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Does “Where do you come from” matter in internal migration choices?

A study of the nativity and ethnicity impact on internal migration status in the US from 1994 to 2019

by

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Abstract: The migration issue has been a hot topic for decades. However, internal migration has not received as much attention as international migration. Furthermore, the internal migration pattern can differentiate from ethnicities and nativity status, further impacting their social-economic status. This thesis aims to discover the ethnic differences in internal migration patterns and the differences between the first generation and second generation migrants internal migration patterns. Some social, economic status will also be added for analyzing. In this thesis, the data is taken from IPUMS CPS from the US between 1994 to 2019, which is a broad survey data which collects demographic information. In this thesis, the quantitative method was used, and the models were based on a logistic model, which is a binary choice model. In results, it is discovered that black and Latino Ethnicity has a higher internal migration likelihood, whereas Asian ethnicities have insignificant effects. The first generation migrants have a significant positive impact on internal migration patterns. In contrast, the second generation mainly has a negative impact on the internal migration pattern. The study result proved that the first generation migration also migrates more than natives, whereas the second generation migrant may not assimilate the natives.

Keywords: Second generation migration; Internal migration pattern; Ethnicity; Nativity; Migrants

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1 Introduction

Migration has been a hot topic for decades on social media, due to the ongoing refugee crisis and the rise of migration flow around the world (Mahiuddin, 2019). As the migration issues draw people attention to the problem, it also created new social issues, and it brought up new research topics. Moreover, the changing policy of the migration law in many countries also led us to reconsider the migration issues, how are the migration in the destination countries doing after they arrived? Meanwhile, the second generation migrants started to be a popular topic, because the second generation migrants begin to become significant in emerging migration countries such as European countries and some Asian countries (Chen, 2014; Barwick, 2017). Moreover, there is a massive amount of the study regarding the international migration pattern of the migrants. There are less studies regarding how the spatial mobility of the migrants is after they arrive in their receiving country, which is also known as internal migration pattern (Cohen, Czamanski and Hefetz, 2015). In contrast to the first generation migrant's internal migration pattern, the second generation internal migration pattern would be equally essential to be studied.

Another critical issue that has been studied worldwide is the migration pattern of different foreign ethnicities. The difference of the migration pattern of the various ethnicities exists due to the difference of the culture and the social organizations of the ethnic groups (Seeman, Stein, Crimmins, Koretz, Charrette and Karlamangla, 2006). There are differences in both the home country and the same ethnic groups in the destination countries. Moreover, there are also social-economic differences among ethnic groups (Seeman et al., 2006). There has been a lot of studies on how do certain ethnic groups differentiate with the native dominant ethnic groups in developed countries (DuCros, 2019; Cohen et al., 2015), they are usually comparing one specific ethnic group with the natives. However, there is a lack of research on how these ethnic minorities differentiate with each other, and there is also a lack of research on summarizing the ethnic minorities' internal migration pattern. All together it enhanced the necessity of studying the ethnic difference of internal migration pattern. The US has always been the main object for different studies regarding the ethnic difference. Because it has different ethnicities from all over the world and its long history of migration, therefore it is legitimate to choose the US as the study object.

To do a study regarding the internal migration pattern of the different generations of migrants, the dataset must contain enough samples for both first and second generation migrants. Furthermore, this study aims to study the difference between ethnicities, so it is essential also to choose the data that contains enough ethnicities for analyzing. Therefore, in this study, the US population will be the object of the study, because the US has a relatively longer immigrant history compare with other countries. In this sense, the second generation migrants will contain a more considerable amount of sample compare with other countries. Besides that, there are almost every ethnicities that exist in the US; most of them have a long history of migration. That indicates for most of the ethnicities of migration. There will be a considerable amount of sample for the study of the second generation migration.

Research of Levitt and Waters (2002) showed that parents could have an impact on the next generation migration pattern, which means the origin of the parents can be a determinant of the migration pattern. Studies are showing the ethnicities has an impact on migration patterns as well many of them are returning to migration (Tezcan, 2019). Many other studies show that there is a higher possibility for a person who has a foreign background to migrate (Levitt & Waters, 2002; Portes & Rumbaut, 2005). For internal migration, there are also several studies on some specific ethnic groups. The study of Cohen et al. (2014) discovered the Arab ethnic group has a higher chance to migrate to another region. The study by Hunt, Hunt and Falk (2012) suggested that black in the US have a better chance to move to the south than other ethnicities, especially compared to the white ethnicities. By reviewing the evidence above, it is essential to investigate the mechanism of how foreign-born parents can have an impact on the next generation's migration pattern.

1.1 Research Problem

To study the question that was brought above, which is how are the ethnical difference and the nativity difference of the internal migration patterns in the US. A more specific question must be asked: do second-generation migrants have a better chance of internal migration?

To make the question more answerable, it has to be divided into some sub-questions: How does nativity influence the internal migration choice? This question is linked with the interest of the difference between first generation migrants and second generation migrants, whether they have the same internal migration pattern or they perform differently in the result. The second

question will be: How does ethnic influence the internal migration choice? This question is linked with the interest of the ethnical differences in the US. As previously addressed, there are internal migration pattern differences among ethnicities, but how is the difference, which ethnic group has a higher internal migration likelihood and which ethnic group has a negative probability of internal migration?

1.2 Aim and Scope

To study this problem, the binary dependent variable whether internal migrated or not will be presented as the study object in the model, therefore the econometrics model of the logit model will be used. Besides, all the other independent variable will be constructed as binary variables for analysis. As for the data, I will be using Current Population Survey data as the data of this study. The data is a population survey for the US residents which is done every year, it also contains migration status and ethnicity and nativity information of the sample, and therefore it is the best fit of this study.

1.3 Outline of the Thesis

This study consists of five main parts: The first part is the theoretical framework, which includes previous researches regarding internal migration studies and ethnical domestic migration researches. The theoretical part consists of the internal migration theory, internal migration determinants and the ethnicity and nativity impact on internal migration pattern. Methodology part consist of the quantitative method, the data choice and the binary choice model, which in this case is the logit model. Followed by the model variations for the later analysis. Data part introduced the Current Population Survey data, introduced how the variables were constructed and descriptive statistics. Then it is the results part and the discussion part and a comprehensive conclusion.

2 Theory

There have been some studies related to how the ethnicities and nativities can affect migration patterns and how internal migration is determined. This study is aiming to investigate how the nativity and ethnicity of a person can impact his or her internal migration pattern. Therefore it is essential to see how both of the area's research work has been done and extract the essential methods and knowledge from them.

2.1 Previous Research

2.1.1 The situation outside of the US

There have been many studies regarding the internal migration in many European countries. Still, most of the study in European countries have similar results, and most of the previous researches in European countries did not include the ethnical differences. Furthermore, the majority of the study conducted in European nations are done at the macro level; their study used county-level data such as the unemployment rate and the average income of the regions. That can be considered as the proxy for the employment status and the income of the samples.

The study done by Etzo (2008) looked into the internal migration in Italy. The author used the gravity model as the main model in the study, researched the main determinant of internal migration, by measuring the unemployment rate and average income of the counties of Italy. The study found the difference between the internal migration in the south and the internal migration in the north. The main motivation of internal migration in southern Italy is mostly driven by economic reasons, and the internal migrants travel a longer distance than the northern Italian internal migrants. Moreover, the Southerners also migrate with more network reason, which is their family tie. The north Italian internal migrants more because of the climate reason, and they often migrate in short distances. Considering the north has better economic situation than the south, the economic situation or the economic condition of the migrant is possible works as a determinant for the migration decision, which is a worse economic situation can motivate the migration decision. In terms of ethnic impact on internal mobility, the study done by Cohen et al. (2014) analyzed the internal migration pattern of the Arabs in Israel, also used

the gravity model. The result proved that the Arabs tend to migrate more and tend to migrate to certain places, due to the fact that certain places have more Arabic population. Therefore the gravity is more significant in those regions.

A similar study has also been done in Spain. The study done by Adolfo & Villaverde (2004) has studied the internal migration in Spain by analyzing the determinants of internal migration. The research also considered two factors as the representative of the economic situation: the first is the wage, the second is the employment rate, the study also further combined the average wage multiplied by the possibility of being employed. The research results show the people who internally migrated turned to migrate to more “profitable” regions, also the migration trend to migrate from the low human capital region to high human capital regions, which can also indicate that education can have an impact on the internal migration decisions. There is another similar study done by Zsombor (2004), it studied the internal migration in Hungary. The author used similar settings, which is using the unemployment rate and average income as the determinant. The research shows the same result, which is income can be motivating people to migrate.

2.1.2 The situation in the US

The internal migration’s theory is similar to the international migration theory. Still, with more of the urban/rural concern, furthermore, the internal migration has a lower cost, and internal migration is more often than international migration because of the cheaper cost. The research done by Etzo (2014) suggested a gravity model for internal migration. The model also suggests the determinants of internal migration need to be divided as push and pull factors. The push factor is the reason why people move out, whereas the pull factor is the reason why people move in. In the gravity model, whichever place has a better condition in the pull factors and weaker in the push factors will have more to move in.

Some studies are suggesting that ethnicities do make a difference in terms of internal migrations. In the American context, The study done by Hunt et al. (2012) suggested the black people in the US tend to migrate to the south rather than the white, and the reason again is because of the cultural ties between the ethnicity and the destination. Therefore it is possible to find some significant result with this topic. Another study was done by Flippen (2013) also studied the black population internal migration pattern in the US The study compared the black

population with the white men in the US, the method is useful that can quickly reflect the situation other ethnicities if they researcher uses White men as the reference category in the study. Furthermore, a study done by (DuCros, 2019) studied the Mexican internal migration in the US, which also discovered that there is a higher motivation for the Mexicans, especially first generation Mexican migration to migrate more than the native white population internally.

Notice that most of the previous studies of internal migration mainly focused on the provincial or county level studies (Zsombor, 2004; Etzo, 2008; Adolfo & Villaverde, 2004), there are still several studies used micro-level data to analyze the internal migration pattern (Cohen et al., 2014; Hunt et al., 2012). Moreover, for the internal migration pattern studies which specifically focused on ethnic differences and migration pattern of certain ethnic groups, which is similar to this study. Therefore, in this study, the microdata is going to be used for the analysis; the macro-level data will be converted into the equivalent of the micro-level data.

2.2 Theoretical Approach

There are some main theories of internal migration to discuss, but generally speaking, they are divided into the macro-level and micro-level theories (Etzo, 2008). In this study, the micro model is going to be used. I am going to study the micro-level of how the ethnic difference of second-generation affected the migration decision making? The individual level of the migration model is based on how an individual's decision-making process is and how they maximize their utility. The model is made by Sjaastad (1962), he suggested the migration decision process as a choice of accumulating human capital. The model also suggests the heterogeneity exists among individuals. The basic formula is the total benefit minus the total cost. The total benefit is the benefit of the destination minus the benefit of the home, and the total cost is the cost of the destination minus the cost of the home. This concept concerning the human capital will be used for later analysis.

2.2.1 Internal migration determinants

The income has a positive impact, also the employment change will have a positive impact as well. As for the age, a study done by Flippen (2013) suggested that the 0-4 has a relatively high possibility to migrate, then the possibility decreases. After 20 to 34 years old, people migrate

more again, especially for the age group of 25 to 29 years old. Another essential thing to bear in mind is the gender differences, the male migrates more than female, but the difference does not exist in childhood. Moreover, some other individual characteristics also impact the migration possibility; the education level gives a positive impact on migration. The marriage status and family ties can also have an impact on the choice of migration.

Several other determinants need to be controlled for analysing the hypothesis. The unemployment might motivate the person to migrate, the study done by Davanzo (2001) investigated the unemployment status as the determinant of migration decisions. The research discovered the unemployment status could improve the possibility of migration. Furthermore, the head of the family being unemployed can affect more on the family migration decision. The study also suggested that education can have an impact on migration decisions, which means education has to be controlled.

2.2.2 The theory of nativity and ethnicities effect on internal migration

Although there are not a massive amount of studies conducted specifically in the impact of the nativity on internal migration, there are still a few studies researched on how the nativity can have an interstate migration pattern and developed some critical theories around this topic. Most of them used The US as the main object, and they studied the situation around the time of 1990s.

The study of Gurak & Kritz (2000) showed the different nativity status could have a different impact on internal migration pattern. The study used male sample only. In this study, they studied the internal migration trend of different ethnicities of migrants, discovered that there are differences in the internal migration pattern between different ethnicity. Compare the different nativity with the natives in the US after controlling the economic, social status. The result shows some of the ethnicities have a slightly higher possibility of internal migrating compare with the native population, they are Asian ethnicities and British. The Europeans and USSR migrants have a lower possibility to move internally compare with the natives. The Germans and Latino migrants are similar compared with the natives. They also discovered the mechanism that caused the difference: the first reason is the difference of human capitals between ethnicity, a higher human capital can improve the possibility of migrating. The second mechanism is the social capital difference. Different ethnicity has different social capitals,

which means things such as the information of business, employment tips and so on. Those factors can create a dependency on their communities, especially when they first arrived the destination countries. The different dependency on their community can further impact on their migration possibility. The third mechanism is the economic situation differences between the different states. Since the different ethnic group immigrants tend to concentrate on individual states, the economic status might affect the possibility of their moving out.

Another study done by Kritz & Nogle (1994) used a similar strategy to investigate the difference in internal migration pattern in the US. The study also listed three main mechanisms that can impact the first generation migrants' internal migration pattern, they are human capital, how the nativity concentration affect the migration pattern and how do the characters of migration affect the concentration. The study shows the more concentration of a certain ethnicity in the community, the less that ethnicity will internally migrate. Moreover, a college education can improve the possibility of internal migration. The study also discovers that if the social-economic status is controlled, the migrants will have more similar internal migration pattern with the natives. Furthermore, the study also discovered the ethnicity difference could impact more on interstate migration than intrastate migration.

Furthermore, many other studies have found some similar results explicitly focusing on one ethnic group: The study of Tienda (1980) discovered the internal migration pattern of Mexican immigrants are more likely to migrate compare with the white population. However, it mostly depends on their social-economic status. Moreover, the familism in the Mexican community trend to tie the second generation migration from migrating more than their parents, therefore the second generation Mexican migrants trend to migrate less. Another study done by Zhou and Logan (1989) studied the enclave of ethnic Chinese population in New York, discovered the human capital return could be different due to the economic situation differences, and the human capital return for Chinese migrant is higher in the China town. Therefore their internal migration status might lower compare with the local white population. This result contradicted the study of Gurak & Kritz (2000). However, the study of Bartel & Koch (1991) further discovered that the internal migration rate of immigrants from Asia has no relationship with the internal migration rate of the Native Asian population, the internal migration rate of first generation migrations might be lower, whereas the native Asian might have higher internal migration rates compare with White population. Besides that, there are researches regarding other Asian ethnicities. The study done by Wells (2019). suggested that the Filipino first

generation migrants are more female than male due to the historical reason. Still, the research did not address the internal migration pattern within the US, but mostly their migration to the US is due to their family reasons. Another study done by Phuong & Ahmad (2019) studied the Vietnamese American population in the US. The study discovered that most of the first generation migration trend to either migrated back to home after a certain income has been reached or internally migrate to another state in the US. As for the second generation Vietnamese, there is a research done by Janska & Bernard (2018), about the Vietnamese Czech, the research shows that the Vietnamese in Czechia is more concentrated than other migration groups, which indicate that they are less likely to migrate internally. Therefore, generally speaking, Asian ethnicities have a high motivation to migrate internally.

There are also some researches about the Latino migrants internal migration pattern in the US. The Mexicans have a large number of the first generation migration, which is different from other Latino ethnicities. According to the study done by Scheven & Beatrice (2015), The first generation Mexican are mostly low skill return workers, which will have a lower chance to stay in the first resident in the US. That increased their chance to migrate internally. Also, according to the study done by Costas-Muniz, Jandorf, Philip, Cohen, Villagra, Sriphanlop, Schofield and DuHamel (2016) The Latino in New York state trend to migrate for family reasons. Moreover, the anthropology reason might be another important reason for Latino to be internal migration within the state. The author discovered that some of the Latino in the urban area tend to move into the white community. In contrast, the Latino community in the urban area are lack of attractive factors to them.

2.3 Study Hypotheses

After the literature and theories above, it is easy to conclude the theories into two hypotheses as the follows, one is related with ethnicities, and another one is related with the difference between first generation migrants and second generation migrants:

First, the ethnic difference exists in internal migration decisions. The non-white ethnic groups internally migrate more than the white ethnicities. Specifically, according to the character of the researches, the hypotheses will be the black, the Latino is expected to migrate more than

the white ethnicities. The Asian ethnicities have no significant difference with the white ethnicities.

Second, the second generation assimilates more to the natives than the first generation migrants in terms of internal migration. The second generation, in general, assimilates the natives more than the first generation. Therefore it is reasonable to assume the second generation will assimilate more to the natives than the first generation migrants in terms of internal migration.

3 Data

3.1 The database

This study used the Current population survey (hereafter mentioned as CPS) In the IPUMS (Integrated Public Use Microdata Series) database. The CPS data is a survey data which conduct the survey every year in the US. The survey mainly contained the major demographic features, such as ethnicity, family status, migration status and so on, which create a platform to perform a lot of different kind of studies. The survey started after the great depression, and it was designed for collecting the labour status across the US. It has been developed further to collect the demographic, labour status, education status etc. from over 65,000 families. The survey is done for two cycles from each sample, every cycle is 12 months away from each other, the survey in March is the main survey, but it will be followed by several other supplemental surveys from other subjects, including family status, educational status and so on.

The survey is designed into a specific format, and it fits this study. First is because this study requires to separate the time of the dependent variable to the independent variable. The migration status is the dependent variable, and other factors are independent variable which gives the influence first, then the dependent variable receives the influence after. Therefore it is essential to extract the dependent variable from the second survey and independent variables from the first survey. The CPS data provided the two survey of every individual, which is why this data has been chosen for this study. Such a design can also avoid the confusion of causality because the reverse causality will be somewhat irrelevant since a factor from the second year survey cannot affect any factor from the first year survey.

Another essential feature of this dataset is CPS to identify the nativity and ethnicity of every sample, which is very helpful in terms of constructing the variables. This study mainly focuses on how does ethnicity and nativity impact on the internal migration choices. These factors will not only be used separately but also integrated so that the mechanism will be more explicit. Furthermore, the comprehensiveness of CPS data also has most of the social-economic status available.

From the data of CPS, I am mainly concentrating on the dataset from 1994 to 2019. The reason behind this choice is the migration status mainly available after 1994 in the CPS data; therefore, to choose the data after 1994 will be more suitable for this study.

3.2 The variables

The variables are all extracted from CPS data; the original data was programmed in STATA 16 so that users can easily edit the data to fit their study. Most of the variables are not initially binary variables, in most of the cases needed to be further edited so that they can fit into the logit model. The variables are going to be used as follows: The dependent variable is types of migration in the past year, which provide not only whether the individuals migrated or not, it also provides the information if the individual migrated within the county, within the state, interstate or overseas. In this study, both oversea migration choice and the internal migration choice will be analyzed. The inter-county migration, intrastate migration and interstate migration will all be considered as internal migration, and the individuals who have migrated internally within one year will be programmed as 1 in the internal migrate variable. Otherwise, they will be 0 in the variable. Another dependent variable in this study is international migration status, which is coded as 1 represents has been migrated internationally in the last one year, 0 represents the person has not migrated in the last 1 year.

The independent variable as the previous literature and the introduction addressed, are mainly the object of this study, they are focusing on the ethnicity and the nativity of the individuals: first is the ethnicity, which shows whether individuals are white, black, Asian or other races, also included mixed races, it included 28 categories. In this study, I extracted several essential ethnicities that fit this study. They are *White, Black, Chinese, Vietnamese, Korean, Japanese, Filipino, Indian, Other Asians, Mexican, Other Latino* and *Other Races*. These variables will be used both individually in the regression or integrated with nativity for further analysis. The second independent variable is nativity, which includes six categories, they are unknown, and both parents are native, father native, mother native, both parents are foreign-born and the foreign-born individual. In this study, the native will not be a variable, but as a reference variable. Other values of nativity will be programmed as variables of *foreign-born, native with one foreign parent, native with both foreign parent*. They will also be integrated with ethnicities

for the second stage of the study. They are the previous ethnicities that are divided into three subgroups of foreign-born, native with one foreign parent and natives with both foreign parents.

The control variables are also very important, which can ensure the analysis remain accurate. The control variables are the determinants of the internal migration as well as international migration. Therefore they can control the result well. The list of the variables is as follows: sex, age, education, individual income, marital status, health status. The different sex will be analyzed in different models. Therefore they will not be controlled in the model. The age will be used as two variable, a group aged from 20 to 40, labelled as *age 20-40*. Age 40 to 60 are labelled as *age 40-60*, which is the two biggest group in terms of migration. Education is used as a variable in this study. The *high education* will be used as a binary variable, other levels of education will be used as a reference group, and since high education level will increase the possibility for an individual to migrate. Individual income will also have one variable in the study, which will be on income, other levels of income will be taken as the reference group, according to researches (Etzo, 2008; Fachin, 2007) the *no incomes* will be more migratable than others. Another income group that is going to be analyzed is the high-income group. In this study, I define the *high income* as individual income higher than 75,000. From Marital status, the single individual will be picked from this group, since the *not married* individuals are more likely to migrate.

Last but not least, the health status, it is scaled from 1 to 5, 5 is the most healthy ones, 1 is the least health status. I am taking 4 and 5 as the variable *healthy*, since healthy individuals tend to migrate more than others. Notice that all the independent variables and control variables are taken from the first survey of every individuals and the dependent variable is taken from the second survey.

3.3 Quality of the data

3.3.1 Reliability

The data is extracted from CPS, which is one of the most comprehensive demographic surveys of The US. The sample households are selected by a multistage stratified statistical sampling scheme, which gives reliability. What's more, the massive sample can provide a solid base for

the analysis so that it will be less biased. The CPS data are widely used for many studies, and many of them are demographic studies, this is an indication that the dataset is reliable to use.

3.3.2 Representatively

From the graph below, it is clear that a lot of samples has been dropped out of the study, which might be risky since it might cause bias. However, the first step dropped 3,380,996 observations, which is roughly half of the sample size, but all of them has missing values in the migration status part. Therefore it must be dropped. The second step is to merge the social-economic status, ethnicity and nativity status from the first-year survey into the second survey, which means only the second year survey is going to be analyzed. This led to a drop of half amount of observation. Here we see nearly two-thirds of the sample was dropped, that is because many households from the first-year survey did not continue to the second year survey. Therefore their observation was automatically dropped.

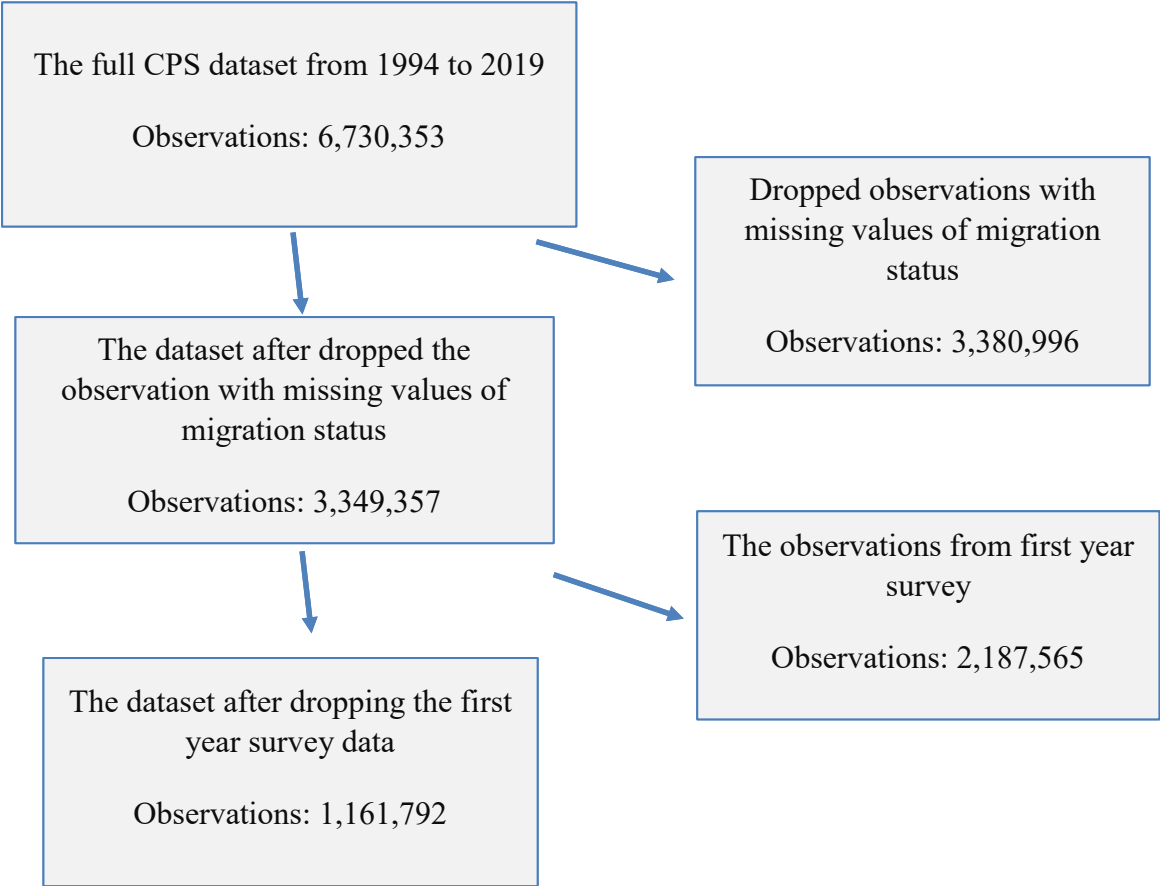


Figure 3-1 the processes of data reduce

The table A.1(in Appendix A) further break the data down into the survey years. The first row is the data from 1994-2019 without dropping any observations. The sample was evenly distributed beside the year 2018 and 2019. But after the drop the observation with missing values on migration status, the sample size from every year has been evened out. The reason why there are more dropped data in 2018 and 2019 than other data set is that there are more samples which just join the survey for the first year, which means they will not have migration status yet. Row three has an evenly distributed sample size as well, besides the year 1994 and 1996 are empty. The year 1994 is empty because they are the first year of this dataset, which means they will only have first wave survey data to be ready to use, the second wave survey conducted in 1994 has linkage with the data of 1993, which is dropped in this case. For the year 1996, there has no proof yet, but it could be caused by the same reason. Therefore, overall speaking, under consideration of how comprehensive and trustworthy it is of CPS data, and the data is evenly dropped from the data set, the representivity is sufficient.

However, one issue that might rise concern is that there might be a selection of who is returning the survey, also who is returning to conduct the second-year survey. Since survey data are all voluntarily submitted. Therefore this has to be noticed for that can cause any bias for this dataset.

3.3.3 Validity

The variables that are planned to use on the individual level are all available, and at the same time, they are constructed into binary form. Including all the social-economic status and ethnicity and nativity are all available in one dataset, which could avoid the problem of inconsistency of the dataset, if the data were taken from different data set there might be an inconsistency.

But that the same time the macro-level data is unavailable, which although can be represented by the individual-level data. It is still possible that the effect of the macro-level data and individual-level data are different. Furthermore, the lack of macro-level of data can affect the accuracy of the model, which need to be mentioned.

3.4 Descriptive statistics

The descriptive statistics contains all the variables that are going to be used in the result chapter. The descriptive statistics table are divided into two tables for visually more readable. The first table contains all the social-economic factors and the ethnics and nativities, along with the migration variables. The second table contains the variables of the nativities of different ethnicities.

Table 3-1 the descriptive statistics table 1

variable list	Mean	Std. Dev.	Min	Max
International migrate	.0012989	.0360162	0	1
Internal migrate	.0391344	.1939147	0	1
white	.7306532	.4436207	0	1
black	.0964372	.29519	0	1
Indian	.0024643	.0495805	0	1
Chinese	.0027389	.0522625	0	1
Filipino	.0024049	.0489809	0	1
Japanese	.0012222	.0349393	0	1
Korean	.0010286	.0320551	0	1
Vietnamese	.0013118	.0361946	0	1
Other Asian	.0023145	.0480539	0	1
Mexican	.0698395	.2548765	0	1
Other Latino	.0406863	.1975625	0	1
other race	.0424775	.2016759	0	1
Both parents foreign-born	.0554118	.2287824	0	1
One parent foreign born	.0443875	.2059545	0	1
native-born	.7900252	.4072904	0	1
No nativity	.0040291	.0633474	0	1
born outside	.1061464	.308025	0	1

no income	.0782748	.2686036	0	1
high income	.3423083	.4744824	0	1
high education	.2779792	.4480033	0	1
not married	.3905148	.487866	0	1
working	.4808296	.4996326	0	1
healthy	.3033546	.4597073	0	1
age 20-40	.2291202	.4202669	0	1
age 40-60	.2954427	.4562417	0	1
Male	.4811584	.4996451	0	1

Table 3-1 shows the statistical features of some variables. They are in the category of migration status, nativity, ethnicity, individual income, education, marital status, work status, health status, age and sex. All the variables have the same amount of samples, which means the samples are unified; every sample with empty data has been discarded to avoid uncertainty in the regressions. Moreover, every variable is constructed in binary form, which will fit the model that is going to be used.

The international migration has 0.0013 as the mean, which means there is around 0.13 percent of the sample recently migrated internationally, both immigrant and emigrant. In contrast, internal migration has 3 percent of the entire sample, which is higher more than 20 times of the international migration. The ethnicity shows a similar distribution to what the American ethnicity distribution. The white has 0.83 as the mean, which means there are 73% of the observations are white population. The black has 9.4% of the sample, whereas the Asian in total has 1.2% of the observations, which is quite different from reality. The Latino has 10.9% of the entire population, which roughly fits reality. The other races describe all the other race and mixed race and ethnicities. They are 4.2% of the sample.

The nativity is divided as the native population, natives who have both parents born abroad, natives who have one parent born abroad, nonnatives and people have no nativity information. The natives without a foreign parent occupy 79% of the sample, whereas natives with both parents born abroad have 5.5% of the sample and native with one foreign parent has 4.4% of the sample. Around 10% of the sample are foreign-born population.

The as for the social-economic status, the variable that is chosen to be presented here are the ones that are going to be used in the models. Individual income-wise, there are 7.8% of the sample has no income, whereas 34% has a relatively high income, here I defined the income more than 75000 dollars as higher income. The sample who received higher education is 27% percent, and 39% of the sample are not married. There is almost half of the sample have a current job, and 30% of them describe themselves as healthy. The sample has 48% of the male sample, which is roughly balanced.

Table 3-2 the descriptive statistics table 2

variable list	means	Stan. dev.	min	max
white_both_foreign	.0188648	.1360476	0	1
black both foreign	.0031787	.0562904	0	1
Indian both foreign	.0006456	.0253996	0	1
Chinese both foreign	.000661	.0257024	0	1
Korean both foreign	.0001885	.0137283	0	1
Japanese both foreign	.000142	.0119165	0	1
Vietnamese both foreign	.0003443	.018552	0	1
Pilipino both foreign	.0004958	.0222607	0	1
Other Asian both foreign	.0005905	.0242924	0	1
Mexican both foreign	.0164169	.1270723	0	1
Other Latino both foreign	.0081615	.0899718	0	1
other race both foreign	.0063376	.0793566	0	1
white one foreign born	.0291903	.1683396	0	1
black one foreign born	.0017542	.0418463	0	1
Indian one foreign born	.000037	.0060836	0	1
Chinese one foreign born	.0169824	.1292053	0	1
Korean one foreign born	.0000396	.0062923	0	1
Japanese one foreign born	.0001162	.010779	0	1
Vietnamese one foreign born	.0000241	.0049092	0	1
Filipino one foreign born	.0169893	.129231	0	1
Other asian one foreign born	.0001093	.0104548	0	1

Mexican one foreign born	.0067181	.0816881	0	1
Other latino one foreign born	.0033233	.0575523	0	1
other race one foreign born	.0030548	.0551855	0	1
white not native	.0288589	.1674098	0	1
black not native	.0084129	.0913351	0	1
Indian not native	.0016957	.0411434	0	1
Chinese not native	.0017809	.0421628	0	1
Korean not native	.0007394	.0271814	0	1
Japanese not native	.0003314	.018201	0	1
Vietnamese not native	.0009021	.0300207	0	1
Pilipino not native	.0015313	.0391013	0	1
Other Asian not native	.0013557	.0367944	0	1
Mexican not native	.0249261	.1559001	0	1
Other Latino not native	.0194742	.1381846	0	1
other race not native	.0173757	.1306669	0	1

The table 3-2 is a descriptive statistics table for the integrated ethnicity and nativity variables. Here the natives will not be presented since they are not going to be analyzed in the model. The observation is all the same, which means no variables has a missing value. The means represents the proportion of ethnicity in the nativity group. As the table shows, the ethnicity of white has a slightly lower proportion in the nativity groups than the overall percentage. The white has 71% of all the sample, but they have only 18% in the group of both parents are foreign-born, 29% of one parent are foreign-born, and 28% born overseas. Some ethnicities have an increase in term of proportion. Mexican and other Latino has an increase in born overseas, and both parents are foreign-born. The Chinese have an increase as well, which had an increase in one parent foreign-born and born overseas.

3.5 The distribution of migration reason

Besides the main variables, the self-reported reason why also move worth to look into, but since it is self-reported, there will be risky to use them as one of the variables. Besides that, the main

analysis aims to discover what factor determines the internal migration, so it is not relevant. However, it can be used for further discussion, to analysis how much did the result represented the self-reported reason why move.

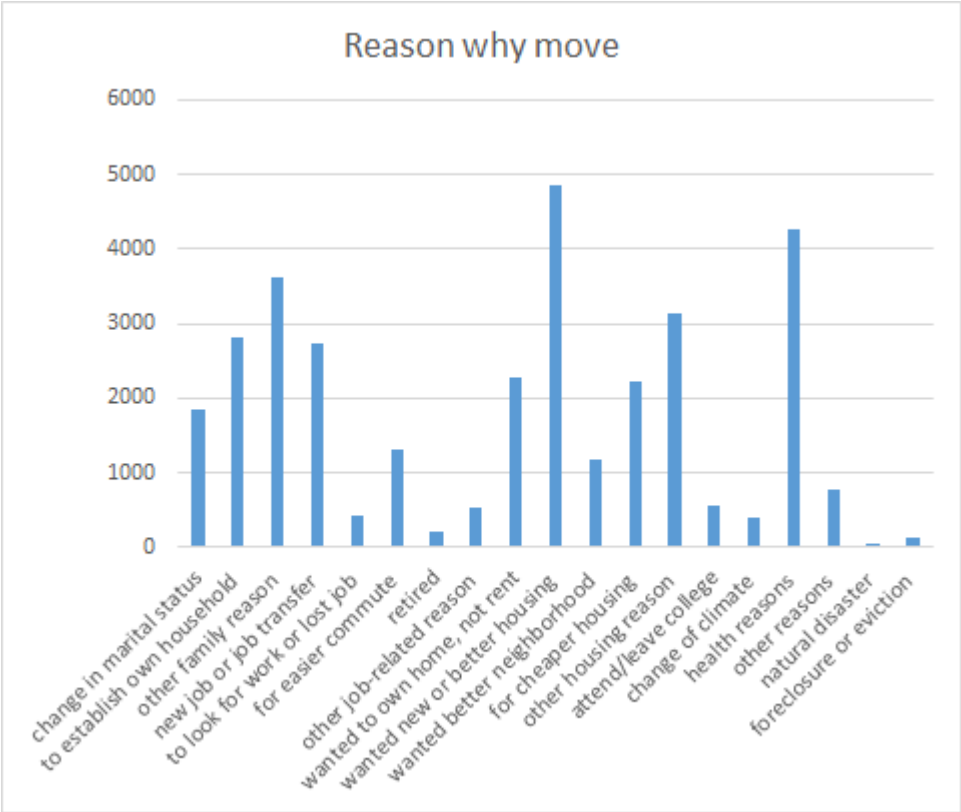


Figure 3-2 the distribution of reason why they move

According to the graph 3-2, there are 19 reasons why moving, and the distribution is quite uneven. The top 3 reasons are new job or job transfer, wanted new or better housing and health reasons. The 19 reasons can be further categorized as follows: Family reasons, Health reasons, education reasons, and residence reasons, work-related reasons, climate reasons. These categories can be helpful for further discussions.

4 Methods

In this study, the quantitative method will be mainly used as a tool of analysis. Since the study is a demographic study and the dataset contains more than one million samples, therefore it is no point of choosing a mixed-method or implementing the qualitative method in the studies. The demography study is based on statistical analysis. Therefore the quantitative method is the best fit for this study.

4.1 The logit model

In this study, the main variable that is going to be analyzed is internal migration variable, which was previously described as a 0/1 variable. Besides that, all the other variables are better fitted in binary format. Therefore a binary model will be a range from what model is going to be chosen for this study. Moreover, the majority of the study regarding internal migration and international migration are using the logic model as the model for their analysis. The logistic model provides an exponential figure in terms of the distribution, and therefore it is more applicable for a study with a lot of socioeconomic variables.

According to the book written by Verbeek (2017), the basic mechanism of the logic model and binary choice model is as follows:

Given a random sample, for example (x_i, y_i) where y_i is a binary variable, in this case, the internal migration variable. And the x_i is any independent variable from the study, the independent variable is also binary. For a Function F , there is a dependent variable Y and independent variable X , the parameter of is b . if X is significant to Y , it means the for if X is 1, the possibility of Y also being 1 is increased b percent. If X is insignificant, then whether X is being 1 or 0 will not affect the result.

The main benefit of choosing the logit model is: first, the distribution fits the assumption of many of the variables, such as individual income, age distribution and so on. The second point is the logit model fits the study subject, which is to test the probability of a variable effect on another variable. However, there might be one disadvantage, which is the binary choice model can only predict how much probability it is that one variable can have an impact on another, it

cannot measure the changes of a variable can have an impact on another. Therefore it is essential to change some variables to binary format, in this case, individual income and the age.

4.2 Model designs and analysis

In this study, the dependent variable is whether a person internal migrated or not; therefore, it is a binary variable. Other control variable and independent variable such as ethnicity, sex, age, birthplace, and nativity and so on, are all categorical variables. Therefore in this study, I am going to use the logit model as the basic analysis. The second step is to analyze the ethnic difference and see the difference after control of the different sets of variables.

The first set of regression (the model analysis nativity and ethnicity separately, hereafter mention as the separate model) here as follows:

Table 4-1 the set of regressions

	1	2	3	4	5	6
Internal migration status and ethnicity and nativity	yes	yes	yes	yes	yes	yes
Social-economic status	No	Yes	No	Yes	No	Yes
samples	All	All	Male	Male	Female	Female

Other than the analysis where the nativity and ethnicity are analyzed separately, the nativity and ethnicity will also be integrated then used as the independent variable. For the second set of regressions, it is going to be basic logit model includes internal migration status as the dependent variable and the different nativity of all the ethnicities as the independent variable (hereafter mention as the integrated model), which means for every ethnicity in the first set of regressions, they are going to break down into three categories, they are no natives, natives with one parent born abroad and natives with two parents born abroad. The placement of the regressions is the same as the first set.

These regressions will be used as the basics for analysis, in addition, the result of the international migration will also be mentioned. Since international migration is not the main subject in this study, the regression will not be presented in the result. Instead, the result of international migration will be mentioned when there is a possible factor that changed the internal migration pattern. The setting of the international migration pattern is the same, they are:

The regression will be followed by a sensitivity test to test the robustness of the model. In this study, I will choose the time of the survey to split the model into four smaller models. The reason why I chose the year of the survey is that the year of the survey is not part of the model, which will not affect the overall model effectiveness. Furthermore, the independent variable effect on the dependent variable might alter through time. Therefore it will be interesting to observe the effect change over time. The split of the year will be: the first model is from 1994 to 2000, the second one is from 2001 to 2007, the third one is from 2008 to 2012, the final one is from 2013 to 2019.

5 Empirical Analysis

5.1 Results

This section, the main regression results are going to be presented. There will be three tables' showing different set of regressions. The first table shows the set of regressions of the model with nativity and ethnicity as the independent variables. The types of the samples and the control variables are in the name above every regression.

Table 5-1 the internal migration with nativity and ethnicity separately as the independent variables

VARIABLES	Without social-economic status, all sample	With social-economic status, all sample	Without social-economic status, male sample	With social-economic status, male sample	Without social-economic status, female sample	With social-economic status, female sample
black	0.540***	0.438***	0.526***	0.459***	0.552***	0.416***
Indian	0.112	-0.013	0.089	0.003	0.126	-0.037
Chinese	0.202*	0.138	0.182	0.128	0.227	0.148
Filipino	-0.205	-0.258*	-0.152	-0.218	-0.242	-0.286
Japanese	0.116	0.194	0.211	0.267	0.046	0.139
Korean	-0.159	-0.205	-0.536	-0.602*	0.094	0.058
Vietnamese	0.519***	0.445***	0.449**	0.427**	0.585***	0.461**
other_asian	0.533***	0.367***	0.417***	0.268*	0.639***	0.456***
Mexican	0.554***	0.373***	0.526***	0.372***	0.575***	0.369***
other_latino	0.415***	0.261***	0.405***	0.270***	0.426***	0.252***
other_race	0.321***	0.215***	0.252***	0.163***	0.386***	0.264***
both_foreign_parent	-0.261***	-0.174***	-0.196***	-0.116***	-0.322***	-0.229***
one_foreign_parent	-0.171***	-0.086***	-0.084**	0.008		-0.179***
born_outside	0.041**	0.045**	0.125***	0.104***	-0.037	-0.011
Soc-economic status	NO	YES	NO	YES	NO	YES

Year dummies	YES	YES	YES	YES	YES	YES
Constant	-3.463***	-4.067***	-3.507***	-4.109***	-3.425***	-4.027***
Sample	both genders	both genders	male	male	female	female
Observations	1,161,792	1,161,792	559,006	559,006	602,786	602,786
Standard errors in parentheses						
*** p<0.01, ** p<0.05, * p<0.1						

The table 5-1 shows the results of the logit regressions, the internal migration status as the dependent variable and the ethnicities and nativity status as independent variables. Overall speaking, the majority of the social-economic status variables did not have a major impact on the model in this table. Moreover, there is a difference between male and female sample. The black population improves the possibility of internal migration in every regression, and the male has a bigger impact on the internal migration than the female samples after the social-economic factor was controlled. Vietnamese has a rather interesting pattern. All the regression appeared to be significantly positive. Female appears to internally migrate more than the male before the control of social-economic status. Still, after the social-economic factor was controlled, the difference in the number was not obvious. Chinese, Japanese and Korean along with Indian, has a similar pattern, which has no significant impact on the internal migrate pattern. The other Asian has a high significance, the impact was positive, and there was no obvious difference between male and female. The Latino group has a very high significance. Mexicans have a positive impact on their internal migrate status, and the social-economic status did not affect it on a huge level. Whereas the other Latinos also have a significant positive impact on their internal migration status but compare with the Mexicans, they have a weaker impact.

The nativity variables also have some interesting patterns. The second generation migrants with both of their parents born outside of the country have a negative impact on their internal migration pattern. Both their mother was born outside of the country and father born outside of the country has a negative impact on the female sample, but the mother born outside of the country has a bigger impact on the internal migration pattern. As for the first generation, surprisingly it is all positive, which means to be a first generation migration gives an overall higher chance to migrate internally.

Table 5-2 The internal migration with integrated nativity and ethnicity as the independent variables

VARIABLES	Without social-economic status, all sample	With social-economic status, all sample	Without social-economic status, male sample	With social-economic status, male sample	Without social-economic status, female sample	With social-economic status, female sample
black_1_parent_bornoutside	0.266**	0.177	0.433***	0.397***	0.086	-0.059
black_both_foreign	0.410***	0.280***	0.469***	0.352***	0.347***	0.206*
black_not_native	0.405***	0.274***	0.426***	0.319***	0.389***	0.232***
indian_1_parent_bornoutside	0.564	0.549			1.033	0.918
indian_both_foreign	-0.552*	-0.672**	-0.433	-0.523	-0.700	-0.853*
indian_not_native	0.125	0.054	0.237	0.179	0.001	-0.080
chinese_1_parent_bornoutside	0.537	0.493	0.146	0.137	0.900	0.809
chinese_both_foreign	-0.064	-0.287	-0.196	-0.417	0.062	-0.165
chinese_not_native	0.167	0.197	0.278	0.297	0.075	0.108
filipino_1_parent_bornoutside	-0.725	-0.629	-0.255	-0.197	-1.168	-1.023
filipino_both_foreign	-0.717**	-0.979***	-1.058*	-1.304**	-0.434	-0.712
filipino_not_native	-0.121	-0.048	0.157	0.184	-0.356	-0.249
japanese_1_parent_bornoutside	-0.246	-0.045	0.024	0.299	-0.638	-0.529
japanese_both_foreign	-0.845	-0.661	-0.593	-0.493	-1.039	-0.794
japanese_not_native	0.132	0.233	0.494	0.514	-0.131	0.022
korean_1_parent_bornoutside	-	-	-	-	-	-
korean_both_foreign	-0.413	-0.657			0.391	0.229
korean_not_native	-0.269	-0.207	-0.296	-0.233	-0.252	-0.193
vietnamese_1_parent_bornoutside	-	-	-	-	-	-
vietnamese_both_foreign	0.502**	0.251	0.190	-0.017	0.770**	0.468
vietnamese_not_native	0.228	0.264	0.437*	0.511**	0.017	0.013
other_race_1_parent_bornoutside	0.179**	0.098	0.277**	0.191	0.083	0.007
other_race_both_foreign	0.050	-0.020	0.011	-0.045	0.088	0.005
other_race_not_native	0.240***	0.163***	0.240***	0.157***	0.240***	0.169***
other_asian_1_parent_bornoutside	0.537	0.390	0.510	0.363	0.563	0.420
other_asian_both_foreign	0.324	0.115	0.124	-0.077	0.504*	0.290
other_asian_not_native	0.451***	0.345***	0.485***	0.381**	0.421**	0.311*

mexican_1_parent_bornoutside	0.464***	0.365***	0.424***	0.361***	0.502***	0.368***
mexican_both_foreign	0.267***	0.159***	0.359***	0.277***	0.168***	0.035
mexican_not_native	0.518***	0.289***	0.571***	0.345***	0.460***	0.228***
other_latino1_parent_bornoutside	0.192**	0.045	0.214*	0.124	0.175	-0.029
other_latino_both_foreign	0.287***	0.115**	0.355***	0.209***	0.221***	0.022
other_latino_not_native	0.340***	0.207***	0.421***	0.273***	0.269***	0.147***
Soc-economic status	NO	YES	NO	YES	NO	YES
Year dummies	YES	YES	YES	YES	YES	YES
Constant	-3.463***	-4.067***	-3.507***	-4.109***	-3.425***	-4.027***
Sample	both genders	both genders	male	male	female	female
Observations	1,161,792	1,161,792	559,006	559,006	602,786	602,786
Standard errors in parentheses						

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

Table 5-2 shows a slightly different set of models compare with the model shown in table 5.1. The integrated models were used so that more details can be reviewed. The black population are having a significant effect on internal migration, whereas most of the Asian subgroups are has very few significant results. The Indian in total with both foreign parents has a negative impact on their internal migration pattern, Filipino male with both foreign parents also negatively impact their internal migration pattern. The black ethnicities had a positive impact on their internal migration patterns. Mexicans have a high positive significant impact on their migration status. The nonnatives have a higher impact than the natives with one parent and two parents born abroad. The situation is the same for the other Latino groups.

The population with one parent born outside has some special features, which put their internal migration pattern between second generation migration and first generation migrations. The white who has one parent born outside also less likely to migrate internally, the number is smaller than the population with both parents was born outside of the states. The black population, however, showed a bigger change. The female sample is not showing any significance, and the male sample shows a lower level of significance, although all the numbers are positive.

Table 5-3 the social economic status of the model above

VARIABLES	Separate model all sample	Separate model all sample	Separate model male female sample	Integrated model all sample	Integrated model male sample	Integrated model female sample
no_income	-0.036*	-0.015	-0.062*	-0.029	-0.017	-0.002
high_income	0.005	-0.001	-0.007	-0.014	0.008	0.005
high_education	-0.149***	-0.180***	-0.110***	-0.140***	-0.185***	-0.219***
no_married	0.458***	0.499***	0.431***	0.456***	0.485***	0.541***
working	-0.029**	-0.044***	-0.042**	-0.061***	-0.026	-0.037**
healthy	0.033***	0.012	0.035**	0.020	0.031*	0.006
Age 20-40	1.109***	1.143***	1.094***	1.121***	1.129***	1.172***
Age 40-60	0.332***	0.366***	0.330***	0.356***	0.338***	0.382***
Year dummies	YES	YES	YES	YES	YES	YES
the model	The seprate indepdent variables	the intergrated variables	the seprate indepdent variables	the intergrated variables	the seprate indepdent variables	the intergrated variables
Sample	both genders	both genders	male	male	female	female
Observations	1,161,792	1,161,792	559,006	559,006	602,786	602,786

Standard errors
in parentheses

***p<0.01,

**p<0.05,

*p<0.1

As for the social-economic status, the result shows a clear picture. The incomes, regardless of what income they have, has no significant impact on whether they internally migrate or not. The population with higher education are significantly less likely to migrate internally. Marital status has a significant impact on migration. The population who has not to get married are more likely to migrate. Moreover, the population who has a job are less likely to migrate internally. Health status in the separated independent variable regressions shows a significant positive impact; however, in the integrated model it shows no significance. The age group from 20 to 40 shows a strong positive impact on their internal migration, and it is stronger than the age group 40-60.

5.2 Robustness test

As the table A.2 (see Appendix A) shows, there is a clear trend that is presented. The main ideas are as follows: The significance of black ethnicities, the insignificance of the Asian ethnicities and the significance of the Latino ethnicities. The black ethnicities have a strong positive impact on the internal migration pattern, the group of 2001-2006 and 2007 to 2012 has a stronger impact on the internal migration pattern. As for the Asian ethnicities, the majority of the Asian ethnicities are omitted due to lack of data. The Latino ethnicities also show a significant as the regression table showed. Mexican had all significant positive results; the year 2001 to 2006 has a higher number than other years. The other Latino, however, had every year significant but the year 1994 to 2000, and the number of 2013 to 2019 has been lower than the other years.

The nativity has a rather inconsistent result. The natives with both parents born outside of the countries have a significant negative impact on internal migration pattern. However, the year 2001-2006 and 2013 to 2019 are not significant, which shows an inconsistency in the variable. The variable of one parent born outside shows a similar inconsistency. They are showing a negative trend with a smaller number, which means they are closer to the natives compare with the samples with both parents born outside out the US. Furthermore, the variable of born outside shows the opposite trend of the other two nativities. The born outside has significant only from 2001 to 2006 and 2013 to 2019, and the impact on the internal migration trend is positive. Still, overall speaking, it shows an inconsistent positive impact on the dependent variable.

The table of A.3 (see Appendix A) shows the sensitivity test for the integrated model with socioeconomic status variables, generally speaking, the sensitivity test for this model shows an inconsistent trend. For the Black ethnicities, there are positive, but not every variable has a significant result. Black not native has a significant positive result from 2007 to 2019, and the black with both parents born outside has only 2013 to 2019 as a significant positive result. The Asian ethnicities stayed mostly insignificant. The only exception is the Chinese with one foreign parent. It has a 90% confidence level of significance from 1994 to 2006, and it has a negative impact on the dependent variable, which fitted the trend of the one foreign parent variable. The Latino ethnicities, however, showed a complicated picture. The non-native Mexican showed a significant positive result in all the years.

In contrast, the native Mexican with one foreign parent showed the significant positive result from 1994 to 2006 and Mexicans with two parents born outside of the US showed a significant positive result in the year 2001 to 2006 and 2013 to 2019. Other Latino ethnicities showed a more unstable trends. Other Latino with both foreign parents had significant negative result in 1994 to 2000 but a significant positive for 2001 to 2006. For other Latino with one foreign parent, it has significant positive only from 2001 to 2006. Moreover, other Latino had a significant positive result from 2001 to 2019, but the number ranged from 0.43 to 0.14, which is rather inconsistent.

The table of A.4 (see appendix A) shows the result of the sensitivity test for the social-economic factors from both models. Unlike the ethnicities and natives, the social-economic factors show more consistent and more significant results. No income shows the same trend in both models. In the year 1994 to 2000, both models have the variable positive significant, whereas, in the year from 2001 onwards, they have a significant negative trend. The high-income variable has similar problems, in the 1994 to 2000 group both models had the variable significant positive, and in the group 2007 to 2012 they became significant negative. High education is more stable. The variable had all the negative impact of all the years, and only the integrated model from 1994 to 2000 had insignificant results. Marital status had a consistent impact as well. The one did not marry shows a positive impact in all years, whereas work status is a bit unclear. The one who has work shows a negative impact from 1994 to 2000, but after 2001 all of the years the variable had a positive impact on the result. Health status was inconsistent. There are some years with negative impact, and some years with a positive impact, more years the variable was insignificant. However, the age shows an interesting routine. Both age groups are consistent. The age group 20-40 shows a significant positive result in all of the years. Moreover, the age groups 40-60 shows a significant positive result as well, only with a lower number, which means the age group 20-40 is more migratable than the age group 40-60.

5.3 Discussion

This section mainly discusses the main points that are discovered in the result section and argues the reasons why the results happened in specific ways. Further, compare the result with the theories and assumptions used in the earlier chapters. Based on the results, the section will be presented in the orders of black ethnicities, Asian ethnicities, Latino ethnicities and other ethnicities. The nativity will be incorporated in the different ethnicities. Other than the analysis

of ethnicities, the effect of socioeconomic status will also be revealed and compared with the main theories. Other than the independent variables, the reason why move will be introduced and help to explain the overall trend in the different ethnicities and nativities.

5.3.1 The statistical significance of the Black ethnicities

From the result part, it was clear that Black ethnicities have a generally significantly positive trend to migrate more than the White ethnicities internally. It has been consistent according to the sensitivity tests. It fits the black ethnicities overall trend of internal migration in the US.

In terms of the black ethnicities migration trends, all the models show a positive impact on the internal migration result, the impact of social-economic status did not largely impact the result. Furthermore, the gender difference remains indistinguishable. Being an ethnically black gives 43.8% more chance to migrate to another county or state. The social-economic status gives a negative impact on the results. Moreover, the nonnative black and the native black with both foreign parents had also positive results, and the native black with one foreign parent had a positive result as well, which is opposite of the overall trend of second generation migrants. The internal migration trend of second generation migration is usually less likely to migrate internally.

The main literatures that described black population in American as more internally migrating than the white population in the US according to the study done by Choe & Chrite (2014), the black population in the non-south states tend to move to southern states in the US more than the white population, and the overall trend of the black population migrate internally is higher than the white population as well. Furthermore, the study was done by DuCros (2019) also stated that the reasons of why black population internally migrate, they are, first of all, the family reasons, and the cultural similarities, there is also a trend that black population in the south is proportionally higher than other parts of the US. Therefore, the black population internally migrate more than the white population.

The black ethnicities generation has the same trend as the two hypotheses. The black population migrate significantly more than the white populations according to the result. However, the male sample of the second generation black population also shows a significant positive impact on the result, which is the same as the first generation migrants. This contradicted the

hypothesis. The female sample followed the hypothesis, the second generation did not have a significant result, and the first generation had a significant result.

5.3.2 The statistical insignificance of the Asian ethnicities

Different from other ethnic minority groups, the Asian populations show a deep significance in the internal migration results, which means their internal migration trends are insignificantly different from the white population in the US. The only exception is the Vietnamese in total, which remained significantly positive in the first set of the model. The Filipino with both foreign parents are significantly negative. The Vietnamese foreign male migrants has a positive internal migration trend. Besides that, the other non-native other Asian shows a strong positive trend of internal migration. The general trend in the Asian group is scattered, and they are going to be discussed separately.

The only significant groups among all the Asian subgroups are Vietnamese foreign male, Native Filipino with both foreign parents born outside, and other foreign-born Asians. There is a lack of research of the second generation Filipino internal migration pattern, but it has a contrast with the second generation migrants from other ethnic groups. The study done by Phuong & Ahmad (2019) suggested the Vietnamese first generation migration has a higher tendency for migrating both overseas and other destinations in the US. The other Asian category refers to a wide range of ethnicities, they are mostly South-East Asians, and therefore they are showing similar results as the other two Southeast Asian groups.

The insignificant ethnic groups are Indians, Chinese, Koreans and Japanese, which had no significance in any of the subcategories. They can be categorized as Southern Asians and East Asians. The Chinese group, according to the study done by Phuong & Ahmad (2019), the non-native Chinese groups has a significantly higher tendency to migrate internally, which is not showing in the results here. Still, at the same time, the sample of the study Zhou and Logan (1989) were taken specifically from the Chinatown, the proportion of the megacity Chinese migrants and the Chinese natives might have a huge difference. Therefore it is normal to have different results. As for the Korean and Japanese, there were not many studies related to the internal migration tendency of these two groups. However, it might be the same situation as the Chinese migrants. Therefore it is normal to have an insignificant result.

Compare with the hypothesis, the situation of the Asian ethnicities are complicated. The East Asian ethnicities did not fulfil the hypothesis; all of the ethnicities were not significant when the white population were the reference category. The Southeast Asians showed more significance. The male sample of the first generation Vietnamese migrants shows a significant positive impact on internal migration pattern, which fitted the hypothesis. The native Filipino with both foreign parents has a significant negative impact on the internal migration pattern, which did not fit the assumption.

5.3.3 The statistical significance of the Latino ethnicities

The Latino ethnicities are divided into Mexicans, and other Latinos in this study since the Mexicans have a large amount of population in the US. Their migration feature differentiates from other Latino ethnicities (Costas-Muniz et al., 2016). Both Mexicans and other Latino ethnics are showing an overall significant positive trend in the results. Within the other Latino ethnicity, the non-natives have the strongest impact, the native with both foreign parents has less impact than non-natives, and the natives with one foreign parent has the least impact. The Mexicans have the most impact from non-natives and natives with one foreign parent. Surprisingly, the native with both foreign parents did not show significant results.

The trend did not match as the literature states. The literature of Gurak & Kritz (2000) stated that the second generation migration would assimilate the natives, which according to this result the second generation migration of the Mexicans went even further than the non-native Mexicans. But according to Scheven & Beatrice (2015), the Mexicans has special social relations within the Mexican community, which gives the extra motives to migrate more, especially for the first generation Mexicans.

The other Latino ethnic groups feature similar from the Mexicans according to the literature, the study of the Rincon & Platt (2009) stated that the Latinos in the US trend to migrate to other community in the urban area. As a result presented, the overall trend has a similar to the Mexicans. Still, as the literature addressed, the mechanism might be different from the Mexicans and other Latino, since the Mexican migration reason is for occupation reason. In contrast, the other Latino might migrate because of social network reason or other residential reasons.

The situation of Latino fitted the hypothesis. The Mexicans and Latino had a significant positive impact on the result, which means they fulfilled the first hypothesis. For the second hypothesis, although all of the groups remained significant, the numbers are different. In general, the first generation of migrants has a larger impact on internal migration choices than the second generation. Therefore the second hypothesis is also fulfilled.

5.3.4 The other ethnicities

The category of other race included mostly population with more than one ethnic background. It also included other not identical ethnicities, like previous addresses. It includes all the other ethnic group other than White, Asian, Black, and Latino. Therefore it has a more complex background. Because of the heterogeneous character, it might be more difficult to identify the meaning of its significance level.

5.3.5 Social-economic status

The social-economic status shows mostly significant results in this study. The income variables show an inconsistency, in the result table they are insignificant. But in the sensitivity test, some of the years shows a significance. The high education status and working status shows a significant negative impact, and they are consistent. Not married and adulthood status shows a positive impact, and they are also consistent. The healthy status has an impact on female more than male.

There is a lot of research on how the social-economic status has an impact on internal migration pattern. The study was done by Gurak & Kritz (2000), the income level can largely impact the internal migration pattern; the no-income group have a higher possibility to migrate internally for a better job opportunity. At the same time. The higher income can give an individual a better chance to move, but at the same time, the higher income in the home state can lead to a decline of internally migrating to another place. The result did not reflect the same trend as the literature, the possible explanation is, the range of the high-income group in this study is too large. Therefore not all of the observations in the group can be differentiated from the other samples. Furthermore, the no-income group shows an insignificant trend, which also contradicts the previous literature. The possible explanation is the income does not largely

impact the internal migration; the internal migration in this occasion are driven by other factors more than income.

The education, according to the literature by Fachin (2007), the higher the education is, the more possibility that person will migrate internally. However, the higher education variable shows a negative impact on internal migration pattern. According to the literature, due to the increase of the human capital caused by education, the observations with higher education are more able to migrate. However, the higher status of education also leads to a higher occupation status, which can have a negative impact on the motivation of internal migration pattern. The variables working also has a negative trend. The individuals with occupations have a less tendency to migrate, due to the fact that the opportunity cost is very high if they internally migrate to another place for another occupation. In this study, both of the models show this trend, which matches the theory.

Furthermore, marital status can also largely impact the internal migration pattern. According to the study, the people who are not married have more mobility to migrate, because the individual who has married has a more social network in the resident place. In contrast, the singles have a less social network in the resident place. Therefore they are more possible to migrate. The result in the tables fits the theory in the previous studies.

The health status is also very important for the internal migration pattern. The positive health status increases the possibility of migration. This variable has also been used in several previous studies. The positive result of this study matches the theory. The age variables also have positive significance to the results. The 20-40 age group has a higher internal migration impact than the age group of 40-60. According to the study of Gurak & Kritz (2000), the age group between 20 and 40 has the highest migration trend than other age groups, then the migration trend decreases in 40-60, but it can still be higher than the elderly groups. Therefore the results match the theory.

5.3.6 Concern of international migration

The migration status has three categories, they are not migrated within last year, internally migrated last year and internationally migrated last year. This study mainly focusing on internal migration pattern, therefore the international migration pattern was not included in the models. However, it can be posted here to be a comparison, the difference of the pattern can also be discussed to observe the variable differences.

The result of the two set of models of international migration are in the Appendix B. As it addresses, most of the ethnic groups appears to be significant, and all the significant ethnicities has a positive impact on the international migration pattern. Moreover, the foreign born ethnic groups all had significant positive impact on international migration pattern except vietnamese foreign born population. Oppositely, the native with one foreign parent had no significant impact on the result. Furthermore, Chinese male native with two foreign parents, Filipino female native with two foreign parents had significant impact on international migration pattern, which is different from the internal migration pattern.

Notice that most the foreign born ethnic groups had positive impact on international migration pattern, that can be partially impact by the fact that they immigrated from the home country in the US within the last year, in this case, the significance level should not be considered as all out migration, but it can also cause by return migration. Whether it is the problem of the measurement or return migration, the more information will be needed to solve this problem.

The variable that reacts differently from the internal migration is the Chinese male native with two foreign parents, Filipino female native with two foreign parents. These two groups might have a higher possibility to migrate to their home countries due to the fact that their families have a family tie with their home countries. But since there is no further analysis of these problems, there is no further proof that they are migrating to their home counties.

5.3.7 The strength and limitations of this study

This thesis has chosen some methods and data that might lead to some advantage and disadvantage of this study. The main advantage is as follows. Firstly, most of the social-economic variable is be able to be controlled. Since the data had a wide range of variables to choose, it allow the author to choose the social-economic status of the samples, so that it can be implied to this study as comprehensive as possible. Furthermore, the logit model fits this study, it can accurately measure a binary variable impact on another binary variable, and the variables in the study can be transferred in binary form. Therefore the model of the study benefited this study. Thirdly, the data came from the CPS data. As previous addresses, the data are widely used for demographers to do various studies.

Moreover, it also has a large sample and scientific sampling technique. Therefore the trustworthiness of the data1 is one of the advantages of the study. Last but not least, the topic

of this thesis is about the ethnic difference as well as the migration issues; they are currently popular topics, which can target a lot of audiences.

However, there are some disadvantages to this study. There are a lack of evidence and explanations for the mixed ethnicity studies, yet the mixed ethnicities are significant in every model. There is a need for more explanation for the reason why the mixed ethnicity did not assimilate with the native white population. What's more, the mixed ethnicity is combinations of many ethnicities, it is nearly impossible for different ethnic groups to have a similar and significant trend in terms of internal migration. Moreover, the topic might be too broad. This study aim to focus on every ethnicities in the US, which can lead to a generalization of some ethnicities. Many of the previous studies studied one ethnicity in comparison with the native white population, and further invested the mechanism of why they migrated. This study is lack of the real mechanism behind the trend why they internally migrate. For the disadvantage of the method, the quantitative method mainly focused on the overall trend, however, the different ethnic group need to be further investigated for why the social structure impacted the migration pattern, that need a lot of qualitative research.

6 Conclusion

This study focused on the question of does second-generation migrants have a better chance of internal migration? By using the binary choice model and the CPS data, it tried to prove the hypothesis of: First, the ethnical difference exists in internal migration decisions. The Asian ethnicities are expected to migrate more than the other ethnicities. Second: The second generation assimilates more to the natives than the first generation migrants in terms of internal migration.

The result proved that the first generation of migration has a significantly higher possibility to migrate internally. In contrast, the second generation migration is less likely to internal migrate in compare with the natives. The certain pattern of internal migration also exists in different ethnic groups. The black has a high likelihood of internally migrate, whereas Asian ethnicity is more complex. The South Asian and East Asian are less likely to migrate internally, whereas Southeast Asian tends to migrate more internally. The Mexican and other Latino has the both of the generation migrants more likely to migrate.

Finally, the main contribution of this study is the study filled some of the gaps and combined some areas of research. First of all, the study pulled many of the ethnic minority together in one model. In the previous research, most studies coved only one ethnic group and compared with the native white population, it is more specific and allow more discussion on one ethnicity. However, the research of multiple ethnicity group can provide a different view on how these ethnicities differentiate from each other, so this study contributed in this way. The second contribution is, it provided a new view on what is the internal migration pattern of second generation migrants and first generation migrants. In the previous researches, most of them studied the first generation migration internal migration pattern. However, many of them did not concentrate on the second generation migrants' internal migration pattern, and they are not comparing the first generation and the second generation migrants. This study covered both of the groups and analyzed the difference. There is a significant difference between the first and second generation.

6.1 Practical Implications

As the discussion stated, the different ethnic group has different internal migration pattern, due to the fact that the different ethnic groups has different social structure and different economic conditions. For certain groups, the employment chance of being in the first destination will be very low, such as the Mexican first generation migrations. Therefore, this thesis can provide a view of which ethnic group have a negative position when they first migrate to the US. Then it is possible to have different settlement plan for different nationality in the future.

Moreover, it can also be a guideline for adjusting the internal migration policies. Since the immigrants are particularly concentrating in several states in the US and their second generation can also be concentrating in the same place before they start to migrate. Then some of the second generation migration might have a higher tendency to migrate due to their economic background. Therefore there can be some institution to help them find a better labour market.

Thirdly, the result of the internal migration pattern can be a proxy for observing the integration of the second generation. Because the internal migration was triggered by different factors, the family reasons, residential reason and occupation reasons are three biggest reasons among them. Therefore the groups with a higher internal migration rate might be having problems in their community. Therefore some intervention might help them from the negative social-economic situations.

Last but not least, during the study process, it is clear that the data has some disadvantages. As the discussion pointed out, the mix ethnics need further investigations. Also, the white and black ethnics are lack of subgroups, such as the country of origin, and the exact ethnicities for a more accurate analysis. The survey generally comprehensively collected the data. However, the subgroups of the white and the black are missing. There are no ethnical groups from the black or white race groups. If in the future the subgroups will be counted in, more of the subgroups can be counted in and analyzed in the model.

6.2 Future Research

The mixed ethnicities study need to be carried as future research. The study covered most of the ethnicities, but as a matter of fact most of the ethnicities are not mixed, all the mixed

ethnicities are in the category of other ethnicities. Therefore for the future research, it will be interesting to see the difference in internal migration pattern of mixed ethnicities.

The study focusing on one ethnic group in comparison to another ethnic group could be in future research. Although there have been many studies focusing on one ethnic group, it still has not been many studies focusing on the comparison of two non-white ethnic groups. Therefore in the future, it might be interesting to look into these kinds of studies.

The comparison between internal and international migration study. This study has briefly mentioned the difference between international migration and internal migration pattern. Yet, it still needs more investigations on the relationship, whether the international migration and internal migration are competing or they are focusing on different groups of people.

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Appendix A

Table A.1 the year differences of the sample

year surveys	of without values	dropping missing	dropped survey	missing values, both waves of second survey
1994	150943		140625	
1995	149642		137921	47910
1996	130476		120183	
1997	131854		120989	46669
1998	131617		120507	46771
1999	132324		120776	46866
2000	133710		121194	47375
2001	218269		116663	46060
2002	217219		139660	44985
2003	216424		141288	54722
2004	213241		138350	55199
2005	210648		136315	47917
2006	208562		135028	50904
2007	206639		133817	51496
2008	206404		133155	52217
2009	207921		134650	52117
2010	209802		135478	53486
2011	204983		132275	53306
2012	201398		131372	51587
2013	202634		130534	51125
2014	199556		129727	50438
2015	199024		129811	41728
2016	185487		117990	44513
2017	185914		118650	41995
2018	671498		114291	41217
2019	1604164		118108	42189

total	6730353	3349357	1161792
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Table A.2 separated model robustness test

VARIABLES	1994-2000	2001-2006	2007-2012	2013-2019
black	0.325***	0.533***	0.577***	0.404***
Indian	-	-	-	
Chinese	-	-	-	
Filipino	-	-	-	
japanese	-	-	-	
Korean	-	-	-	
Vietnamese	-	-	-	
other_asian	-	-	-	
Mexican	0.313***	0.468***	0.366***	0.317***
other_latino	0.079	0.413***	0.406***	0.152***
other_race	0.145***	0.280***	0.258***	0.239***
both foreign parent	-0.276***	-0.039	-0.242***	-0.077
one_foreign parent	-0.131***	0.048	-0.189***	-0.045
born_outside	0.006	0.138***	-0.005	0.108***
Constant	-4.133***	-4.330***	-4.203***	-4.140***
	(0.035)	(0.041)	(0.040)	(0.040)
Observations	235,591	299,787	313,209	313,205
Standard errors in parentheses				
*** p<0.01, ** p<0.05, * p<0.1				

Table A.3 integrated model robustness test

variable	1994-2000	2001-2006	2007-2012	2013-2019
black_both_foreign	0.146	0.227	-0.057	0.539***
black_1_parent_bornoutside	0.312*	-0.052	0.385*	-0.038
black_not_native	0.146	0.148	0.277***	0.474***
indian_both_foreign	-	-	-	
indian_1_parent_bornoutside	-	-	-	
indian_not_native	-	-	-	
chinese_both_foreign	-	-	-	
chinese_1_parent_bornoutside	-0.120*	-0.164*	-0.165	0.521
chinese_not_native	-	-	-	
filipino_both_foreign	-	-	-	
filipino_1_parent_bornoutside	-	-	-	
filipino_not_native	-	-	-	
japanese_both_foreign	-	-	-	
japanese_1_parent_bornoutside	-	-	-	
japanese_not_native	-	-	-	
korean_both_foreign	-	-	-	
korean_1_parent_bornoutside	-	-	-	-
korean_not_native	-	-	-	
vietnamese_both_foreign	-	-	-	
vietnamese_1_parent_bornoutside	-	-	-	-
vietnamese_not_native	-	-	-	
other_race_both_foreign	-0.135	0.099	-0.028	0.189
other_race_1_parent_bornoutside	-0.015	0.170	-0.132	0.371**
other_race_not_native	0.172***	0.242***	0.086	0.102
other_asian_both_foreign	-	-	-	
other_asian_1_parent_bornoutside	-	-	-	
other_asian_not_native	-	-	-	

mexican_both_foreign	0.202**	0.277***	0.030	0.123*
mexican_1_parent_bornoutside	0.200*	0.639***	0.030	0.472***
mexican_not_native	0.265***	0.447***	0.186***	0.256***
other_latino_both_foreign	-0.284**	0.451***	0.096	0.167*
other_latino1_parent_bornoutside	-0.175	0.471***	0.132	-0.316*
other_latino_not_native	-0.039	0.351***	0.438***	0.141**
Constant	-4.112***	-4.229***	-4.120***	-4.073***
	(0.034)	(0.040)	(0.040)	(0.039)
Observations	235,591	299,787	313,209	313,131
Standard errors in parentheses				

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

Table A.4 robustness of socioeconomic status variables

variable	1994- 2000	2001- 2006	2007- 2012	2013- 2019	1994- 2000	2001- 2006	2007- 2012	2013- 2019
no_income	0.112***	-0.113**	-0.057	-0.027	0.092**	- 0.142** *	- 0.083**	-0.042
high_income	0.239***	-0.035	- 0.147***	-0.005	0.239** *	-0.029	- 0.141** *	0.005
high_education	-0.045**	- 0.253***	- 0.252***	- 0.245***	-0.019	- 0.216** *	- 0.215** *	- 0.215** *
no_married	0.366***	0.605***	0.571***	0.487***	0.331** *	0.554** *	0.512** *	0.454** *
working	0.062***	- 0.092***	- 0.114***	-0.065**	0.073** *	- 0.070**	- 0.093** *	- 0.059**
healthy	-0.056**	-0.023	0.055**	0.047**	-0.041	0.010	0.083** *	0.062** *
Age 20-40	1.242***	1.138***	1.096***	1.052***	1.206** *	1.092** *	1.055** *	1.031** *
Age 40-60	0.367***	0.379***	0.336***	0.396***	0.331** *	0.341** *	0.297** *	0.372** *
model	intergrate d	intergrate d	intergrate d	intergrate d	separete d	separete d	separete d	separete d
Observations	235,591	299,787	313,209	313,131	235,591	299,787	313,209	313,131

Standard
errors in
parentheses

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

Appendix B

Table B.1 The international migration with nativity and ethnicity separately as the independent variables

VARIABLES	out_migrate	out_migrate	out_migrate	out_migrate	out_migrate	out_migrate
lagged_black	0.707***	0.723***	0.551***	0.603***	0.702***	0.511***
lagged_indian	0.604**	0.885**	0.290	0.668*	0.229	-0.197
lagged_chinese	0.993***	1.045***	0.856***	0.938***	0.940***	0.761**
lagged_filipino	0.618**	0.059	0.597**	0.016	0.862**	0.866**
lagged_japanese	1.166***	1.476**	1.144***	1.452**	0.921	0.887
lagged_korean	0.213	1.120**	0.096	1.032**		
lagged_vietnamese	-1.419		-1.463		-0.817	-0.913
lagged_other_asian	0.218	0.300	0.010	0.140	0.140	-0.125
lagged_mexican	0.149	0.290**	-0.068	0.166	-0.046	-0.389***
lagged_other_latino	0.133	0.253*	-0.028	0.131	0.011	-0.202
lagged_other_race	0.828***	0.791***	0.639***	0.634***	0.869***	0.650***
lagged_both_foreign_born	0.832***	0.700***	0.872***	0.709***	0.976***	1.051***
lagged_one_parent_outside	0.160	0.017	0.220	0.074		0.370
lagged_born_outside	2.113***	2.087***	2.164***	2.118***	2.145***	2.197***
lagged_no_income			0.664***	0.621***		0.759***
lagged_high_income			0.157**	0.092		0.190*
lagged_high_education			0.158**	0.173*		0.173*
lagged_no_married			0.541***	0.435***		0.617***
lagged_working			-0.109	-0.098		-0.237**
lagged_healthy			0.356***	0.301***		0.416***
lagged_20-40			0.979***	0.939***		1.058***
lagged_40-60			0.147	0.030		0.305**
Constant	-8.221***	-8.453***	-9.026***	-9.151***	-8.059***	-8.930***
Observations	1,161,792	558,286	1,161,792	558,286	602,108	602,108

Standard errors in parentheses
 *** p<0.01, ** p<0.05, * p<0.1

Table B.2 The international migration with integrated nativity and ethnicity as the independent variables

VARIABLES	out_migrat e	out_migrat e	out_migrat e	out_migrat e	out_migrat e	out_migrat e
black_both_foreign	2.156***	1.961***	1.984***	1.796***	2.337***	2.150***
indian_both_foreign	1.405**	1.121	1.360	1.138	1.449	1.089
chinese_both_foreign	1.744***	1.388**	2.025***	1.658**	1.340	1.005
filipino_both_foreign	1.620**	1.281*			2.342***	2.023***
o.japanese_both_foreign	-	-	-	-	-	-
o.korean_both_foreign	-	-	-	-	-	-
o.vietnamese_both_foreign	-	-	-	-	-	-
other_race_both_foreign	1.089***	0.942***	0.979***	0.855**	1.205***	1.047***
other_asian_both_foreign	0.761	0.485			1.455	1.144
mexican_both_foreign	0.712***	0.584***	0.824***	0.724***	0.566*	0.415
other_latino_both_foreign	0.205	0.032	0.152	-0.004	0.258	0.071
black_not_native	1.480***	1.384***	1.372***	1.303***	1.599***	1.482***
indian_not_native	2.233***	1.960***	2.536***	2.349***	1.806***	1.415***
chinese_not_native	2.610***	2.554***	2.564***	2.501***	2.639***	2.556***
filipino_not_native	1.660***	1.753***	1.692***	1.758***	1.633***	1.745***
japanese_not_native	2.956***	2.928***	3.133***	3.095***	2.864***	2.810***
korean_not_native	1.964***	1.917***	2.867***	2.841***		
vietnamese_not_native	0.367	0.428			0.976	0.998
other_race_not_native	2.492***	2.350***	2.460***	2.324***	2.534***	2.368***
other_asian_not_native	1.715***	1.573***	1.793***	1.671***	1.654***	1.464**
mexican_not_native	1.833***	1.650***	1.959***	1.865***	1.651***	1.323***
other_latino_not_native	1.639***	1.551***	1.794***	1.719***	1.480***	1.349***
black_1_parent_bornoutside	0.691	0.554	0.911	0.851	0.360	0.148
indian_1_parent_bornoutside	-	-	-	-	-	-
chinese_1_parent_bornoutside	0.158	0.066	0.123	0.028	0.218	0.060
filipino_1_parent_bornoutside	-0.115	0.019	-0.320	-0.187	0.051	0.257
japanese_1_parent_bornoutside	-	-	-	-	-	-
korean_1_parent_bornoutside	-	-	-	-	-	-
vietnamese_1_parent_bornoutsid e	-	-	-	-	-	-
other_race_1_parent_bornoutside	0.655	0.531	0.410	0.272	0.864	0.758
o.other_asian_1_parent_bornouts ide	-	-	-	-	-	-
mexican_1_parent_bornoutside	0.610*	0.502	0.855**	0.807**	0.285	0.112
lagged_no_income		0.712***		0.677***		0.807***
lagged_high_income		0.102		0.046		0.119
lagged_high_education		0.203***		0.218**		0.221**
lagged_no_married		0.495***		0.395***		0.560***
lagged_working		-0.129*		-0.118		-0.265***
lagged_healthy		0.330***		0.280***		0.386***
lagged_20-40		1.025***		0.998***		1.093***
lagged_40-60		0.195**		0.082		0.349***
Constant	-7.824***	-8.639***	-8.078***	-8.789***	-7.639***	-8.515***
Observations	1,156,777	1,156,777	555,432	555,432	599,696	599,696

Standard errors in parentheses

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