SPECIAL PROJECT – SPRING 2014

Vietnamese Immigrant Entrepreneurship

A Comparison of Self-Employment in Vietnam and the United States

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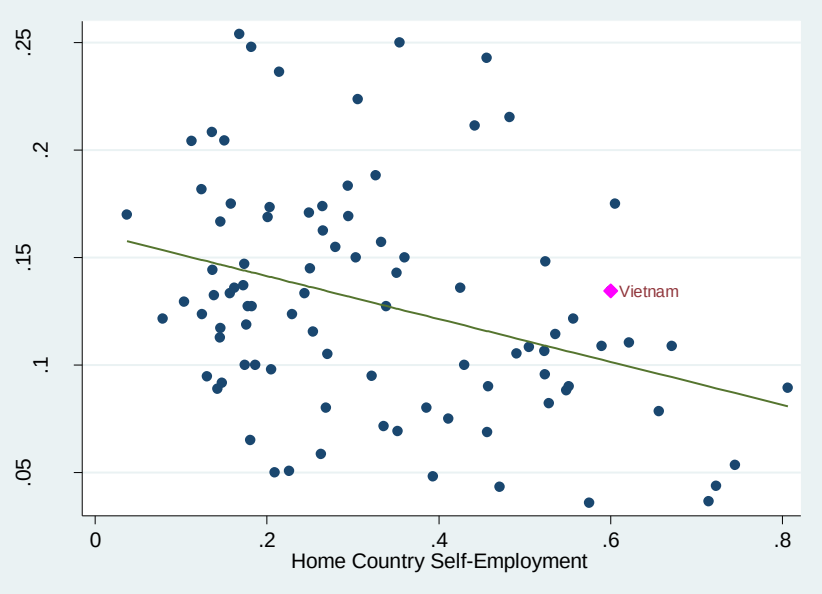
1. Introduction

Entrepreneurship has been examined in various ways since it is considered as a major factor of economic growth. Even though the empirical results concerning the impact of entrepreneurship on economic growth is somewhat mixed (Audretsch and Keilbach, 2004; Folster, 2000; Salgado-Banda, 2007), theoretical arguments are mostly supportive of the positive impact of entrepreneurship on an economy (Aghion and Howitt, 1992; Harper, 2003; Acs et al. 2009; Braunerhjelm et al. 2010). Accordingly, there are various studies on the determinants, measurement, and effects of entrepreneurship.

Among the issues concerning entrepreneurship, one of the most controversial subjects is measurement of entrepreneurship. Since a theoretical definition of entrepreneurship has not reached a consensus, different measures are used in empirical studies; self-employment rate, the number of new business started (Audretsch and Keilbach, 2004), patents (Salgado-Banda, 2007), and small and young firms (van Praag and Versloot, 2007). We use self-employment rate as a measure of entrepreneurship in this paper because it is most prevalent and most suitable to explain our research questions.

When we look at rates of self-employment worldwide, and compare them with the rates of self-employment of immigrants from those countries in the United States, we find a significant negative relationship between the rate of self-employment in the home country and the rate of self-employment in the United States. That is, the higher the rate of self-employment at home, the lower the rate of self-employment in the US (See Figure 1).

Figure 1: Home country vs. US self-employment rate



World Bank Indicators, 2006-2010 PUMS ACS.

In this paper, we examine the case of Vietnam as an example of this phenomenon. In Vietnam, the World Bank Indicators show a self-employment rate of 60% among men in 2008, whereas the United States rate is less than 15%. This wide gap between the two countries even greater than that between Mexico and the U.S.(Fairlie and Woodruff, 2007). We use census microdata from Vietnam and the U.S. as well as an understanding of the economic systems in the two countries to understand the differences in the self-employment rate of the Vietnamese in Vietnam versus Vietnamese immigrants in the U.S. and also to give some insight into the nature of self-employment in the two countries.

We utilize two analysis methods on various variables to investigate the differences in the rates of self-employment. This diversified analysis enables one to understand the differences between the two economies and the differences between Vietnamese workers in Vietnam and Vietnamese immigrants in terms of self-employment. Through these analyses, we can explain some parts of the differences.

2. Literature Review

Self-employment has been considered an important factor in the economy since it is used as a proxy of entrepreneurship. Moreover, it has been considered as a crucial factor in the economic advancement of immigrants (Sander and Nee, 1996), and various studies have been conducted in this field. Among various aspects, the determinants of self-employment rate in the economy have been studied in terms of labor market theories of occupational choice of individuals.

Given the important role of small businesses in an economy, the determinants of self-employment have been studied in terms of occupational choice of individuals. Among the studies which used data on self-employed and wage workers to estimate static models of self-employment selection (for instance, Borjas and Bronars,1989 ; Rees and Shah, 1986) , the work done by Evans and Jovanovic (1989) is one of the most cited papers. They set up the theoretical framework for entrepreneurs, and then used the national longitudinal survey of young men (NLS) data to estimate the parameters of the model. Similar to other research, we analyze self-employment based on this framework, including explanatory variables such as age, educational attainment, and marital status.

Compared to research on self-employment of an economy in general, the study on self-employment of immigrants has been somewhat under-investigated. Borjas (1986) brought up the idea that the research on the questions of who the self-employed are and how they do in the labor market should receive more attention in the future. He investigated the industry composition of immigrants and set up the model of enclave effect to see the effect of related variables. He concluded that self-employment has an important role in immigrant economy and immigrants are more likely to be self-employed than similarly skilled native workers largely due to the enclave effect. We also use his set-up concerning enclave effect to explain its effect on Vietnamese immigrant self-employment.

Studies on self-employment in Vietnam have used linear probability model (LPM) regression and/or probit model regression as methodologies. Fetzer (1998) utilized probit regression to study the characteristics of self-employed workers in Vietnam using the Vietnam living standards survey (VNLSS) data, which contains demographic and business information of households. Do and Duchene(2008) also used probit to estimate a reduced-form probit choice equation of self-employment in Vietnam with the Vietnam household living standard survey 2004 data. Since the harmonized Vietnamese census data we use also includes demographic and business information for the Vietnamese population, our data is expected to be suitable for a research on self-employment.

The other study dealing with self-employment in many aspects was done by Fairlie and Woodruff (2007). They used probit regression, and also LPM regression to see the relation between self-employment and explanatory variables in Mexico and the United States. Starting from an interest in a big difference in self-employment rate in Mexico and the United States, they compared the industry sector composition, estimated the probability of self-employment for both Mexican and the U.S. workers through LPM, and predicted the rate of self-employment of the immigrants if there were in Mexico under the same industry sector. To see the effects of English speaking and enclave effect on self-

employment rates of Mexican immigrants in the U.S., they utilized probit analysis and decomposition of demographic characteristics of self-employed immigrants.

3. Methodology

In this paper, we adopt the main empirical framework and methods from the previous work done by Fairlie and Woodruff (2007). Our empirical methodology consists of two parts, decomposition analysis and regression analysis. Decomposition analysis is used for industry sector analysis and educational attainment distributions of Vietnam and the United States. Regression analysis used includes linear probability model and probit model on demographic and other characteristic data for both countries.

3.1. Decomposition Analysis

The purpose of the decomposition analysis is to see if the difference in self-employment rates in Vietnamese workers and the immigrants in the United States may be attributed to the differences in industry composition or educational attainment distributions. We analyze the data by industry shares, educational attainment distribution, and self-employment rates in each sector and separate into four groups; workers in Vietnam, Vietnamese immigrant workers in the U.S., Vietnamese workers who were born in the U.S., and total workers in the U.S. We predict the self-employment rate of the immigrants in case of that they were in Vietnam under the same industry sector and separately for educational attainment.

3.2. Regression Analysis

We utilize both linear probability model and probit model for our regression analysis. Even though they are different models, we got the similar results from the both methods in terms of the significance and the signs of the coefficients. We include the result tables only from linear probability model since two methods gave the similar results and it is easier to interpret the correlations using LPM.

3.2.1 Self-employment in the United States and Vietnam

Some demographic factors, such as age, sex, marital status and number of children are thought to be associated with self-employment in literature. Since length of experience in the labor market is considered to have a relationship with self-employment (Evans and Leighton, 1989; Fujii and Hawley, 1991; Lyigun and Owen, 1999) , we use age as proxy of potential experiences in labor market (Do and Duchene, 2008). Educational attainment is used as proxy of human capital skills, which also have to do with self-employment decision (Rees and Shah, 1986: Borjas and Bronars, 1989; Sanders and Nee, 1996; Fernandez and Kim, 1998). Besides these two variables, family background is also considered to be a determinant of self-employment (Sanders and Nee, 1996). We include marital status and number of children to represent the family characteristics of each individual. To empirically estimate the relationship between the characteristics and self-employment in the two countries, we specify the following equation:

$$SE_i = \beta_0 + \beta_1 * AGE_i + \beta_2 * EDU_i + \beta_3 * MARR_i + \beta_4 * CHI_i + \varepsilon_i \quad \dots (1)$$

The variable SE is a dummy variable that takes 1 if the person is self-employed and takes 0 if not. The variable AGE stands for nine dummy variables of the age segment where each individual is in. The reference group is 16-19 and the age segment consists of 10 groups from 16-19 to 60-64. EDU denotes six dummy variables of the educational attainment with no schooling being the base group. The variable

MARR is a dummy variable that takes 1 if the individual is married and 0 if not. Lastly, CHI represents the number of own children in the individual's household.

Through this equation, we aim to understand the correlation between the demographic characteristics and self-employment in each country. To do it, we use data of people who are in the work age (16-64) and working in the two countries. We run regression separately for men and women as well as including and not including agriculture. The reason we separately run the model with and without including agriculture is that the self-employment rate is relatively high in agriculture sector in Vietnam and therefore may be affected by different explanatory factors which we hope to identify. The regression results are expected to explain the correlation between self-employment and demographic characteristics in the two countries through this model.

3.2.2 Self-employment of Vietnamese immigrants

When analyzing in more detail the self-employment of Vietnamese immigrants in the U.S. we include additional variables. These additional variables are included only in the analysis for the immigrants because they are thought to relate to self-employment of the immigrants, but not to the natives. In previous studies, one of the most included variables for immigrant self-employment analysis is enclave effect (Borjas, 1986; Yuengert, 1995). Another variable that often included in models is language fluency (Fairlie and Meyer, 1996; Fernandez and Kim, 1998). Besides these two common variables, we also include dummy variables for citizenship and the years of staying in the U.S. because they provide rough measures of assimilation that could have positive influence on immigrant's self-employment opportunities (Fernandez and Kim, 1998). As a result, we get the empirical equation as following;

$$SE_i = \beta_0 + \beta_1 * AGE_i + \beta_2 * EDU_i + \beta_3 * MARR_i + \beta_4 * CHI_i$$

$$+\beta_5 * ENG_i + \beta_6 * ECV_i + \beta_7 * CTZ_i + \beta_8 * YRS_i + \varepsilon_i \quad \dots \ (2)$$

The variables that were included in the previous equation are the same. ENG stands for the English speaking ability of the immigrants. It takes 1 if they speak English even poorly and takes 0 if they do not speak English at all. The variable ECV is meant to represent the enclave effect. It is the percentage of people claiming Vietnamese ancestry per PUMA (Public Use Microeconomic Areas). The variable CTZ is a dummy variable that takes 1 if a person has U.S. citizenship and takes 0 if not. The last variable, YRS, denotes the number of years that an individual have been lived in the U.S.

Through this equation, we examine the correlation between these characteristics and self-employment of immigrants. We especially focus on the effects of the additional variables that are included in this model; enclave, language ability, citizenship, and the years of residency in the U.S. This is because those variables are considered to be the significant factors to immigrant self-employment decision (Borjas, 1986; Yuengert, 1995; Sanders and Nee, 1996; Fernandez and Kim, 1998.) We run regressions on the data of the immigrants that are from the U.S. data set and analyze the correlation between the explanatory variables and the self-employment for the immigrants.

4. Data

Our data for the United States come from the American Community Survey 2006-2010 5-Year sample as accessed on the International Public Use Microdata Sample (IPUMS) online website. For the Vietnam data, we used the IPUMS data from the Vietnamese 2009 Population and Housing Census (long form 15% sample). In both datasets, the data were survey weighted. All estimates were calculated using those survey weightings.

In our paper, we examine self-employment as a proxy for entrepreneurship, as it is a closely-related metric for which much data is available as tallied in most countries' censuses, including Vietnam.

Some minor differences between the two surveys should be taken into consideration when interpreting the results. For example, the US census breaks out marriage relationships in detail; for the Vietnamese data, one category of relationship included both married and/or in a union relationship. Both industry sector and educational attainment were harmonized for this analysis by combining some of the detailed categories available for the U.S data into the larger groupings provided by the Vietnamese census.

United States samples were counted as working if their employment status was "currently working" and their usual working hours were greater than 34 hours per week. For the Vietnamese census, the definition of working was given by the employment status being "at work." Data for number of hours worked was not available from the Vietnamese census.

One of our demographic variables is the number of children in the household. For Vietnam, this data was available only for mothers, and included only their biological children living in the same household. For the ACS the variable for number of own children in the household was available for both men and women and included both biological and adopted or step children. We included this variable even though there was not an exact correspondence.

Data on age was available to the nearest year for both the Vietnamese and United States data. Our regression analyses use age intervals of five years in order to capture each career phase, as the quadratic equation obtained by using age and age-squared as continuous variables did not provide an adequate fit to the observed self-employment rates. Our actual data used was 9 dummy variables to distinguish each age group from the youngest (ages 16 to 19) group.

In order to derive a variable to represent the enclave effect, the proportion of people of Vietnamese ancestry per Public Use Microdata Area (PUMA) was used. PUMAs consist of 100,000+ residents and do not cross state lines.

In section 5.6, we compare the overall situation between Vietnam and the United States with respect to self-employment. For Vietnam we also address the self-employment categories of working for own self versus being an employer (section 5.7). In this case we assumed that if the status was not working for own self or member of a coop, then the person was an employer.

For most analyses, the segment of interest was people between the ages of 16 and 64, inclusive and currently working. The only exceptions are the age and education distributions, which are presented in sections 5.4 and 5.5 for the age range of interest (16 to 64) but are not limited to the working population.

5. Results

As described in the methodology section, we perform both decomposition and regression analyses. Sections 5.1 and 5.2 provide overall summary statistics, sections 5.3 through 5.5 provide decomposition analyses, and sections 5.6 through 5.8 provide the regression analyses.

For most of our analysis, we are concerned with four distinct groups: the general Vietnamese population, Vietnamese immigrants in the United States, people who claim Vietnamese ancestry in the United States, and the general U.S. population. We also separate our results by sex, since results for men and women frequently diverge.

In section 5.1, table 1 shows an overall summary of self-employment rates among our four groups of interest, as segregated by men and women. In section 5.2, figure 1 shows the density distribution of income earnings for the general population versus the self-employed for the US population and our target population of Vietnamese immigrants, and Table 2 summarizes the mean and median values for both self-employed and non-self-employed general US population and Vietnamese immigrants.

Section 5.3 focuses on proportion of industry sector shares and the rate of self-employment in each for both men and women. An assessment is made for both men and women of the proportion of the gap in self-employment rates between Vietnam and Vietnamese immigrants that can be accounted for by these factors. Section 5.4 examines the distribution of educational attainment among our aforementioned groups of interest and likewise, an assessment is made of the portion of the self-employment gap that can be attributed to differences in education. In section 5.5, we look at self-employment rates by age, both in tabular form and also graphically.

In section 5.6 results of regressions on our demographic factors (age interval, educational rate, marriage status, and number of children in the household are presented for our four populations of interest and for both men and women, as well as a bar chart of the educational regression coefficients. Section 5.7 of our paper provides regression results for the same demographic factors of self-employment in Vietnam, distinguishing between those who are self-employed on their own account versus those who also employ others. Finally, in section 5.8 we look at Vietnamese immigrants alone, adding other pertinent factors (enclave effect, English speaking, number of years resident in the United States, and U.S. citizenship) to the analysis and evaluate both their significance and contribution.

5.1 Self-employment rates in Vietnam and the United States

According to the American Community Survey, Vietnamese immigrants in the US have a much lower rate of self-employment than in their home country. Table 1 is divided between results for men and for women. Throughout our analysis, we see different patterns for the economic results between men and women. The columns of table one are the totals for Vietnam and USA, as well as Vietnamese immigrants and people born in the United States who claim Vietnamese ancestry as their first answer.

As seen in table 1, the Vietnamese census would indicate that 47.4% of the male full-time labor force and 46.3% of the female labor force are self-employed. Once immigrants in the U.S., only 13.4% and 13.3% are self-employed; which is higher than the rate of the total US population, but still much less

than in their own home countries. Self-employment rates are much higher in Vietnam than in the United States. The US male self-employment rate is 11.2%, 10.8% if we exclude agriculture. Curiously, we see that among men, far fewer Vietnamese born in the US are self-employed, although a similar effect is not visible among women. Further along in the analysis, we shall examine the extent to which this disparity is affected by the difference in industry sector population analysis as well as demographic factors such as age and educational attainment.

Table 1 Self-employment rates in Vietnam and the United States.

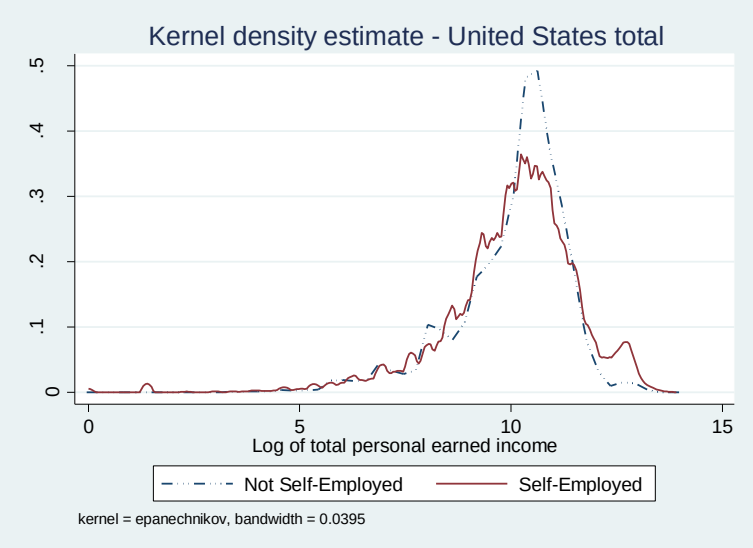
	Vietnam	Vietnamese Immigrants (in US)	US born Vietnamese	US Total
Men				
Self-employment rate (non-agriculture)	29.1%	13.4%	5.5%	10.8%
Sample size	1,626,781	14,257	1,253	2,845,238
Self-employment rate (all industries)	47.4%	13.6%	5.9%	11.2%
Sample size	3,864,986	14,337	1,261	2,916,344
Women				
Self-employment rate (non-agriculture)	35.9%	13.3%	6.5%	5.6%
Sample size	1,390,973	12,004	1,197	2,232,199
Self-employment rate (all industries)	46.3%	13.4%	6.5%	5.7%
Sample size	3,657,106	12,043	1,199	2,246,655

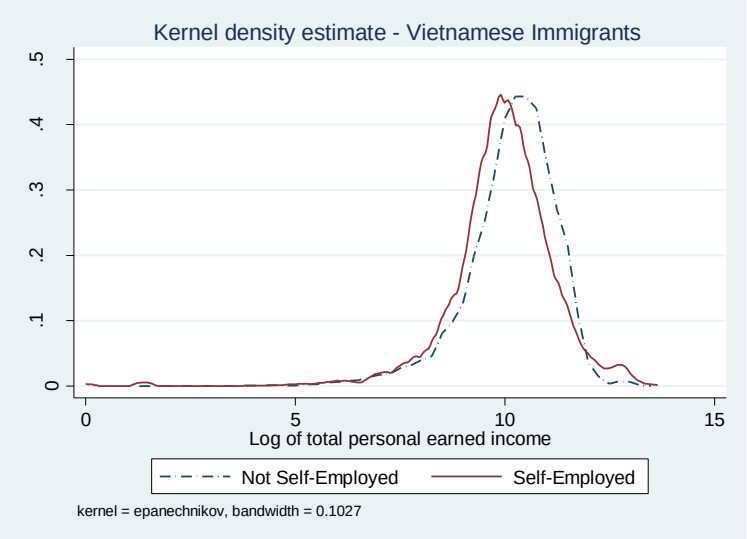
The sample includes only working age (defined as 16 to 64 inclusive), and includes only people who work 35 or more hours per week.
All estimates are calculated using sample weights provided by the Census.

5.2 Earned Income distribution comparison

In order to gain a sense of the overall economic situation of the self-employed versus those who are not self-employed, we look at the overall earned income distributions for both groups. In figure 1, density distributions are generated for both the overall US population and the Vietnamese immigrant population in the United States. Unfortunately, earnings data was not available for the Vietnamese population, so we were unable to generate its density distribution.

Figure 2: Earned income distribution for self-employed vs not self-employed for total US and Vietnamese Immigrants





A comparison of the distribution of earned income for the self-employed vs the non-self-employed for Vietnamese immigrants and the whole population shows that in both cases, the distributions of the self-employed income are slightly wider and slightly to the left of the employed earnings except for a distinct "bump" at the high end. This pattern contrasts with the pattern in our reference paper, where the self-employed distribution was to the right (higher) than the non-self-employed distribution. Can it be that in the 10 years the self-employed have lost ground against employees in earned income? One feature is the same on both of our graphs as well as the graphs in the reference paper; and that is the "bump" on the far right of the self-employed distribution. This bump represents a small proportion of self-employed workers who are among the best paid worker population.

For both the total US population and for Vietnamese immigrants, the density distributions for self-employed and non-self-employed were judged to be significantly different from each other at the p=0.001 level.

Table2: Earned Income of Working age Working Population in USA

Self-Employed	Vietnamese Immigrant	Mean Earned Income	Median Earned Income	Sample Size
No	No	$50,070	$38,623	4,649,622
Yes	No	$68,657	$40,511	480,918
No	Yes	$46,127	$35,574	22,783
Yes	Yes	$46,592	$27,000	3,558

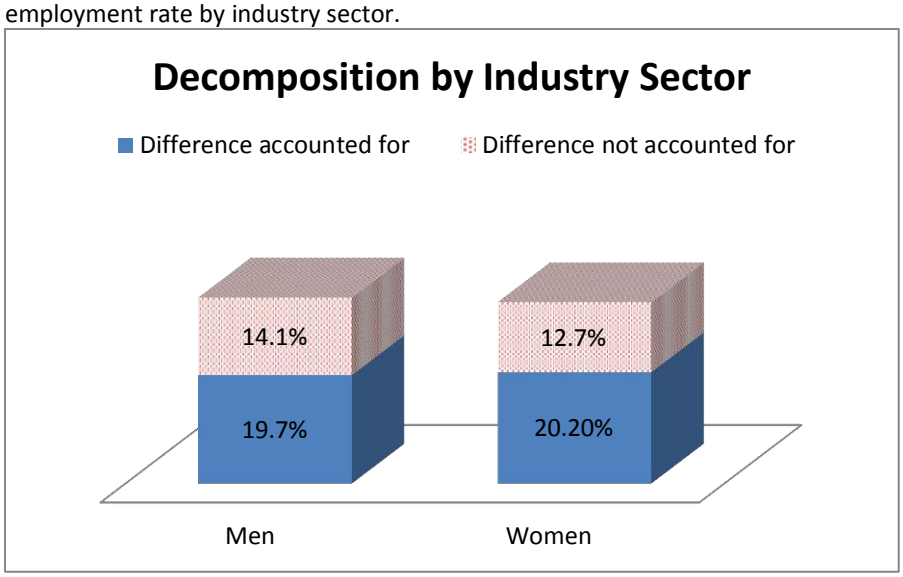
The sample includes only working age (defined as 16 to 64 inclusive), and includes only people who work 35 or more hours per week. All estimates are calculated using sample weights provided by the Census

Table 2 shows the mean and median earned incomes for the self-employed and not self-employed, general population in the US and Vietnamese immigrants. In the general population, both the median and mean income are greater among the self-employed. Among Vietnamese immigrants, the mean earned income is slightly higher among the self-employed, but the median income is significantly lower for self-employed individuals.

5.3 Industry shares and self-employment rates

Table 3A presents the distribution of employment of men across fifteen major sectors of the economy as well as self-employment rates in each sector. Data are shown for the labor force by sector in Vietnam, or Vietnamese immigrants in the United States, for Vietnamese born in the United States, and for the entire U.S. labor force. We chose the 15 major sectors based on the data available from the Vietnamese census. Since a more detailed breakdown was available for the U.S. economy, we were able to allocate the results among the sectors available for the Vietnamese data.

Figure 3: Decomposition of difference between Vietnam self-employment rate and Vietnamese immigrants self-employment rate by industry sector.



How much of the difference between self-employment rates in Vietnam and Vietnamese immigrants in the United States is explained by industry sectors in which workers are employed? We can evaluate the effect of the alternate distribution of industry sector employment for Vietnamese immigrants by multiplying the industry sector participation by the percent self-employment for that sector in Vietnam. By this strategy we see that if male immigrants were working the same sectors in Vietnam, their overall self-employment rate would be 33.3%, and for female immigrants, 33.6%. This is significantly less than the 47.4% and 46.3% self-employment respectively actually observed. Thus the industry sector distribution of workers explains 19.7% of the 33.8% difference in self-employment for men leaving 14.1% unaccounted for; and 12.7% of the 40.6% difference in self-employment for women leaving .27.9% unaccounted for.

Table 3A: Industry shares and self-employment rates in Vietnam and the United States (%)

Men	Vietnam	Vietnamese Immigrants (in US)	US born Vietnamese	US Total
Industry Shares				
Agriculture, fishing, and forestry	50.5%	0.6%	1.0%	2.0%
Mining	0.9%	0.3%	0.3%	0.9%
Manufacturing	13.3%	31.7%	14.3%	16.5%
Electricity, gas and water	0.6%	0.7%	0.9%	1.5%
Construction	10.1%	4.3%	3.0%	12.7%
Wholesale and retail trade	8.3%	10.8%	17.3%	14.2%
Hotels and restaurants	2.0%	6.6%	7.2%	4.5%
Transportation and communications	5.6%	6.9%	6.5%	8.8%
Financial services and insurance	0.5%	3.2%	7.6%	4.2%
Public administration and defense	2.7%	3.1%	5.1%	5.7%
Real estate and business services	1.7%	11.2%	17.1%	13.4%
Education	1.9%	2.4%	3.4%	4.8%
Health and social work	0.7%	4.9%	7.1%	5.0%
Other services	1.4%	13.2%	8.7%	5.6%
Private household services	0.1%	0.0%	0.3%	0.1%
Unknown	0.0%			
Total	100.0%	100.0%	100.0%	100.0%
Self-Employment Rates				
Agriculture, fishing, and forestry	65.4%	60.2%	50.5%	34.7%
Mining	19.7%	1.2%	0.0%	3.9%
Manufacturing	22.2%	1.7%	3.5%	3.0%
Electricity, gas and water	4.0%	0.0%	0.0%	0.0%
Construction	12.5%	35.2%	17.2%	22.6%
Wholesale and retail trade	56.8%	20.0%	4.5%	9.4%
Hotels and restaurants	51.1%	18.0%	1.0%	7.9%
Transportation and communications	47.7%	6.7%	7.7%	8.8%
Financial services and insurance	5.8%	8.6%	1.6%	10.4%
Public administration and defense	0.0%	0.0%	0.0%	0.0%
Real estate and business services	44.2%	16.4%	2.8%	19.2%
Education	1.5%	2.3%	0.0%	1.4%
Health and social work	12.8%	17.1%	5.3%	10.9%
Other services	50.5%	33.1%	23.4%	18.0%
Private household services	29.4%	33.3%	0.0%	32.7%
Unknown	23.7%			
Total	47.4%	13.6%	5.9%	11.2%
Sample Size	3,864,986	14,337	1,261	2,916,344

Table 3B: Industry shares and self-employment rates in Vietnam and the United States (%)

Women	Vietnam	Vietnamese Immigrants (in US)	US born Vietnamese	US Total
Industry Shares				
Agriculture, fishing, and forestry	55.1%	0.3%	0.2%	0.5%
Mining	0.4%	0.2%	0.1%	0.2%
Manufacturing	15.3%	21.3%	6.9%	8.6%
Electricity, gas and water	0.1%	0.4%	0.3%	0.5%
Construction	0.9%	0.6%	0.7%	1.5%
Wholesale and retail trade	11.9%	10.2%	13.2%	12.3%
Hotels and restaurants	5.0%	5.0%	5.6%	5.3%
Transportation and communications	0.8%	2.9%	3.7%	4.8%
Financial services and insurance	0.6%	5.1%	9.5%	7.7%
Public administration and defense	1.2%	3.3%	5.1%	5.8%
Real estate and business services	0.6%	8.3%	16.8%	11.9%
Education	4.7%	3.6%	8.0%	13.2%
Health and social work	1.1%	11.2%	18.2%	22.0%
Other services	1.7%	27.4%	11.5%	5.0%
Private household services	0.7%	0.3%	0.0%	0.7%
Unknown	0.0%			
	100.0%	100.0%	100.0%	100.0%
Self-Employment Rates				
Agriculture, fishing, and forestry	54.8%	29.8%	0.0%	25.0%
Mining	32.2%	0.0%	0.0%	2.9%
Manufacturing	18.9%	2.1%	0.0%	1.9%
Electricity, gas and water	3.7%	0.0%	0.0%	0.0%
Construction	6.9%	14.4%	5.6%	14.0%
Wholesale and retail trade	70.3%	16.1%	5.2%	5.8%
Hotels and restaurants	63.8%	17.5%	12.3%	5.1%
Transportation and communications	18.1%	3.2%	2.5%	3.1%
Financial services and insurance	3.5%	2.9%	0.6%	2.2%
Public administration and defense	0.0%	0.0%	0.0%	0.0%
Real estate and business services	23.7%	10.0%	5.2%	12.5%
Education	1.5%	1.4%	1.9%	0.7%
Health and social work	3.2%	7.7%	2.7%	4.9%
Other services	57.6%	29.8%	29.2%	17.4%
Private household services	19.9%	40.4%	0.0%	45.7%
Unknown	10.4%			
Total	46.3%	13.4%	6.5%	5.7%
Sample Size	3,657,107	12,043	1,198	2,246,655

Note: Includes only people of working age 16 to 64 inclusive, and who are working more than 34 hours per week.
All estimates are calculated using sample weights provided by the Census
Source: Vietnamese Census (2009); ACS 2006-2010 PUMS.

5.4 Educational attainment and self-employment rates

Table 4 compares the educational distributions between Vietnam and the United States (total population, Vietnamese immigrants, and United States born Vietnamese.) The biggest difference is in the rate of college education between Vietnam and all of the United States samples; both men and women. In Vietnam, less than 10% of both men and women have any college education, and in the United States, at least 40% of each group has at least some college education, with the highest rate of 58.4% among US born Vietnamese women and the lowest rate among immigrant Vietnamese women of 41.8%.

How much of the difference between self-employment rates in Vietnam and the Vietnamese immigrants in the United States is explained by educational attainment? We can evaluate the effect of the alternate distribution of educational attainment for Vietnamese immigrants by multiplying the educational level attainment rate by the percent self-employment for that level in Vietnam. By this strategy we see that if male immigrants had attained the same education in Vietnam, their overall self-employment rate would be 27.7%, and for female immigrants, 27.5%. This is significantly less than the 47.4% and 46.3% self-employment respectively actually observed. Thus the educational attainment distribution of workers explains 19.68% of the 33.8% difference in self-employment for men leaving 14.12% unaccounted for; and 18.78% of the 32.90% difference in self-employment for women leaving 14.12% unaccounted for.

Figure 4: Decomposition of difference between Vietnam Self-employment rate and Vietnamese immigrants self-employment rate by educational attainment.

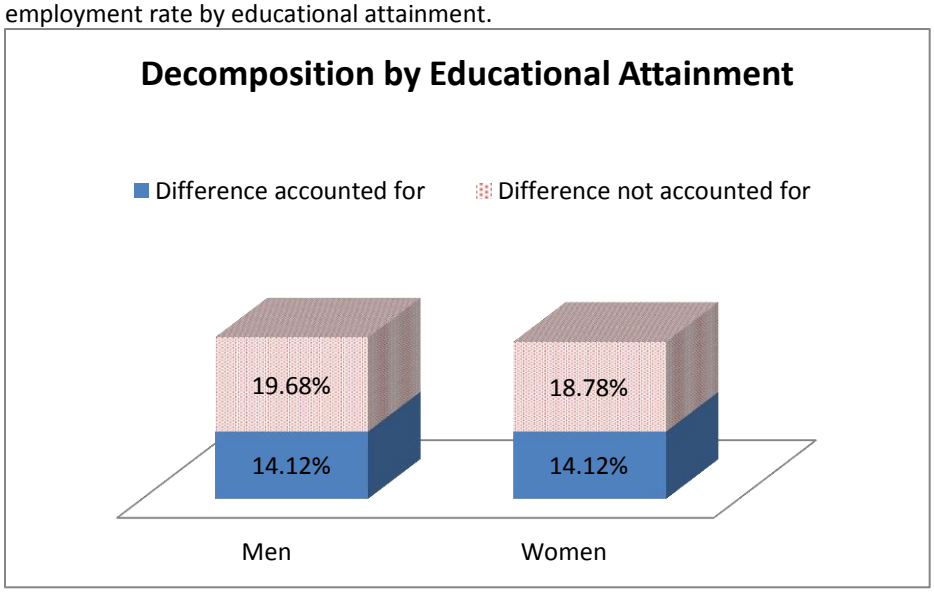


Table 4: Educational Distribution and self-employment rates in Vietnam and the United States (%)

Men	**Vietnam**	**Vietnamese Immigrants (in US)**	**US born Vietnamese**	**US Total**
Education Distribution				
No schooling	3.3%	4.6%	0.6%	0.9%
Some primary school	11.6%	1.4%	0.4%	0.7%
Primary school completed (through 5th grade)	30.5%	4.7%	0.7%	3.4%
Lower secondary completed (through 8th grade)	34.4%	8.5%	18.1%	11.6%
Secondary school completed (12th grade)	13.0%	31.3%	26.8%	36.8%
Some college completed	0.5%	23.4%	31.0%	22.3%
Completed college	6.7%	26.1%	22.4%	24.4%
Sample Size	**3,864,986**	**21,924**	**3,742**	**4,744,213**
Self-Employment Rates				
No schooling	57.8%	16.8%	18.0%	10.2%
Some primary school	59.3%	15.2%	23.5%	8.2%
Primary school completed (through 5th grade)	52.8%	15.3%	14.3%	10.2%
Lower secondary completed (through 8th grade)	48.3%	17.9%	10.3%	10.3%
Secondary school completed (12th grade)	40.2%	15.5%	8.6%	10.8%
Some college completed	10.8%	13.4%	5.6%	10.8%
Completed college	9.7%	10.4%	3.8%	12.4%
Total	**47.4%**	**13.6%**	**5.9%**	**11.2%**
Women				
Education Distribution				
No schooling	5.4%	6.3%	0.6%	0.8%
Some primary school	13.7%	2.1%	0.1%	0.5%
Primary school completed	29.1%	6.8%	1.1%	2.7%
Lower secondary completed	33.1%	9.3%	17.5%	9.8%
Secondary school completed	11.4%	33.7%	22.2%	34.6%
Some college completed	0.6%	19.7%	29.7%	25.3%
Completed college	6.7%	22.1%	28.7%	26.4%
Sample Size	**3,657,107**	**24,447**	**3,692**	**4,925,295**
Self-Employment Rates				
No schooling	46.6%	14.3%	21.1%	8.6%
Some primary school	56.1%	14.3%	0.0%	8.8%
Primary school completed	52.2%	13.5%	0.0%	8.3%
Lower secondary completed	48.8%	17.1%	40.4%	6.0%
Secondary school completed	38.6%	17.1%	10.8%	5.7%
Some college completed	6.0%	13.5%	6.7%	5.4%
Completed college	5.1%	7.8%	3.2%	5.6%
Total	**46.3%**	**13.4%**	**6.5%**	**5.7%**

Working age as defined as 16 to 64 inclusive.

All estimates are calculated using sample weights provided by the Census

Source: Vietnamese Census (2009); ACS 2006-2010 PUMS.

5.5 Age distributions and self-employment rates

Table 5: Age distributions in Vietnam and the United States (%)

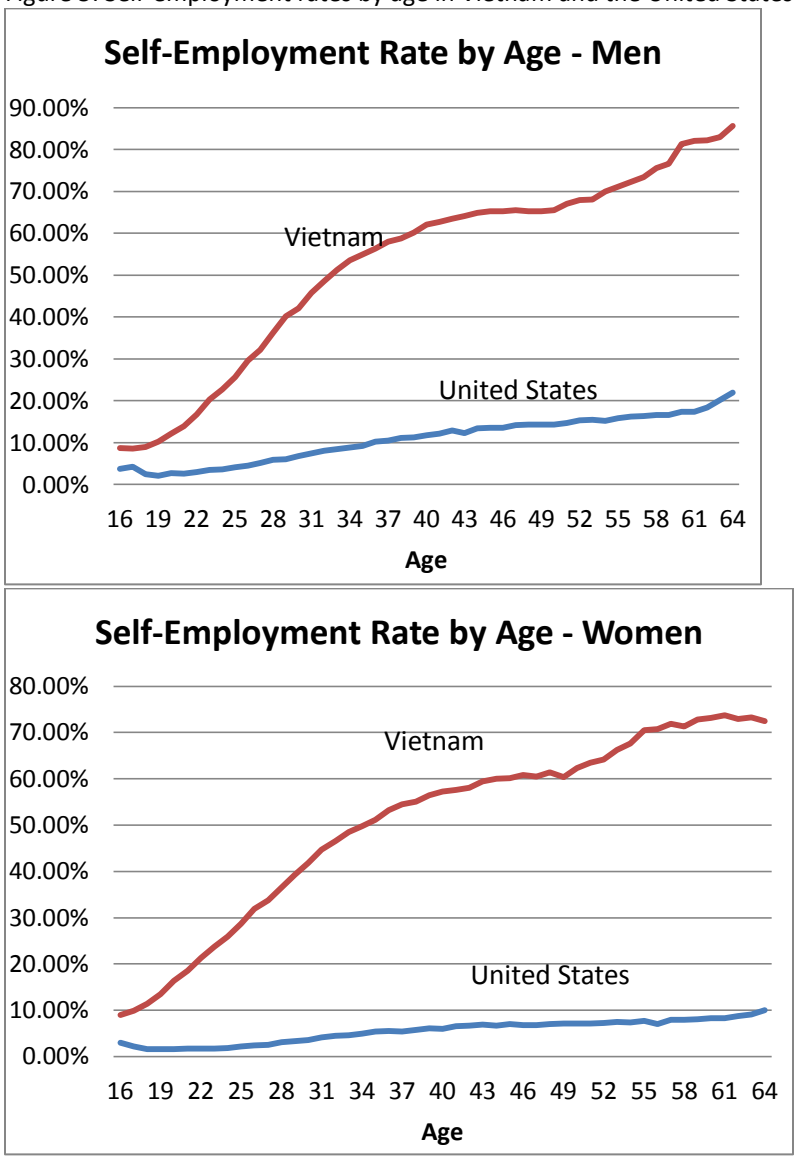
Age group	Vietnam	Vietnamese Immigrants (in US)	US born Vietnamese	US Total
Men				
16 to 19	12.7%	3.0%	31.8%	9.2%
20 to 24	14.0%	6.0%	29.9%	10.9%
25 to 29	13.4%	7.1%	20.7%	10.4%
30 to 34	12.2%	12.0%	9.5%	9.8%
35 to 39	11.7%	16.8%	3.3%	10.3%
40 to 44	10.7%	15.6%	1.4%	10.8%
45 to 49	9.5%	13.0%	1.0%	11.3%
50 to 54	7.6%	10.8%	1.3%	10.6%
55 to 59	5.0%	8.9%	0.8%	9.2%
60 to 64	3.2%	6.9%	0.4%	7.5%
Sample Size	**4,519,718**	**21,924**	**3,742**	**4,744,213**
Women				
16 to 19	11.8%	2.9%	30.7%	8.6%
20 to 24	13.8%	5.9%	29.1%	10.3%
25 to 29	13.3%	8.0%	21.4%	10.2%
30 to 34	11.8%	13.5%	9.3%	9.6%
35 to 39	11.3%	17.3%	4.2%	10.4%
40 to 44	10.5%	13.2%	1.6%	10.8%
45 to 49	9.8%	11.4%	1.2%	11.5%
50 to 54	8.3%	11.0%	0.9%	10.9%
55 to 59	5.7%	9.8%	1.0%	9.7%
60 to 64	3.8%	7.1%	0.8%	8.0%
Sample Size	**4,694,697**	**24,447**	**3,692**	**4,925,295**

Source: Vietnamese Census (2009); ACS 2006-2010 PUMS.

Table 5 illustrates some features of the distribution of ages among the four groups of interest. First, the population in Vietnam has somewhat more people in the younger groups and somewhat fewer people in the older groups than the United States.

The Vietnamese immigrant population is tilted older, with less than 18% of its population under 30 for both men and women. Correspondingly, the U.S. born Vietnamese population is substantially younger than any of the other three groups; with about 80% of the sample under 30 years old. Considering that the end of the US involvement in the Vietnam war in 1973 marked an unprecedented spike in Vietnamese immigration that has not recurred, it makes sense that many immigrants would have arrived at that time and be older now, and their children would tend to be still in the younger half of the work force.

Figure 5: Self-employment rates by age in Vietnam and the United States



5.6 Demographic determinants of self-employment

Table 6a (men) and 6b (women) show the regressions of self-employment on relevant demographic variables for both the United States and Vietnam, both for the entire industrial spectrum, and also when the agricultural sector is excluded. All these analyses were performed for people of working age (16 to 64 inclusive) and who were currently working, as previously defined.

The agricultural sector exclusion results were broken out separately, because significant differences are apparent in the Vietnam data when it is included or excluded. In particular having a primary level education was a hindrance to self-employment among Vietnamese men and being married had a significantly greater effect when the agricultural sector was included. Alternatively, among women, having completed primary or secondary education tends to encourage self-employment when the agricultural sector is included and to discourage self-employment when the agricultural sector is not

included. In the United States data, no significant differences are seen due to the inclusion or the exclusion of the agricultural sector, but the results are included for completeness.

Demographic factors examined include age, educational attainment, marriage status and number of own children in the household.

Increasing age generally had a positive impact on the rate of self-employment in all groups except for women in the Vietnamese sample that included agriculture, where ages over 50 were associated with a lower rate of self-employment. Being married and the number of own children in the household had a uniformly positive effect on the rate of self-employment, which is interesting when you consider that our sample includes only people who are already in the labor force.

Education results are relative to the omitted category of having no primary or secondary education at all. Education provided the least uniform effect on self-employment of the factors considered, having various effects depending on the group and the amount of education. For example, in Vietnam when agriculture is included, increases in education had an increasingly negative effect on self-employment in men, whereas for women, the effect of additional education was positive until the category of “Some college” education was reached, at which point the effect was negative. With agricultural sector omitted, the result was reversed, additional primary or secondary education resulted in less self-employment for women, and generally more self-employment in men.

For the United States, increasing education had a small but positive effect on self-employment in men and a small but negative effect on self-employment in women.

Table 6a: Probability of Self-Employment Regressions by Country– Men

	Vietnam Includes Agriculture	**Vietnam Not including Agriculture**	**United States Includes Agriculture**	**United States Not including Agriculture**
Age 20 to 24	0.0556***	0.0411***	0.00427***	0.00458***
	(0.00090)	(0.00152)	(0.0011)	(0.0011)
Age 25 to 29	0.156***	0.103***	0.0175***	0.0179***
	(0.00107)	(0.00164)	(0.0012)	(0.0012)
Age 30 to 34	0.259***	0.171***	0.0380***	0.0384***
	(0.00125)	(0.00190)	(0.0012)	(0.0012)
Age 35 to 39	0.330***	0.225***	0.0595***	0.0601***
	(0.00129)	(0.00199)	(0.0013)	(0.0012)
Age 40 to 44	0.379***	0.252***	0.0784***	0.0783***
	(0.00132)	(0.00209)	(0.0013)	(0.0013)
Age 45 to 49	0.400***	0.255***	0.0946***	0.0926***
	(0.00135)	(0.00216)	(0.0013)	(0.0013)
Age 50 to 54	0.427***	0.266***	0.107***	0.104***
	(0.00142)	(0.00235)	(0.0013)	(0.0013)
Age 55 to 59	0.481***	0.306***	0.121***	0.116***
	(0.00157)	(0.00289)	(0.0013)	(0.0013)
Age 60 to 64	0.553***	0.421***	0.146***	0.139***
	(0.00181)	(0.00438)	(0.0015)	(0.0015)
Some primary ed.	-0.00786***	0.0304***	-0.0169***	-0.0137***
	(0.00149)	(0.00415)	(0.0038)	(0.0041)
Primary	-0.0350***	0.0273***	0.0113***	0.00630*
	(0.00138)	(0.00390)	(0.0030)	(0.0032)
Lower secondary	-0.0671***	-0.0102**	0.0194***	0.0124***
	(0.00138)	(0.00388)	(0.0028)	(0.0030)
Secondary	-0.115***	0.000188	0.0156***	0.00489
	(0.00153)	(0.00396)	(0.0027)	(0.0029)
Some college	-0.376***	-0.202***	0.0127***	0.00331
	(0.00363)	(0.00487)	(0.0027)	(0.0029)
College	-0.486***	-0.260***	0.0201***	0.0136***
	(0.00158)	(0.00390)	(0.0027)	(0.0029)
Married	0.204***	0.0747***	0.0169***	0.0144***
	(0.00085)	(0.00116)	(0.0006)	(0.0006)
# Children	n/a	n/a	0.00727***	0.00703***
			(0.0002)	(0.0002)
Intercept	0.139***	0.0935***	0.00870**	0.0156***
	(0.00144)	(0.00398)	(0.0029)	(0.0030)
R-Squared	0.2442	0.1014	0.022	0.021
N	3,864,986	1,626,781	2,916,344	2,845,238
Dependent mean	0.4742	0.2912	0.1124	0.1077

n/a - No data available for number of children in household for men in Vietnam census.
Standard errors in parentheses
* p<0.05, ** p<0.01, *** p<0.01

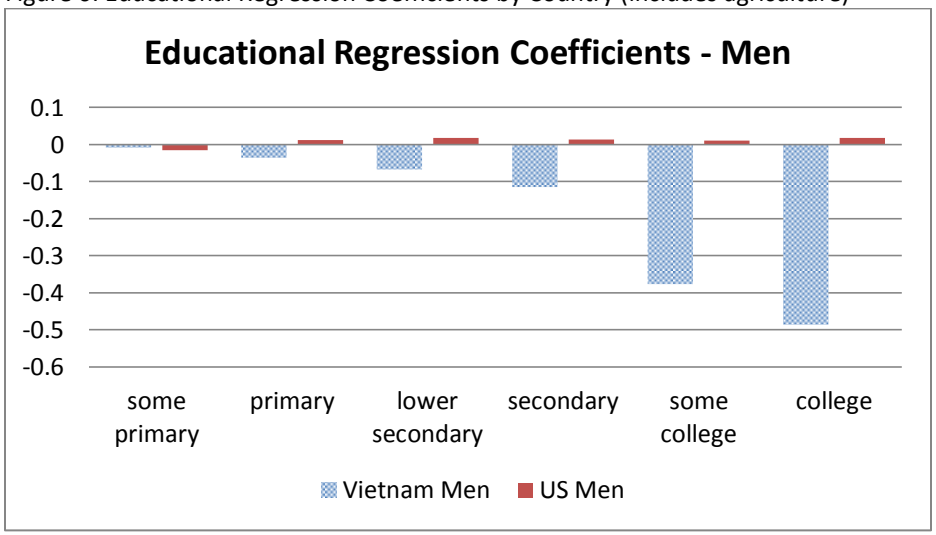
Table 6b: Probability of Self-Employment Regressions by Country – Women

	Vietnam Includes Agriculture	**Vietnam Not including Agriculture**	**United States Includes Agriculture**	**United States Not including Agriculture**
Age 20 to 24	0.112***	0.0639***	0.000314	0.000769
	(0.0011)	(0.0017)	(0.0012)	(0.0011)
Age 25 to 29	0.232***	0.141***	0.00635***	0.00695***
	(0.0014)	(0.0020)	(0.0012)	(0.0011)
Age 30 to 34	0.319***	0.220***	0.0190***	0.0196***
	(0.0019)	(0.0029)	(0.0012)	(0.0012)
Age 35 to 39	0.372***	0.278***	0.0306***	0.0311***
	(0.0022)	(0.0036)	(0.0012)	(0.0012)
Age 40 to 44	0.413***	0.314***	0.0402***	0.0403***
	(0.0021)	(0.0035)	(0.0012)	(0.0012)
Age 45 to 49	0.445***	0.329***	0.0435***	0.0432***
	(0.0019)	(0.0032)	(0.0012)	(0.0012)
Age 50 to 54	-2.919***	-3.067***	0.0475***	0.0469***
	(0.1350)	(0.2640)	(0.0012)	(0.0012)
Age 55 to 59	-2.854***	-2.940***	0.0526***	0.0521***
	(0.1350)	(0.2640)	(0.0013)	(0.0012)
Age 60 to 64	-2.834***	-2.901***	0.0636***	0.0624***
	(0.1350)	(0.2640)	(0.0014)	(0.0014)
Some primary ed	0.0721***	0.0304***	0.0032	0.00613
	(0.0014)	(0.0041)	(0.0057)	(0.0061)
Primary	0.0979***	-0.00336	0.000306	-0.00127
	(0.0014)	(0.0039)	(0.0041)	(0.0043)
Lower secondary	0.0907***	-0.0896***	-0.0161***	-0.0193***
	(0.0015)	(0.0040)	(0.0038)	(0.0039)
Secondary	0.0399***	-0.0987***	-0.0239***	-0.0277***
	(0.0018)	(0.0041)	(0.0037)	(0.0038)
Some college	-0.262***	-0.359***	-0.0248***	-0.0285***
	(0.0030)	(0.0046)	(0.0037)	(0.0038)
College	-0.341***	-0.426***	-0.0244***	-0.0276***
	(0.0019)	(0.0040)	(0.0037)	(0.0038)
Married	0.0254***	0.0407***	0.0153***	0.0143***
	(0.0013)	(0.0024)	(0.0004)	(0.0004)
# Children	0.0349***	0.0352***	0.00163***	0.00169***
	(0.0014)	(0.0027)	(0.0002)	(0.0002)
Intercept	0.0265***	0.183***	0.0379***	0.0408***
	(0.0015)	(0.0041)	(0.0038)	(0.0039)
R-squared	0.185	0.205	0.009	0.009
N	3,657,107	1,390,974	2,246,655	2,232,199
Dependent Mean	0.4631	0.3592	0.0566	0.0555

Standard errors in parentheses

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

Figure 6: Educational Regression Coefficients by Country (includes agriculture)



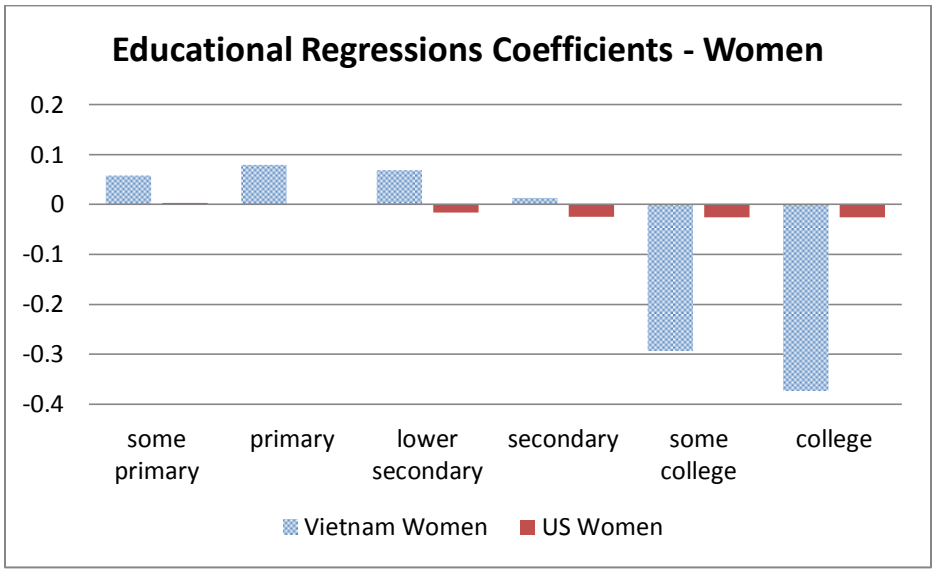


Figure 4 shows the strong differences between the effect of incremental education between Vietnam and the United States. The plotted coefficients are plotted relative to the missing education category – no formal education at all.

For men in the United States, more education leads to a slight increase in the likelihood of self-employment, whereas in Vietnam, each and every increase in education leads to a substantial lower likelihood of working for oneself. For women in the US, education beyond primary school is associated with a small but significant lower likelihood of being self-employed, while in Vietnam, the attainment of a primary or secondary education is associated with a greater likelihood of self-employment, but any college experiences is associated with a sharply lower incidence.

5.7 Demographic effects on type of self-employment in Vietnam

Table 7: Self-employment status regressions in Vietnam by type of self-employment.

	Men (with Agriculture)		**Women (with Agriculture)**	
	Own account	**Employer**	**Own account**	**Employer**
Age 20 to 24	0.0563***	-0.000661***	0.112***	-0.000241**
	(0.000902)	(0.000082)	(0.001060)	(0.000076)
Age 25 to 29	0.157***	-0.000508***	0.232***	0.000208*
	(0.001070)	(0.000125)	(0.001390)	(0.000097)
Age 30 to 34	0.257***	0.00144***	0.318***	0.000988***
	(0.001240)	(0.000165)	(0.001890)	(0.000111)
Age 35 to 39	0.327***	0.00244***	0.370***	0.00148***
	(0.001290)	(0.000169)	(0.002210)	(0.000123)
Age 40 to 44	0.376***	0.00283***	0.411***	0.00166***
	(0.001320)	(0.000180)	(0.002140)	(0.000122)
Age 45 to 49	0.397***	0.00297***	0.443***	0.00180***
	(0.001350)	(0.000190)	(0.001910)	(0.000129)
Age 50 to 54	0.423***	0.00341***	-2.926***	0.00791***
	(0.001420)	(0.000218)	(0.135000)	(0.002270)
Age 55 to 59	0.478***	0.00257***	-2.861***	0.00752***
	(0.001570)	(0.000249)	(0.135000)	(0.002280)
Age 60 to 64	0.550***	0.00246***	-2.841***	0.00720**
	(0.001810)	(0.000298)	(0.135000)	(0.002280)
Some primary	-0.00789***	0.0000692	0.0720***	0.0000837
	(0.001490)	(0.000061)	(0.001420)	(0.000044)
Primary	-0.0364***	0.00136***	0.0971***	0.000806***
	(0.001390)	(0.000066)	(0.001410)	(0.000048)
Lower secondary	-0.0698***	0.00262***	0.0892***	0.00147***
	(0.001380)	(0.000076)	(0.001490)	(0.000057)
Secondary	-0.121***	0.00671***	0.0357***	0.00416***
	(0.001530)	(0.000163)	(0.001760)	(0.000140)
Some college	-0.384***	0.00721***	-0.266***	0.00345***
	(0.003590)	(0.000751)	(0.002990)	(0.000562)
College	-0.505***	0.0196***	-0.348***	0.00678***
	(0.001540)	(0.000413)	(0.001850)	(0.000257)
Married	0.203***	0.00108***	0.0249***	0.000536***
	(0.000847)	(0.000118)	(0.001310)	(0.000072)
# Children			0.0350***	-0.0000592*
			(0.001380)	(0.000023)
Intercept	0.141***	-0.00217***	0.0279***	-0.00133***
	(0.001440)	(0.000075)	(0.001500)	(0.000066)
R squared	0.2456	0.0069	0.186	0.002
N	3,864,986	3,864,986	3,657,107	3,657,107
Dependent mean	0.4980	0.0029	0.4646	0.0013

No data available for number of children in household for men in Vietnam census.
Standard errors in parentheses
* p<0.05, ** p<0.01, *** p<0.01

The Vietnamese country data allow us to separate self-employed workers working by themselves from employers with respect to the effects of age, education, and marriage. The great majority of the self-employed in Vietnam work for themselves, (99.2% of men and 99.6% of women.) While education is

very strongly negatively associated with being an own-account worker for both men and women, it is significantly positively associated with being an employer for both men and women. Increasing age consistently increases the likelihood that a man will be an employer at every age range, for women, the positive effect of increased age becomes significant after the age of 30. The number of own children in the household was a significant factor in women's self-employment. Data number of children was not available for men in Vietnam. Being married has a positive effect on both types of self-employment for both men and women.

What makes this in-Vietnam analysis interesting is that although the rate of being an employer in Vietnam is very small, the coefficients of the demographic factors (age, education, marriage) follow the same pattern of significance and direction as self-employment in the United States, in that for an employer, greater education is significantly positively correlated with a higher rate.

5.8 Additional contributing variables

Here we added some factors into the model that have been found to contribute to self-employment among immigrants in other works. This includes the enclave effect, citizenship status, ability to speak English and number of years in the United States. Table 8 presents the LPM analysis results using the demographic factors of age, education, marital status and number of own children as controls. As with the other analyses, the effect of including and not including agriculture was negligible for results within the United States.

In this analysis, we found that age and age squared were significant for each group, with a positive coefficient for age and a small negative effect for age-squared. The effects of educational attainment were insignificant here, except for the effect of a college education, which had a strongly negative effect. Being married and number of children living at home had a significant and positive effect for all groups as in prior analysis. The ability to speak English had a positive effect, also as expected across all groups.

Being a US citizen had a positive effect on self-employment among women only and the number of years in the USA had a positive effect among men only. Perhaps the most surprising result was that the enclave effect – the percent of Vietnamese ancestry in the geographic area- was negatively correlated with self-employment across all groups after controlling for all other factors.

Table 8: Language, enclave, citizenship and years in country effects for Vietnamese immigrants only.

	Vietnamese Immigrants (LPM)			
Self-employment	Men (with Agriculture)	Men (without Agriculture)	Women (with Agriculture)	Women (without Agriculture)
Age 20 to 24	0.0744***	0.0706***	0.0736*	0.0737*
	(0.0194)	(0.0194)	(0.0320)	(0.0320)
Age 25 to 29	0.0977***	0.0956***	0.117***	0.117***
	(0.0128)	(0.0126)	(0.0299)	(0.0299)
Age 30 to 34	0.137***	0.136***	0.121***	0.121***
	(0.0131)	(0.0128)	(0.0290)	(0.0291)
Age 35 to 39	0.137***	0.136***	0.102***	0.101***
	(0.0123)	(0.0120)	(0.0289)	(0.0289)
Age 40 to 44	0.116***	0.115***	0.118***	0.116***
	(0.0128)	(0.0125)	(0.0294)	(0.0294)
Age 45 to 49	0.124***	0.122***	0.0987***	0.0971***
	(0.0139)	(0.0136)	(0.0292)	(0.0292)
Age 50 to 54	0.122***	0.116***	0.106***	0.104***
	(0.0145)	(0.0141)	(0.0293)	(0.0292)
Age 55 to 59	0.113***	0.109***	0.0812**	0.0805**
	(0.0157)	(0.0154)	(0.0294)	(0.0294)
Age 60 to 64	0.0966***	0.0957***	0.0589	0.0559
	(0.0175)	(0.0174)	(0.0312)	(0.0312)
Some primary	-0.00383	-0.00386	0.00739	0.00565
	(0.0388)	(0.0391)	(0.0377)	(0.0378)
Primary	-0.0098	-0.0178	-0.0106	-0.0125
	(0.0258)	(0.0259)	(0.0218)	(0.0218)
Lower secondary	0.0123	0.00474	0.0246	0.0235
	(0.0226)	(0.0224)	(0.0218)	(0.0220)
Secondary	-0.0135	-0.0128	0.0205	0.0194
	(0.0180)	(0.0182)	(0.0176)	(0.0177)
Some college	-0.0445*	-0.0446*	-0.0199	-0.0209
	(0.0185)	(0.0186)	(0.0186)	(0.0187)
College	-0.0780***	-0.0768***	-0.0781***	-0.0799***
	(0.0182)	(0.0183)	(0.0180)	(0.0181)
Married	-0.0011	0.00175	0.0345***	0.0344***
	(0.0097)	(0.0095)	(0.0079)	(0.0080)
# Children	0.0176***	0.0152***	0.0129***	0.0130***
	(0.0041)	(0.0038)	(0.0039)	(0.0039)
% Vietnamese in PUMA (enclave)	-0.0146**	-0.0122*	-0.0177***	-0.0174***
	(0.0048)	(0.0048)	(0.0050)	(0.0050)
Speaks English	0.0597***	0.0635***	0.0571***	0.0561***
	(0.0168)	(0.0162)	(0.0168)	(0.0169)
US citizen	0.0142	0.0126	0.0301**	0.0307**
	(0.0108)	(0.0108)	(0.0110)	(0.0110)
Years in USA	0.00225***	0.00209***	0.0000105	0.0000671
	(0.0004)	(0.0004)	(0.0004)	(0.0004)
Intercept	-0.0765***	-0.0760***	-0.0595	-0.0583
	(0.0225)	(0.0221)	(0.0348)	(0.0349)
N	14337	14257	12043	12004
R-squared	0.019	0.017	0.025	0.026

6. Conclusions

6.1 Decomposition Analysis

By analyzing the industry sector and educational attainment composition between Vietnam and the United States, we identified the proportion of the gap between Vietnamese self-employment rates in Vietnam and the self-employment rates of Vietnamese immigrants in the United States that could be attributed to the educational attainment and industry sector composition. In this way we were able to account for a substantial portion of the discrepancy in self-employment rates.

6.2 Regression Analysis

Further analysis included regression analysis of significant demographic variables in the populations of interest that account for much of the differences in self-employment rates. Demographic factors that were consistently found to provide significant effects include sex, age, educational attainment, marriage status, and number of own children in the household. We then built on these results by finding that immigrant-specific factors such as language, years in the country, enclave effects and citizenship status also have an impact on self-employment among Vietnamese immigrants. We also examined the demographic factors associated with differences in types of self-employment in Vietnam, finding that the rate of employer-type self-employment there has much in common with the self-employment in the United States as a whole.

6.3 Summary

Most of the measured effects were attributed as expected, with the exception of the enclave effect which had a negative effect on self-employment in contrast to other published work on this topic. Further work may include a modification of this variable to include either all people of Asian ancestry in the determination of an enclave, rather than only those with Vietnamese ancestors. It would also be instructive to gather more specific information and detail on the nature of Vietnamese-owned businesses and entrepreneurs.

In this study, we have used self-employment as a proxy for entrepreneurship. It is not clearly established that the kind of self-employment that we can measure with these census data has the same characteristics that we normally associate with the entrepreneurial spirit that tends to power economic growth. Further analysis on the relationship of self-employment and entrepreneurship would likely be valuable especially as it relates to risk-taking and societal institutions.

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