capital investments. The Spearman’s rank correlation coefficients are displayed in Table 5.

The results in Table 5 further indicate that the rank of GDP per capita, which is an indication of economic development, is positively correlated with the ranks of the transferability of job experience, as measured by the returns from source country work experience and the difference between home and US job experience. These two correlations are fairly strong, which demonstrates a strong positive correlation between level of economic development of home country and the transferability of labor market experience for immigrants. The coefficient of the correlation between the rank of GDP per capita and the rank of the returns to source country work experience is 0.929, and the coefficient of the correlation between the rank of GDP per capita and the rank of the difference between returns to domestic and foreign job experience is 0.821. Both coefficients are significant at 5% level.

Table 5 further shows that the rank of English skills appears to be positively correlated with the ranks of the transferability of education, as measured by returns from source country education and the difference between home and US education. The correlation between the rank of English skills and the rank of the returns to education from home country is positive, but is not significant, with a Spearman’s coefficient of 0.214. However, the correlation between the rank of English skills and the rank of the difference between returns to domestic and foreign education is significant at 5% level, with a coefficient of 0.893.

In summary, this section concludes that the transferability of education is positively correlated with language background of places of origin, while the transferability of job experience is positively related to the level of development of the home country.
5. Conclusion

This paper investigates the transferability of human capital for immigrants from major source countries in Asia, and provides possible explanations to the heterogeneity of the transferability of human capital across the various regions of origin.

The general result of this study suggests that human capital acquired in the home country might not be equivalent to that acquired in the destination country due to the imperfect transferability of skills and different skill sets required in different labor markets. Both foreign education and foreign labor market experience are valued less than U.S. education and job experience.

The country specific results further confirm the imperfect transferability of human capital, and also suggests significant differences in the pattern of earnings profiles between different immigrant groups. Labor market experience acquired in Hong Kong and Korea are the most transferable to the U.S. labor market, and experience from Philippines, Vietnam, and India are the least transferable. The education from India and Philippines are the most transferable, while education from Korea and Vietnam are the least.

Moreover, this paper also provides possible explanations to the heterogeneity observed in the transferability of human capital from different places of origin. The analysis demonstrates that the transferability of education is correlated with the English background of the place of origin, which is stronger for those regions that have a British or American colonial history, such as India, Philippines, and Hong Kong. The transferability of job experience, however, is more correlated with the level of economic development of the place of origin, possibly because the labor market in more developed places requires more similar skill sets to those required in the
U.S. labor market. This study finds that job experiences acquired in more developed regions such as Hong Kong, Korea, and Taiwan are more transferable to the U.S. labor market.
### Table 1: Descriptive Statistics (standard deviation in parentheses)

<table>
<thead>
<tr>
<th></th>
<th>Natives</th>
<th>Main_China</th>
<th>Hong Kong</th>
<th>Taiwan</th>
<th>India</th>
<th>Korea</th>
<th>Vietnam</th>
<th>Philippines</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Weekly Salary</strong></td>
<td>910</td>
<td>1122</td>
<td>1482</td>
<td>1548</td>
<td>1680</td>
<td>1112</td>
<td>970</td>
<td>1016</td>
</tr>
<tr>
<td></td>
<td>(1171)</td>
<td>(1256)</td>
<td>(1510)</td>
<td>(1543)</td>
<td>(1718)</td>
<td>(1296)</td>
<td>(1099)</td>
<td>(974)</td>
</tr>
<tr>
<td><strong>Edu</strong></td>
<td>12.8</td>
<td>13.8</td>
<td>14.4</td>
<td>16.2</td>
<td>16.2</td>
<td>14.9</td>
<td>11.1</td>
<td>14.2</td>
</tr>
<tr>
<td></td>
<td>(4.5)</td>
<td>(6.6)</td>
<td>(4.9)</td>
<td>(3.8)</td>
<td>(3.9)</td>
<td>(3.9)</td>
<td>(6.4)</td>
<td>(3.6)</td>
</tr>
<tr>
<td><strong>Edu_Home</strong></td>
<td>------</td>
<td>10.6</td>
<td>7.3</td>
<td>10.8</td>
<td>13.4</td>
<td>8.5</td>
<td>5.7</td>
<td>9.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(7.6)</td>
<td>(6.7)</td>
<td>(7.3)</td>
<td>(6.2)</td>
<td>(7.4)</td>
<td>(6.3)</td>
<td>(7.2)</td>
</tr>
<tr>
<td><strong>Edu_US</strong></td>
<td>------</td>
<td>1.9</td>
<td>5.3</td>
<td>4.2</td>
<td>1.9</td>
<td>4.5</td>
<td>3.3</td>
<td>2.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(4.1)</td>
<td>(6.4)</td>
<td>(6.2)</td>
<td>(4.1)</td>
<td>(6.7)</td>
<td>(5.6)</td>
<td>(4.9)</td>
</tr>
<tr>
<td><strong>Exp</strong></td>
<td>23.6</td>
<td>23.0</td>
<td>27.4</td>
<td>24.8</td>
<td>18.9</td>
<td>24.9</td>
<td>29.5</td>
<td>27.7</td>
</tr>
<tr>
<td></td>
<td>(14.6)</td>
<td>(14.6)</td>
<td>(13.9)</td>
<td>(12.6)</td>
<td>(12.2)</td>
<td>(12.9)</td>
<td>(13.5)</td>
<td>(12.9)</td>
</tr>
<tr>
<td><strong>Exp_Home</strong></td>
<td>------</td>
<td>9.1</td>
<td>6.1</td>
<td>5.0</td>
<td>5.7</td>
<td>6.6</td>
<td>9.9</td>
<td>9.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(11.1)</td>
<td>(10.2)</td>
<td>(8.0)</td>
<td>(8.4)</td>
<td>(8.9)</td>
<td>(11.4)</td>
<td>(10.4)</td>
</tr>
<tr>
<td><strong>Exp_US</strong></td>
<td>------</td>
<td>13.9</td>
<td>21.3</td>
<td>19.8</td>
<td>13.2</td>
<td>18.3</td>
<td>19.6</td>
<td>18.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(9.9)</td>
<td>(11.2)</td>
<td>(10.6)</td>
<td>(9.5)</td>
<td>(10.9)</td>
<td>(10.0)</td>
<td>(11.0)</td>
</tr>
<tr>
<td><strong>Uhrswork</strong></td>
<td>29.2</td>
<td>38.0</td>
<td>39.9</td>
<td>40.3</td>
<td>40.6</td>
<td>39.3</td>
<td>38.9</td>
<td>38.9</td>
</tr>
<tr>
<td></td>
<td>(20.1)</td>
<td>(12.7)</td>
<td>(11.9)</td>
<td>(12.4)</td>
<td>(11.3)</td>
<td>(13.5)</td>
<td>(11.5)</td>
<td>(11.0)</td>
</tr>
<tr>
<td><strong>Valid N</strong></td>
<td>1243369</td>
<td>8359</td>
<td>1582</td>
<td>2249</td>
<td>10655</td>
<td>4610</td>
<td>6915</td>
<td>11040</td>
</tr>
</tbody>
</table>
### Table 2: General Regression Results (standard error in parentheses)

<table>
<thead>
<tr>
<th></th>
<th>Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>3.526***</td>
</tr>
<tr>
<td></td>
<td>(0.003)</td>
</tr>
<tr>
<td>Edu</td>
<td>0.077***</td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
</tr>
<tr>
<td>I * Edu_Home</td>
<td>0.009***</td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
</tr>
<tr>
<td>I * Edu_US</td>
<td>0.016***</td>
</tr>
<tr>
<td></td>
<td>(0.001)</td>
</tr>
<tr>
<td>Exp</td>
<td>0.018***</td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
</tr>
<tr>
<td>I * Exp_Home</td>
<td>-0.009***</td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
</tr>
<tr>
<td>I * Exp_US</td>
<td>0.003***</td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
</tr>
<tr>
<td>Uhrswork</td>
<td>0.040***</td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
</tr>
<tr>
<td>Female</td>
<td>-0.180***</td>
</tr>
<tr>
<td></td>
<td>(0.001)</td>
</tr>
<tr>
<td>Adjusted R(^2)</td>
<td>0.462</td>
</tr>
<tr>
<td>Observations</td>
<td>1,224,168</td>
</tr>
</tbody>
</table>

Note: *** indicates significant at 0.01 level  
** indicates significant at 0.05 level  
* indicates significant at 0.10 level
Table 3: Country Specific Regression Results (standard error in parentheses)

<table>
<thead>
<tr>
<th></th>
<th>Main_China</th>
<th>Hong Kong</th>
<th>Taiwan</th>
<th>India</th>
<th>Korea</th>
<th>Vietnam</th>
<th>Philippines</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(0.042)</td>
<td>(0.109)</td>
<td>(0.105)</td>
<td>(0.045)</td>
<td>(0.064)</td>
<td>(0.051)</td>
<td>(0.038)</td>
</tr>
<tr>
<td>Edu_Home</td>
<td>0.066***</td>
<td>0.055***</td>
<td>0.052***</td>
<td>0.058***</td>
<td>0.044***</td>
<td>0.035***</td>
<td>0.034***</td>
</tr>
<tr>
<td></td>
<td>(0.002)</td>
<td>(0.004)</td>
<td>(0.004)</td>
<td>(0.002)</td>
<td>(0.002)</td>
<td>(0.002)</td>
<td>(0.001)</td>
</tr>
<tr>
<td>Edu_US</td>
<td>0.073***</td>
<td>0.063***</td>
<td>0.062***</td>
<td>0.046***</td>
<td>0.068***</td>
<td>0.068***</td>
<td>0.033***</td>
</tr>
<tr>
<td></td>
<td>(0.003)</td>
<td>(0.005)</td>
<td>(0.005)</td>
<td>(0.003)</td>
<td>(0.003)</td>
<td>(0.002)</td>
<td>(0.002)</td>
</tr>
<tr>
<td>Exp_Home</td>
<td>0.004***</td>
<td>0.005**</td>
<td>0.005*</td>
<td>-0.007***</td>
<td>0.009***</td>
<td>0.003**</td>
<td>-0.004***</td>
</tr>
<tr>
<td></td>
<td>(0.001)</td>
<td>(0.003)</td>
<td>(0.003)</td>
<td>(0.001)</td>
<td>(0.002)</td>
<td>(0.001)</td>
<td>(0.001)</td>
</tr>
<tr>
<td>Exp_US</td>
<td>0.024***</td>
<td>0.017***</td>
<td>0.021***</td>
<td>0.013***</td>
<td>0.018***</td>
<td>0.024***</td>
<td>0.018***</td>
</tr>
<tr>
<td></td>
<td>(0.001)</td>
<td>(0.002)</td>
<td>(0.002)</td>
<td>(0.001)</td>
<td>(0.001)</td>
<td>(0.001)</td>
<td>(0.001)</td>
</tr>
<tr>
<td>Uhrswork</td>
<td>0.032***</td>
<td>0.037***</td>
<td>0.031***</td>
<td>0.032***</td>
<td>0.031***</td>
<td>0.029***</td>
<td>0.030***</td>
</tr>
<tr>
<td></td>
<td>(0.001)</td>
<td>(0.002)</td>
<td>(0.001)</td>
<td>(0.001)</td>
<td>(0.001)</td>
<td>(0.001)</td>
<td>(0.001)</td>
</tr>
<tr>
<td>Female</td>
<td>-0.115***</td>
<td>-0.132***</td>
<td>-0.212***</td>
<td>-0.324***</td>
<td>-0.186***</td>
<td>-0.190***</td>
<td>-0.117***</td>
</tr>
<tr>
<td></td>
<td>(0.017)</td>
<td>(0.038)</td>
<td>(0.035)</td>
<td>(0.016)</td>
<td>(0.025)</td>
<td>(0.018)</td>
<td>(0.015)</td>
</tr>
<tr>
<td>Adjusted R^2</td>
<td>0.453</td>
<td>0.414</td>
<td>0.328</td>
<td>0.358</td>
<td>0.332</td>
<td>0.372</td>
<td>0.284</td>
</tr>
<tr>
<td>Observations</td>
<td>8,359</td>
<td>1,582</td>
<td>2,249</td>
<td>10,655</td>
<td>4,610</td>
<td>6,915</td>
<td>11,040</td>
</tr>
</tbody>
</table>

Note: *** indicates significant at 0.01 level
** indicates significant at 0.05 level
* indicates significant at 0.10 level
Table 4: Rankings for Seven Places of Origin

<table>
<thead>
<tr>
<th>Place</th>
<th>Country Specific Characteristics</th>
<th>Returns from Education</th>
<th>Returns from Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>GDP per capita</td>
<td>English Skills</td>
<td>Returns to Edu_Home</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>1</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Korea</td>
<td>2</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Taiwan</td>
<td>3</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Main_China</td>
<td>4</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Philippines</td>
<td>5</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>Vietnam</td>
<td>6</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>India</td>
<td>7</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

Table 5: Spearman’s Rank Correlation Coefficients

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP per capita</td>
<td>0.071</td>
<td>-0.357</td>
<td>0.929</td>
<td>0.821</td>
</tr>
<tr>
<td>English skills</td>
<td>0.214</td>
<td>0.893</td>
<td>-0.5</td>
<td>-0.25</td>
</tr>
</tbody>
</table>
Reference


Appendix

i. Age_of_immigration = year of immigration – year of birth

ii. Years_of_education: High School = 12; Some College = 13; Associate = 14; Bachelor’s = 16; Master’s = 18; Professional = 19; Doctoral = 22


Table (a): Chow Test Statistics

<table>
<thead>
<tr>
<th>Main_China</th>
<th>Hong Kong</th>
<th>Taiwan</th>
<th>India</th>
<th>Korea</th>
<th>Vietnam</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hong Kong</td>
<td>8.34</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taiwan</td>
<td>4.26</td>
<td>2.51</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>India</td>
<td>81.89</td>
<td>8.87</td>
<td>15.44</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Korea</td>
<td>28.91</td>
<td>19.30</td>
<td>16.73</td>
<td>97.94</td>
<td></td>
</tr>
<tr>
<td>Vietnam</td>
<td>39.83</td>
<td>21.77</td>
<td>18.34</td>
<td>110.32</td>
<td>9.84</td>
</tr>
<tr>
<td>Philippines</td>
<td>47.55</td>
<td>19.29</td>
<td>13.67</td>
<td>109.83</td>
<td>25.43</td>
</tr>
</tbody>
</table>

Table (b): Wald Test and F Statistics

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Main_China</td>
<td>9.57</td>
<td>236.66</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>5.36</td>
<td>17.86</td>
</tr>
<tr>
<td>Taiwan</td>
<td>10.39</td>
<td>29.85</td>
</tr>
<tr>
<td>India</td>
<td>40.35</td>
<td>204.84</td>
</tr>
<tr>
<td>Korea</td>
<td>108.09</td>
<td>19.72</td>
</tr>
<tr>
<td>Vietnam</td>
<td>252.97</td>
<td>294.74</td>
</tr>
<tr>
<td>Philippines</td>
<td>0.18</td>
<td>549.09</td>
</tr>
</tbody>
</table>