

**Sooner, Later or Never?:  
Patterns of Naturalization of the U.S. Immigrants, 1980-2010**

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*Abstract*

This paper uses data from the 2008-2010 American Community Survey to analyze the patterns of naturalization of the immigrants from 20 countries who arrived in the U.S. in the 1980-2010. Consistent with our expectations and the previous research, foreign-born from the refugee-sending countries naturalize at higher rates compared to other immigrants. Immigrants from Mexico and Latin America, many of whom are likely to be undocumented, have the lowest naturalization rates. The naturalization rates of the foreign-born from Asia, South America and the Caribbean are in the middle range. The patterns of naturalization also vary by demographic characteristics. Specifically, females from most countries are more likely to naturalize compared to males. While marriage to a citizen increases probability of naturalization for women, it has no effect or even decreases the probability of naturalization for men. Also, serving in the U.S. military is a path to citizenship for foreign-born from many countries.

## **Introduction**

Naturalization is arguably the most important aspect of immigrants' incorporation into the U.S. society as it grants the foreign-born the same legal and social rights as all native-born Americans have. However, despite relatively simple and straightforward naturalization procedure and despite the additional rights and legal protection associated with the citizenship, the rates of immigrants' naturalization in the U.S. are low compared to some other countries with the liberal immigration and naturalization laws, notably Canada (Bloemraad 2002; Bloemraad 2006). The low naturalization rates amid continuing immigration raise concerns among social scientists and policymakers as they indicate social and political marginalization of the foreign-born and suggest that the U.S. society is relatively unsuccessful in incorporating the first generation of the immigrants.

At the same time, there are sizable differences in naturalization rates between the immigrant subgroups in the U.S., which are not completely understood. Previous research focused on either the socio-demographic or the contextual factors to explain the differences in naturalization rates over time and between the immigrants from different countries (Liang 1994a; Van Hook, Brown and Bean 2006; Woodrow-Lafield et al. 2004; Yang 1994). Both groups of factors were found to be important but they only partially explain why some immigrants naturalize at higher rates than the others. One of the limitations of the previous research is that it relies on cross-sectional data to calculate the naturalization rates and changes in these rates over time. This can be problematic as the estimations are likely to be affected by continuing immigration and changes in the composition of the immigration flows. Moreover, the immigrants are likely to differ not only in the levels of citizenship acquisition but also in the temporal patterns of naturalization. These temporal patterns along with some demographic characteristics

of the immigrants, such as age at migration, have not received enough attention in previous research. Better understanding of the differences in the patterns of naturalization of the immigrants from different countries can shed light on the factors behind the overall low naturalization rates in the U.S. and point to those aspects of the American societies that are especially relevant for successful incorporation of the foreign-born.

The goal of this paper is to describe the patterns of naturalization of the immigrants to the U.S. since 1980 and explore the differences in these patterns by country of origin and other important demographic characteristics, such as age at migration, period of migration, gender, citizenship status of a spouse and veteran status. Using the detailed information on the year of entry and the year of naturalization from the 2008-2010 American Community Survey, this paper shows that the patterns of naturalizations vary significantly by country of origin, and that these variations are likely to reflect the specific circumstances and unique histories of immigration of each group as well as some commonalities in the context of reception of these groups in the U.S.

## **Literature Review**

Sociological research views immigrants' naturalization as an indicator of political and social incorporation, although researchers weigh differently the role that the immigrants themselves, the characteristics of sending countries and the context of reception in the U.S. play in this process. Traditional immigrant assimilation framework emphasizes the increased familiarity with cultural norms and stronger links to the U.S. society that come with longer duration of stay in the country and eventually result in the decision to naturalize (Liang 1994a; Yang 1994). The cost-benefit approach conceptualizes naturalization as a rational decision based on the perceived balance of pros and cons of acquiring the U.S. citizenship (Jasso and

Rosenzweig 1986; Jasso and Rosenzweig 1995; Yang 1994). Sometimes this type of analysis includes characteristics of the sending countries that may influence naturalization decisions of the individuals, such as country wealth, political regime and geographical proximity. Finally, another line of inquiry stresses the importance of the context of reception in the U.S. for understanding why and how fast the immigrants naturalize (Bloemraad 2006; Cort 2012; Logan, Oh and Darrah 2012; Van Hook, Brown and Bean 2006), showing that governmental policies influence decisions to seek full membership through naturalization.

The ability to test these theoretical frameworks heavily depends on the accurate estimation of naturalization rates by country of origin and other important socio-demographic characteristic, which is often problematic. Most quantitative research on naturalization in the U.S. comes from the two main sources: 1) the census or other large population representative surveys, such as the American Community Survey (Aguirre and Saenz 2002; Balistreri and Van Hook 2004; Bloemraad 2006; Jones-Correa 2001; Liang 1994a; Logan, Oh and Darrah 2012; Mazzolari 2011; Yang 1994); 2) administrative data from the Immigration and Naturalization Service (Jasso and Rosenzweig 1986; Jasso and Rosenzweig 1995; Liang 1994b; Woodrow-Lafield et al. 2004). Both data sources have their strengths and limitations that are shared by the research that uses them.

The census data provide a representative sample of the foreign-born population in the U.S. at the year of the census/survey. It asks about the year of immigration and current citizenship status along with the detailed demographic and socio-economic characteristics of individuals and their households. The main limitation of these data is that before 2008, the census data did not include a question about the year of naturalization, so it was impossible to estimate yearly naturalization rates or, in other words, to look at the temporal dynamic of

naturalization. Then, since there is no information about current immigration status or class of admission, it is impossible to distinguish between those non-citizens who are “at risk” or eligible to naturalize (normally, those foreign-born who spent 5 years in the U.S. as lawful permanent residents (LPRs)) and those who are not (e.g. undocumented, foreign-born on temporary work, student or exchange visas) in these data. This is problematic given that many foreign-born come to the U.S. on non-immigrant visas, sometimes spending as many as 10 years in “temporary” status before adjusting to a LPR. Finally, because most indicators are assessed at the time of the survey, which could be years after the date of naturalization, it is problematic to use them as predictors of naturalization due to a strong possibility of reverse causation. Another limitation of the survey data is that some foreign-born misreport their naturalization status (Van Hook and Bachmeier 2013).

The administrative records provide individual data on annual immigrants’ admissions and naturalizations that can be matched to calculate naturalization rates (Jasso and Rosenzweig 1995; Liang 1994b; Woodrow-Lafield et al. 2004). Unlike the census and survey data, these administrative records contain information about the year of becoming an LPR and class of admission, so it is possible to identify the population “at risk” and to follow the legal permanent residents who are eligible to naturalize over time. Unfortunately, administrative data have only basic socio-demographic characteristics such as age, gender, and marital status, and even this information is often missing. Linking the data is tedious and labor-intensive because the data are released by fiscal year and there are wide variations in the timing of naturalization within the same cohort of the LPRs. Also, non-negligible percent of cases often remain unmatched (Woodrow-Lafield et al. 2004).

Given the differences in the data, theoretical frameworks and specific analytic strategies, it is not surprising that previous research produced inconsistent findings. For example, some studies report that females are less likely to naturalize (Jasso and Rosenzweig 1986; Yang 1994) and others find no differences (Jones-Correa 2001; Woodrow-Lafield et al. 2004). Similarly, one study reports curvilinear association between age at arrival and naturalization (e.g. those who arrived in their later 20s and early 30s are the most likely to naturalize) (Yang 1994) while the other finds it to be negative (e.g. as age at arrival increases, probability of naturalization decreases) (Woodrow-Lafield et al. 2004). According to some studies, married foreign-born are more likely to naturalize (Liang 1994a; Yang 1994), but others find no effect of marital status if the class of admission is taken into account (Woodrow-Lafield et al. 2004). Liang's study (1994a) is revealing as it finds that demographic differences in naturalization vary significantly by country of origin. For example, women from Mexico and Canada are less likely to naturalize compared to men from the same countries, but Cuban, Colombian and Korean female immigrants are more likely to naturalize than their male counterparts.

A handful of studies look at the differences in naturalization rates by countries of origin. Using the 1980 census data and controlling for a number of socio-demographic characteristics, Liang (1994a) finds that among the six sending countries he selected for the analysis, Chinese and Cubans have the highest probability of naturalization, Mexican and Canadian – the lowest, and Colombian and Korean are somewhere in between. Another study (Woodrow-Lafield et al. 2004) using matched administrative records found higher rates of naturalization for Filipino, Vietnamese, and Chinese immigrants, somewhat lower rates for Indians and Koreans, and even lower rates for Cubans, Colombians, Dominicans, Jamaicans, or Mexicans. Overall, country specific differences are consistent with the research that looks more broadly at the characteristics

of sending countries that may promote or deter naturalization. Immigrants from countries with high GDP per capita (e.g. Canada) or located in close proximity to the U.S. (e.g. Mexico, Canada) were less likely to naturalize (Jasso and Rosenzweig 1986; Yang 1994). Immigrants from refugee-sending countries (e.g. Vietnam, China), on the other hand, are more likely to become U.S. citizens (Yang 1994).

Most of these studies focused on the immigrants who entered the U.S. in the 1960s and 1970s and naturalized (or not) by 1980s or 1990s. It is unclear whether the results are similar for more recent immigrants, those who arrived in the 1990s and early 2000s. Then, most of earlier studies follow certain cohorts of LPRs for a relatively short period of time (about 10-15 years). It could be that naturalization rates are underestimated and the differences between the groups are overestimated because for some foreign-born it takes longer to naturalize. It is also possible that the earlier studies detect the differences and factors associated with early naturalization. Finally, previous studies did not consider some important demographic factors such as age at migration, citizenship status of a spouse or veteran status.

The goal of this study is to address some of the limitations of previous research by using data from the 2008-2011 American Community Survey that includes the question about the year of naturalization. These data allow estimating yearly rates of naturalization by country of origin and major demographic characteristics for immigrants who spent as few as 1 and as many as 30 years in the U.S. We limit our investigation to the foreign-born who arrived as adults from 1980 to 2011 from 20 major sending countries: Canada, Mexico, El Salvador, Honduras, Guatemala, Cuba, Dominican Republic, Haiti, Jamaica, Brazil, Colombia, Ecuador, Peru, Poland, Russia, China, Korea, the Philippines, Vietnam, and India. Thus, to the best of our knowledge, by



including more countries than any previous study, this research provides the most comprehensive analysis of the patterns of naturalization of the foreign-born in the U.S.

## **Hypotheses**

### *Demographic characteristics*

*Gender.* Previous research on naturalization produce mixed results as for the differences in naturalization rates by gender. For example, some studies report that females are less likely to naturalize (Jasso and Rosenzweig 1986; Yang 1994) and others find no differences (Jones-Correa 2001; Woodrow-Lafield et al. 2004). It could be that associations are spurious (e.g. women are more likely to intermarry with the U.S. citizens) or highly dependent on the specific country context.

*Spouse a U.S. citizen.* Foreign-born who are married to a U.S. citizens are more likely to naturalize because they have more links to the U.S. society through the native-born spouse. Even more importantly, marrying a U.S. citizens guarantees that a person becomes a legal permanent resident. Additionally, the spouses of U.S. citizens are eligible to apply for citizenship after spending only 3 years in the country as LPR whereas most other permanent residents have to wait 5 years. Thus, we expect that those foreign-born who married a U.S. citizen (either native-born or naturalized) will naturalize sooner after arrival and at higher rates.

*Veteran status.* We also expect that those foreign-born who served in the U.S. military will be more likely to become U.S. citizens. As with marrying a U.S. citizen, serving in the U.S. army is likely to foster connections to the U.S. society. Similarly, according to the U.S. naturalization policies, those foreign-born who served in the U.S. military are eligible to become citizens after 1 year of service. Also, the spouses and children of military members can acquire

citizenship while the military member is deployed. We expect that foreign-born veterans will naturalize at higher rates as for many young immigrants this could be the fastest path to citizenship.

*Age at migration.* Age at migration might influence naturalization because it is related to the speed of acculturation and incorporation into the U.S. society. Younger immigrants are more likely to incorporate into a new society through participation in school and workplace. They are more likely to establish and raise their families in the U.S. It is also generally easier for younger people to learn new language and to pass naturalization test. Immigrants arriving in later life are likely to face greater obstacles on incorporation due to their age. On the other hand, they are also more likely to depend on governmental healthcare and welfare programs. Since the 1996 welfare reform, the eligibility for such programs for foreign-born is linked to citizenship status, which created an incentive for older newcomers to seek naturalization (Gubernskaya 2013).

Age at migration can also approximate to some degree legal entry, especially for immigrants from countries with large share of undocumented immigrants who normally young adults seeking employment opportunities in the U.S. Those who arrive in middle and old age are more likely to be coming through the family reunification provision as lawful permanent residents. Since undocumented immigrants are unable to naturalize, younger age at arrival is likely to be associated with lower naturalization rates among the immigrants from Mexico and Latin America.

*Period of migration.* Naturalization rates may also depend on the period of arrival. Policies regarding refugee admissions, dual citizenship laws, and the 1996 welfare reform are likely to boost naturalization, at least among some subgroups of the foreign-born. We expect that naturalization rates will be higher approximately five to seven years after large number of

refugees were admitted. We also expect that the dual citizenship laws enacted by some countries during 1980-2010 would increase naturalization rates among the immigrants from these countries in the years following the passage of the legislation. Finally, previous research shows that the 1996 PRWORA legislation might have increased naturalization (Balistreri and Van Hook 2004; Fix and Passel 1999; Gilbertson and Singer 2003; Van Hook 2003; Van Hook, Brown and Bean 2006).

#### *Country of origin and context of reception*

Previous research emphasized the differences in naturalization rates between immigrants coming from different countries. We expect that foreign-born from refugee-sending countries like Cuba, Vietnam and Russia will naturalize at higher rates and soon after arrival. It might take longer to naturalize for the foreign-born coming mostly through work and family provisions, because adjusting status from work visa to permanent resident can take several years. Nevertheless, we expect that immigrants coming from countries that send primarily work and family immigrants will naturalize at relatively high rates but not necessarily soon after arrival. We expect to find the lowest rates of naturalization among the foreign-born from countries with high percent of undocumented migrants. The path to citizenship is closed for undocumented immigrants who come primarily from Mexico and other Latin American countries, regardless of whether they want to naturalize or not.

We also expect higher, on average, naturalization rates among foreign-born from countries that allow dual citizenship (Mazzolari 2011).

#### **Data and Method**

To model immigrants' naturalization trajectories, we use data from 2008-2011 American Community Survey (Ruggles et al. 2010), the large population representative data set that, along with many demographic measures, includes questions about the citizenship status, the year of immigration, and the year of naturalization. The analytical sample consists of all foreign-born age 18 and over who migrated as adults (at age 18 or older) in or any time between 1980 and 2000. Those born abroad from the American parents and those born in the U.S. territories were excluded from the sample.

We estimate discrete time hazard models predicting yearly hazard of naturalization since the year of immigration to the U.S. given that they have not naturalized earlier. The time variable is the number of years since migration. Because the probability of naturalization is likely to be non-linear, we include the quadratic and the cubic terms of the time variable. The outcome variable is naturalization, with those who have become naturalized citizens coded as 1 in the year, in which they have naturalized. Naturalized citizens contribute person-year observations until the year they have naturalized. Non-citizens contribute person-year observations until the year of the survey and are considered censored. The discrete time hazard models are preferable over continuous time hazard models because the exact timing of naturalization is unknown (e.g. naturalization could have happened at any time during the year it was reported).

To account for socio-demographic differences<sup>1</sup> between the immigrants and also to test out hypotheses about the effects of these variables, we include gender, citizenship status of a spouse, presence of children, age at migration, period of migration, and history of military service in the models. Gender is a binary variable with females coded as 1. By using the

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<sup>1</sup> Most other relevant socio-demographic characteristics (e.g. income, employment status) in the ACS were assessed at the time of the survey. Because most foreign-born naturalized before the survey (often times, many years before the survey) including these characteristics in the models will introduce issues of interpretation due to strong possibility of reverse causality.

information about marital status, the year of marriage, the citizenship status and the timing of naturalization of a spouse, we construct a binary variable, indicating whether a respondent had a U.S. citizen spouse before naturalization. Those foreign-born who prior to the date of naturalization were married to a U.S.-born person or a foreign-born naturalized citizen, are coded as 1; everyone else is in the reference category. Age at migration is a five-category variable: 18-24 (reference), 25-29, 30-39, 40-49, and 50 and over. Period of migration is divided in 5-year categories starting 1980-1984 (reference). Twenty countries of origin that sent the largest number of immigrants during this period are included in the analysis: Canada, Mexico, El Salvador, Honduras, Guatemala, Cuba, Dominican Republic, Haiti, Jamaica, Brazil, Colombia, Ecuador, Peru, Poland, Russia, China, Korea, the Philippines, Vietnam, and India.

We begin by analyzing the descriptive statistics for the whole sample and for the relevant subsamples to better understand the socio-demographic differences between the immigrants that may account for the differential patterns of naturalization. Then we run the unconditional discrete time hazard model for the entire sample to estimate yearly risk of naturalization for an average foreign-born. The next model includes the socio-demographic controls to test how the risk of naturalization varies by gender, citizenship status of a spouse, the age and the period of migration, and history of military service. Finally, we construct similar models for the subsamples of the immigrants by major countries of origin to estimate the differences in the propensity to naturalize between the immigrants from different countries. We calculate the predicted hazard rates as well as predicted cumulative hazard rates, and create the graphs for better visualization of the results.

## **Results**

Table 1 presents the descriptive statistics for the pooled sample and for the major immigrant groups by country of origin (to be added).

Table 2 shows the results from the discrete-time hazard models predicting naturalization for the pooled sample. The coefficients are log odds of the hazard of naturalization. Model 1 is the baseline model that estimates the probability of naturalization as a function of time. Not

[Table 2 about here]

surprisingly, the coefficient for year is positive, indicating that the probability of naturalization increases as foreign-born spend more years in the U.S. The significant square and cubic terms suggest that this increase is non-linear: the hazard tends to increase at increasingly higher rates but then levels off. Model 2 adds demographic characteristics. Consistent with some previous research, females are more likely to naturalize. Surprisingly, marrying a citizen increases the probability of naturalization only for women. Men married to a citizen are less likely to naturalize. Consistent with our expectations, veterans are more likely to naturalize compared to those who has not been in the U.S. military. Older age at migration is associated with higher probability of naturalization.

Model 3 adds the variable indicating the period of migration. They all are negative, which is not surprising given that later period of migration means fewer years spent in the U.S. What is interesting though is that most of the period coefficients are no longer significant in Model 4, which adjust the standard errors for clustering of the individuals by country of birth. This means that the period effects are likely to vary considerably by country of origin reflecting unique history of immigration from each country.

Table 3 presents the results from the discrete-time hazard models similar to Model 3 in Table 2 for each country of origin. For ease of interpretation, the 20 countries are grouped by regions. The coefficients for years since migration indicate increase in hazard of naturalization with every additional year of residence in the U.S. and can roughly be taken as an indicator of the speed of naturalization. Consistent with our expectations, the largest log odds coefficients for year are in models for Russia and Vietnam, indicating the fastest naturalization among these groups. Poles, Cubans, Indians, Chinese and Filipinos naturalize relatively fast, too. Immigrants from Canada, the Caribbean and South America naturalize at lower rates. As expected, the smallest log odds coefficients for year are in the models for Mexico and the Central American countries, indicating slow naturalization of immigrants from these countries.

[Table 3 about here]

As Table 3 also shows, females are more likely to naturalize in most countries (17 out of 20). The exceptions are Vietnamese women who have lower odds of naturalization compared to males, and Mexican and Canadian women who are no different from males in terms of likelihood of naturalization. Marrying a citizen speeds up naturalization for men from India, China, all Latin American countries, Colombia and Ecuador. But, somewhat surprisingly, marrying a citizen slows down naturalization of men from Vietnam, Jamaica, Canada, Poland and Russia (the coefficient is not significant in the models for other countries). By contrast, marrying a citizen increases probability of naturalization of women from most countries. The way the age at migration affects naturalization varies by country of origin with no single pattern emerging from the analysis.

Consistent with our expectation, history of military service in the U.S. army increases naturalization for immigrants from most countries. The exceptions are refugee sending countries – Vietnam, Poland, Russia, and Cuba, as well as two Latin American countries El Salvador and Honduras.

When it comes to period of migration, the most common pattern is for those foreign-born who came at earlier period to have higher hazard rate of naturalization compared to those who arrived more recently. However, there are also exceptions. Naturalization rate is very similar regardless of the period of entry for the immigrants from South American. The more recent immigrants from Russia, Cuba and the Caribbean tend to naturalize faster compared to those who migrated in earlier periods.

Figure 1 and Figure 2 further demonstrate the differences in predicted hazard of naturalization by country of origin. They show clearly that the hazard of naturalization is non-linear, and that there are differences not only in the average speed but also in the temporal dynamics of naturalization. For example, Russian and Vietnamese naturalize at increasingly high rates in the first ten years after arrival, and then the hazard of naturalization decreases most likely because the vast majority of the foreign-born from these countries have already naturalized. The pattern of naturalization of the immigrants from Mexico and Central America is different: besides being substantially lower, the hazard of naturalization monotonically increases as immigrants spend more years in the U.S. The patterns of naturalization of the foreign-born from other countries are somewhere in between these two.

## **Conclusion and Discussion**



This paper analyzes the patterns of naturalization of the immigrants to the U.S. since 1980 using data from the 2008-2010 American Community Survey. The results show that the patterns of naturalizations vary significantly by demographic characteristics and by country of origin. Specifically, females from most countries are more likely to become U.S. citizens compared to males from the same countries. The reason for these gender differences is not entirely clear, especially since similar pattern emerges for refugee-sending countries and for countries with large percent of undocumented migrants. There are also gender differences in the effect of marrying a citizen on naturalization. While marriage to a citizen increases probability of naturalization for women, it decreases the probability of naturalization for men from Vietnam, Jamaica, Canada, Poland and Russia, and in many other countries the coefficient is not significant. This is an interesting finding that warrants more research on the links between intermarriage and gender differences in naturalization.

This research also shows that serving in the U.S. military is a path to citizenship for at least some foreign-born. Being a veteran is associated with higher probability of naturalization for immigrants from almost every country except for refugee-sending states. This is not surprising given the expedited naturalization procedure for the veteran and their families but to the best of our knowledge, this research is the first to demonstrate the association between veteran status and naturalization.

As expected, we found significant differences in naturalization rates by country of origin. These variations are likely to reflect the specific circumstances and unique histories of immigration of each group as well as some commonalities in the context of reception of these groups in the U.S. Consistent with the previous research, immigrants from the refugee-sending countries naturalize at higher rates compared to other immigrants. Immigrants from Mexico and

Latin America, many of whom are likely to be undocumented, have the lowest naturalization rates. The naturalization rates of foreign-born from Asia, South America and the Caribbean are in the middle range.

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**Table 1. Discrete-time models predicting naturalization**

Variables	(Model 1)	(Model 2)	(Model 3)	(Model 4)
Constant	-5.667*** (0.011)	-5.997*** (0.012)	-5.811*** (0.013)	-5.811*** (0.119)
Years since migration	0.628*** (0.003)	0.634*** (0.003)	0.618*** (0.003)	0.618*** (0.059)
Years since migration <sup>2</sup>	-0.042*** (0.000)	-0.043*** (0.000)	-0.042*** (0.000)	-0.042*** (0.005)
Years since migration <sup>3</sup>	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)
Female		0.066*** (0.005)	0.065*** (0.005)	0.065** (0.025)
Spouse citizen		-0.044*** (0.009)	-0.044*** (0.009)	-0.044 (0.140)
Female x Spouse citizen		0.403*** (0.012)	0.410*** (0.012)	0.410*** (0.067)
Veteran		0.656*** (0.017)	0.639*** (0.017)	0.639*** (0.108)
<i>(Migrated age 18-24)</i>				
Migrated age 25-34		0.250*** (0.005)	0.255*** (0.005)	0.255** (0.094)
Migrated age 35-44		0.352*** (0.006)	0.361*** (0.006)	0.361* (0.144)
Migrated age 45-54		0.482*** (0.008)	0.494*** (0.008)	0.494** (0.165)
Migrated age 55+		0.615*** (0.009)	0.637*** (0.009)	0.637** (0.218)
<i>(Migrated in 1980-84)</i>				
Migrated in 1985-89			-0.071*** (0.006)	-0.071 (0.058)
Migrated in 1990-94			-0.067*** (0.006)	-0.067 (0.110)
Migrated in 1995-99			-0.141*** (0.007)	-0.141 (0.128)
Migrated in 2000-04			-0.211*** (0.008)	-0.211 (0.126)
Migrated in 2005-10			-0.552*** (0.019)	-0.552*** (0.085)
Observations	7,167,626	7,167,626	7,167,626	7,167,626
Log likelihood				
DF	3	11	16	16
chi2	81544	93792	95196	8136

\*\*\* p<0.001, \*\* p<0.01, \* p<0.05. Standard errors in parentheses

**Table 3. Discrete time hazard models of naturalization by country of birth: ACS 2008-2011**

	Asia				
	India	China	Philippines	Korea	Vietnam
Years since migration	0.754*** (0.014)	0.750*** (0.014)	0.744*** (0.011)	0.455*** (0.018)	1.088*** (0.014)
Years since migration <sup>2</sup>	-0.046*** (0.001)	-0.049*** (0.001)	-0.056*** (0.001)	-0.028*** (0.001)	-0.083*** (0.001)
Years since migration <sup>3</sup>	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.002*** (0.000)
Female	0.137*** (0.017)	0.263*** (0.017)	0.052** (0.017)	0.066* (0.027)	-0.167*** (0.017)
Spouse citizen	0.353*** (0.039)	0.129* (0.054)	-0.070 (0.037)	0.016 (0.064)	-0.367*** (0.054)
Female x Spouse citizen	0.216*** (0.052)	0.482*** (0.062)	0.211*** (0.042)	0.345*** (0.073)	0.493*** (0.061)
Veteran	0.196* (0.089)	0.438*** (0.086)	0.551*** (0.038)	0.521*** (0.084)	-0.058 (0.060)
<i>(Migrated age 18-24)</i>					
Migrated age 25-34	0.067*** (0.019)	-0.057** (0.022)	0.085*** (0.018)	-0.126*** (0.030)	-0.062** (0.020)
Migrated age 35-44	0.189*** (0.026)	-0.057* (0.026)	-0.093*** (0.022)	-0.170*** (0.036)	-0.077** (0.024)
Migrated age 45-54	0.300*** (0.033)	0.019 (0.031)	-0.119*** (0.028)	-0.162*** (0.046)	-0.030 (0.027)
Migrated age 55+	0.095* (0.040)	0.061* (0.031)	0.015 (0.030)	-0.033 (0.055)	-0.288*** (0.034)
<i>(Migrated in 1980-84)</i>					
Migrated in 1985-89	0.068* (0.027)	0.086*** (0.026)	-0.026 (0.021)	-0.023 (0.031)	0.075** (0.027)
Migrated in 1990-94	0.135*** (0.027)	-0.134*** (0.026)	-0.089*** (0.022)	-0.141*** (0.035)	0.099*** (0.022)
Migrated in 1995-99	-0.005 (0.026)	-0.417*** (0.029)	-0.134*** (0.024)	-0.361*** (0.041)	0.125*** (0.028)
Migrated in 2000-04	-0.245*** (0.032)	-0.470*** (0.035)	-0.177*** (0.027)	-0.630*** (0.055)	0.339*** (0.033)
Migrated in 2005-10	-0.595*** (0.074)	-0.950*** (0.087)	-0.644*** (0.060)	-1.267*** (0.144)	-0.045 (0.080)
Constant	-6.165*** (0.057)	-5.816*** (0.057)	-5.016*** (0.043)	-4.846*** (0.070)	-5.891*** (0.051)
Observations	351,277	325,514	323,061	186,831	223,130
Log likelihood	-62289	-59940	-74346	-30284	-57218
DF	16	16	16	16	16
chi2	13088	10935	8710	3128	10643

\*\*\* p<0.001, \*\* p<0.01, \* p<0.05. Standard errors in parentheses

Continued

	Latin America			
	Mexico	El Salvador	Guatemala	Honduras
Years since migration	0.286*** (0.010)	0.252*** (0.025)	0.261*** (0.034)	0.369*** (0.041)
Years since migration2	-0.012*** (0.001)	-0.005** (0.002)	-0.007** (0.003)	-0.018*** (0.003)
Years since migration3	0.000*** (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000*** (0.000)
Female	-0.014 (0.014)	0.131*** (0.031)	0.159*** (0.046)	0.421*** (0.062)
Spouse citizen	0.458*** (0.025)	0.222** (0.073)	0.628*** (0.093)	0.853*** (0.110)
Female x Spouse citizen	0.519*** (0.033)	0.424*** (0.096)	0.366** (0.126)	0.003 (0.137)
Veteran	0.588*** (0.065)	0.311 (0.167)	1.256*** (0.205)	0.301 (0.297)
<i>(Migrated age 18-24)</i>				
Migrated age 25-34	0.047** (0.014)	-0.095** (0.033)	0.073 (0.047)	0.005 (0.059)
Migrated age 35-44	0.171*** (0.021)	-0.034 (0.051)	0.154* (0.068)	0.079 (0.088)
Migrated age 45-54	0.194*** (0.033)	0.148 (0.078)	0.364** (0.115)	0.181 (0.144)
Migrated age 55+	0.439*** (0.043)	0.062 (0.109)	0.630*** (0.159)	0.537** (0.186)
<i>(Migrated in 1980-84)</i>				
Migrated in 1985-89	-0.064*** (0.017)	-0.409*** (0.037)	-0.267*** (0.054)	-0.227** (0.074)
Migrated in 1990-94	-0.482*** (0.020)	-0.556*** (0.046)	-0.465*** (0.066)	-0.608*** (0.081)
Migrated in 1995-99	-0.469*** (0.022)	-0.357*** (0.058)	-0.473*** (0.084)	-0.677*** (0.092)
Migrated in 2000-04	-0.567*** (0.030)	-0.455*** (0.079)	-0.583*** (0.106)	-0.816*** (0.123)
Migrated in 2005-10	-0.406*** (0.061)	-0.255 (0.163)	-0.797*** (0.212)	-1.345*** (0.283)
Constant	-5.915*** (0.039)	-5.782*** (0.104)	-5.923*** (0.144)	-5.881*** (0.171)
Observations	2,187,232	270,380	151,539	88,531
Log likelihood	-135047	-22431	-11090	-6933
DF	16	16	16	16
chi2	12809	3143	1733	1066

Continued

	Canada and Eastern Europe		
	Canada	Poland	Russia
Years since migration	0.627*** (0.031)	0.700*** (0.026)	1.400*** (0.034)
Years since migration <sup>2</sup>	-0.038*** (0.002)	-0.047*** (0.002)	-0.113*** (0.003)
Years since migration <sup>3</sup>	0.001*** (0.000)	0.001*** (0.000)	0.002*** (0.000)
Female	-0.005 (0.048)	0.101** (0.034)	0.085* (0.035)
Spouse citizen	-0.187** (0.057)	-0.311*** (0.083)	-0.227* (0.101)
Female x Spouse citizen	0.033 (0.076)	0.453*** (0.098)	0.319** (0.114)
Veteran	0.630*** (0.146)	0.131 (0.174)	0.059 (0.176)
<i>(Migrated age 18-24)</i>			
Migrated age 25-34	0.030 (0.050)	-0.089* (0.039)	0.187*** (0.049)
Migrated age 35-44	0.158** (0.056)	-0.173*** (0.045)	0.287*** (0.050)
Migrated age 45-54	-0.070 (0.077)	-0.207** (0.064)	0.499*** (0.058)
Migrated age 55+	-0.462*** (0.106)	-0.672*** (0.119)	0.669*** (0.058)
<i>(Migrated in 1980-84)</i>			
Migrated in 1985-89	0.191** (0.062)	-0.185*** (0.046)	-0.023 (0.088)
Migrated in 1990-94	0.315*** (0.060)	-0.135** (0.045)	-0.015 (0.076)
Migrated in 1995-99	0.461*** (0.064)	-0.237*** (0.054)	-0.432*** (0.078)
Migrated in 2000-04	0.324*** (0.084)	-0.490*** (0.069)	-0.446*** (0.084)
Migrated in 2005-10	0.133 (0.196)	-0.576** (0.182)	-0.633*** (0.160)
Constant	-6.755*** (0.136)	-5.350*** (0.101)	-6.831*** (0.135)
Observations	143,502	89,988	58,878
Log likelihood	-13900	-16720	-14404
DF	16	16	16
chi <sup>2</sup>	1359	1932	3846



Continued

	The Caribbean			
	Cuba	Jamaica	Haiti	Dominican R.
Years since migration	0.756*** (0.021)	0.553*** (0.022)	0.596*** (0.026)	0.594*** (0.024)
Years since migration <sup>2</sup>	-0.047*** (0.002)	-0.033*** (0.002)	-0.034*** (0.002)	-0.038*** (0.002)
Years since migration <sup>3</sup>	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)
Female	0.272*** (0.028)	0.188*** (0.031)	0.074* (0.033)	0.162*** (0.033)
Spouse citizen	-0.051 (0.069)	-0.446*** (0.066)	0.002 (0.080)	0.038 (0.074)
Female x Spouse citizen	0.383*** (0.103)	0.330*** (0.086)	0.032 (0.112)	0.087 (0.094)
Veteran	0.170 (0.135)	0.515*** (0.084)	0.495*** (0.110)	0.531*** (0.151)
<i>(Migrated age 18-24)</i>				
Migrated age 25-34	0.017 (0.040)	0.016 (0.035)	-0.107** (0.036)	-0.095** (0.034)
Migrated age 35-44	0.058 (0.042)	0.038 (0.040)	-0.325*** (0.049)	-0.303*** (0.046)
Migrated age 45-54	0.197*** (0.047)	0.111* (0.053)	-0.425*** (0.076)	-0.456*** (0.066)
Migrated age 55+	0.572*** (0.048)	0.199** (0.072)	-0.755*** (0.098)	-0.895*** (0.097)
<i>(Migrated in 1980-84)</i>				
Migrated in 1985-89	0.258*** (0.047)	0.138*** (0.038)	0.178*** (0.044)	0.198*** (0.046)
Migrated in 1990-94	0.346*** (0.041)	0.219*** (0.042)	0.073 (0.047)	0.171*** (0.046)
Migrated in 1995-99	0.487*** (0.040)	0.427*** (0.047)	0.431*** (0.053)	0.380*** (0.053)
Migrated in 2000-04	0.790*** (0.048)	0.450*** (0.057)	0.555*** (0.063)	0.513*** (0.066)
Migrated in 2005-10	-0.084 (0.137)	0.211 (0.132)	0.357* (0.160)	0.195 (0.150)
Constant	-6.914*** (0.091)	-5.545*** (0.087)	-5.913*** (0.106)	-5.959*** (0.099)
Observations	167,831	110,339	105,046	139,195
Log likelihood	-24807	-21099	-16960	-19651
DF	16	16	16	16
chi2	3565	2103	1953	1781

Continued

	South America			
	Colombia	Peru	Ecuador	Brazil
Years since migration	0.693*** (0.026)	0.597*** (0.031)	0.470*** (0.037)	0.545*** (0.042)
Years since migration2	-0.041*** (0.002)	-0.034*** (0.003)	-0.024*** (0.003)	-0.027*** (0.004)
Years since migration3	0.001*** (0.000)	0.001*** (0.000)	0.000*** (0.000)	0.000*** (0.000)
Female	0.103** (0.035)	0.210*** (0.041)	0.199*** (0.052)	0.220*** (0.058)
Spouse citizen	0.186** (0.070)	-0.088 (0.087)	0.506*** (0.100)	0.177 (0.106)
Female x Spouse citizen	0.348*** (0.082)	0.533*** (0.102)	0.186 (0.125)	0.290* (0.122)
Veteran	0.667*** (0.138)	0.523*** (0.151)	0.999*** (0.198)	0.558* (0.270)
<i>(Migrated age 18-24)</i>				
Migrated age 25-34	-0.072* (0.036)	-0.096* (0.044)	-0.001 (0.053)	0.013 (0.055)
Migrated age 35-44	-0.261*** (0.046)	-0.221*** (0.055)	-0.037 (0.072)	0.081 (0.072)
Migrated age 45-54	-0.222*** (0.065)	-0.207** (0.075)	-0.008 (0.109)	0.095 (0.118)
Migrated age 55+	-0.182* (0.082)	-0.170* (0.087)	-0.091 (0.130)	-0.611* (0.257)
<i>(Migrated in 1980-84)</i>				
Migrated in 1985-89	-0.006 (0.045)	-0.029 (0.055)	0.013 (0.071)	0.109 (0.089)
Migrated in 1990-94	-0.029 (0.049)	-0.055 (0.058)	-0.029 (0.074)	0.202* (0.095)
Migrated in 1995-99	-0.017 (0.050)	0.108 (0.064)	-0.016 (0.080)	0.358*** (0.097)
Migrated in 2000-04	0.104 (0.057)	-0.061 (0.071)	0.059 (0.093)	0.306** (0.108)
Migrated in 2005-10	0.222 (0.140)	-0.120 (0.181)	-0.255 (0.230)	0.118 (0.211)
Constant	-6.227*** (0.106)	-5.892*** (0.125)	-6.033*** (0.154)	-6.737*** (0.184)
Observations	121,953	84,446	71,800	66,960
Log likelihood	-18647	-12824	-8488	-7742
DF	16	16	16	16
chi2	2710	1745	1049	1343