FAMILY REUNIFICATION AND CITIZENSHIP FOR RECENT CHINESE IMMIGRANTS, NEW YORK CITY

Karen A. Woodrow-Lafield
KarenWLafield@cs.com

and

Bunnak Poch
Royal University of Phnom Penh
ravykh@yahoo.com or bunnak@uchicago.edu

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ABSTRACT

This study examines the timing of naturalization for Chinese immigrants settling in New York City. Immigration helped sustain New York City population levels in the 1990s. Chinese immigrants naturalize more quickly than other major groups, and they sponsor many family members under immediate relative provisions. Based on continuous-time hazard models over duration controlling for unobserved heterogeneity, immediate relatives of U.S. citizens and employment immigrants were naturalizing more quickly than immigrants under family preference categories since the mid 1980s. For most cohorts, immigrants reporting professional, managerial, technical sales, or administrative occupations showed propensity to naturalize more quickly than others. The gender effect was inconsistent, although women of recent cohorts were naturalizing more quickly, perhaps due to changing gender roles.

INTRODUCTION

This study explores the association of admission characteristics with the timing of naturalizing for a select sample of Chinese immigrants initially settling in New York City in the 1980s. Immigration is sustaining New York City population levels as natives leave for other states. China is one of the leading countries of origin for recent immigrants and the main source of Asian immigrants entering the gateway city. Chinese immigration is part of the resurgence of New York City in the 1990s and the China-born population is prominent among the Asian foreign-born population of the city. Between 1990 and 2000, the NYC foreign-born population increased in numbers (1.3 to 1.8 million) and share (from 15.9 to 20.4 percent). The Chinese-born population increased from 37,348 in 1970 and 85,100 in1980 to 160,399 in 1990 and 261,551 in 2000. In the NYC context, the Chinese community utilizes immigration mechanisms through naturalizing more quickly than other major groups and sponsoring family members under immediate relative provisions and family preference categories. Understanding naturalization and family reunification is relevant for the integration and expansion of family networks with respect to national boundaries.

The U.S. immigration system primarily allots immigrant visas according to family ties and labor skills. The Immigration and Nationality Act (INA) Amendments of 1965 abolished the national origins quota system, established a preference system for the Eastern Hemisphere, maintained numerical restrictions for Eastern Hemisphere, and initiated them for the Western Hemisphere. Subsequently, the two hemispheres were brought under a single worldwide limit on numerically controlled categories. Subject to numerical limitations, family preferences were established for spouses and children of

permanent residents, unmarried sons or daughters of citizens, siblings of citizens, and married sons or daughters of citizens. The employment preferences, also numerically limited, were for professional workers and skilled workers, along with their dependents. Citizens could sponsor immediate relatives (parents, children and spouses) without any limitation. Thus, existing law extends greater capability for sponsoring a family member as a legal immigrant to U.S. citizens, whether native-born or naturalized. Lawful permanent resident aliens may petition for visas for heir spouses and children, but they may wait several years for these visas to be issued, particularly if they are Mexican, Filipino, or Chinese. After an immigrant has become a naturalized citizen, he or she can immediately file immediate relatives petitions for which processing times are much shorter, and he or she may petition for visas for unmarried sons and daughters, married sons and daughters, or siblings (the latter two categories inclusive of spouses and children).

How contemporary immigrants and their children are faring in society presents multiple questions of which civic assimilation and political incorporation figure prominently. To the extent that immigrants become naturalized citizens, they become full members in the American polity and, through civic engagement, they can influence their communities. To the extent that immigrant groups maintain high non-citizenship levels, the questions of alien suffrage at state and local levels may persist on the social justice agenda of American society (Tienda 2002).

A crossover occurred in the 1980s to there being more aliens than naturalized citizens, for a ratio of 3 aliens for every 2 naturalized citizens, whereas the ratio had been 3 naturalized citizens for each alien from 1950-1980. The combined trends of higher

lawful permanent admissions, higher nonimmigrant arrivals and continuing population, and emergence of an increasing unauthorized population since 1970 contributed to a citizenship composition more heavily weighted with noncitizens in the 1990 Census, national surveys in the 1990s, and the 2000 Census. The numbers of aliens reflected dramatic upward shifts, including increases in unauthorized residents, especially during 1990-2000 (Bean et al. 2001) and, as of 2005, an unprecedented 9-11 million unauthorized residents (Passel 2006). For New York City, the proportion naturalized was about the same in 1990 (45.5 percent) and 2000 (46.1 percent).

Nevertheless, the number of naturalizations has dramatically increased from less than 200,000 annually over 1941-1989 to more than 500,000 annually in the 1990s with an all time high of over one million in 1996. There is a zig-zag pattern in approvals due to delays, backlogs, and Janet Reno's clearing of the backlog at the end of 2000. Many actually were residing here as nonimmigrants or unauthorized residents before making the transition to lawful permanent residence. In the 1990s, record numbers of noncitizens reached eligibility to naturalize, holding lawful permanent residence and meeting residence requirements of three or five years. Among these were those who gained amnesty under the Immigration Reform and Control Act of 1986 and those admitted pursuant to the Immigration Act of 1990 that allowed for higher employment admissions and diversity visas.

In addition, there might have been period influences: anti-immigrant political debates in the early 1990s; passage of anti-immigrant legislation in California in 1994 (Proposition 187); certain agency procedures and priorities (Green Card Replacement Program, and Citizenship USA 1995). One view is that naturalization may result from

self-protective behavior in securing access to public benefits and better health access. Legislation in 1996 may have affected naturalization in the late 1990s and presently, years beyond the scope of this analysis.

Subnational studies over the past decade give exciting insights for New York City (Lobo and Salvo 2004; Cordero-Guzmán and Grosfoguel 2000; Foner 2000; Salvo and Ortiz 1992; Smith 1985) and Los Angeles (Waldinger and Bozorgmehr 1996). Major cities and the six most populated states have long shown sizable immigrant populations (Gibson and Lennon 1999). American communities with established immigrant communities remain popular destinations for newly arriving immigrants as professionals and retirees move away (Frey and DeVol 2000). Cities with large foreign-born populations in 1990 seemed to grow most over 1990-2000 (Glaeser and Shapiro 2001), prompting detailed study of geographic settlement of immigrants, including the nation's capital (Singer, Friedman, Cheung, and Price 2001). Nevertheless, an immigrant presence emerged in many other communities not regarded as traditionally receiving immigrants (Camarota and Keeley 2001).

Immigrants' residential choices may reflect the attractiveness of economic opportunities and cultural or other amenities, as well as the underlying dynamics of social networks that facilitate migration and adjustment. Individuals who receive family preference and immediate relatives visas are likely to live in the same communities as their sponsoring family members. Zavodny (1999) demonstrated a strong association between foreign-born population share of the total population and locational choices over 1989-1994 for family-sponsored and IRCA legalized immigrants. For employment-sponsored immigrants, choices were affected by economic conditions, but IRCA

legalized immigrants were unaffected by unemployment rates, wages, or marginal tax rates. Locations for new refugees and asylees, the consequence of either their choice or that of the resettlement officials, were more influenced by aid for families with dependent children and food stamp benefits. The state's share of their national origin group is the primary determinant of locational choice. Jaeger (2004) reiterated prior research on the role of ethnic communities and found that employment immigrants were more responsive to labor market and demographic conditions, preferring areas with low unemployment rates. All immigrants were becoming more likely to locate in areas with a balance shifting toward more foreign-born, declining unemployment rates, and increasing real wages.

For the first time since 1950, New York City's population increased in the 2000 census (Sachs 2001), and immigrants are a major source of the city's growth to more than eight million. An era of stagnation has ended for New York when there was low immigration, low native-born fertility, and professional and retirement migration to the West and the South during economic restructuring and recessions in the Rust Belt. The 1980 and 1990 censuses showed some immigration impacts, and New York City's metropolitan area usually received more permanent resident admissions than any other area. Officially, New York and New York City offered a friendly welcome to immigrants throughout anti-immigrant debates in the 1990s, and the New York Immigration Coalition sought to help recent immigrants and amnestied immigrants deal with naturalization applications and voter registration. Local institutions may be influential in providing assistance to immigrants seeking information on public benefits

or with family problems (Johnson, Reyes, Mameesch, and Barbour 1999; Baker 1997; Singer and Gilbertson 2000).

Based on earlier and recent (Zavodny 1999; Jaeger 2004) research on immigrants' location choices, New York is likely to persist as a primary choice among new immigrants, including increased numbers of employment-sponsored immigrants and the new diversity immigrants after the Immigration Act of 1990. Prior research has shown that completion of naturalization is enhanced for immigrants living in cities and communities with others from the same countries (Yang 1994b). Hence, the dynamics of immigration and naturalization are the impetus for this study exploring the timing of naturalization for immigrants in New York City. In the 1990s, naturalizations in the state showed the same pattern as nationally, increasing sharply in 1994, peaking in 1996, and continuing at relatively high levels. Naturalizations in New York amounted to 1,158,175, or 14.8 percent, of the national total of 7,802,160 for 1991-2004.

The agenda of research possibilities on naturalization is ample in the context of New York City, in that naturalization signifies settlement, political incorporation, and family integration. Foreign-born persons within the U.S. borders hold a variety of statuses beginning with the dichotomy of authorized or unauthorized and ending with the dichotomy of alien or naturalized citizen. Persons whose presence is unauthorized may be forced to leave so their stays are tenuous. Naturalized citizens have every right that natives have except the right to hold the office of President. The meaning of naturalized citizenship is embellished with family reunification privileges, social and political participation, and full access in social institutions. Holding the U.S. passport also conveys ease in traveling abroad in making easier returns to the United States. Some

immigrants may lose their origin citizenship although several nations have changed nationality and voting provisions with regard to their citizenry abroad, but China does not permit dual citizenship.

THEORY AND PRIOR RESEARCH

Immigrant studies range from processes of self-selection from origin communities to the process of settlement and collectively defining stays as permanent, various forms of assimilation after migration, family integration or reunification, and the interface of social institutions with immigrant communities. Many foreign-born persons visit the US or stay for intervals, e.g., Mexican migrants and trips, nonimmigrants, Canadians. Those who gain lawful permanent admission under provisions of the INA are regarded as more settled, although some later emigrate and others are transnationals, especially in India, Hong Kong, etc.

Is the traditional assimilation model applicable to contemporary immigrants? Naturalization depends in part on adaptation, acquiring English proficiency and knowledge of civics and history; interest in staying, success as opposed to inability to get by and thus returning; weighing benefits of holding US citizenship versus benefits of not doing so which includes retaining original citizenship. Naturalization is a visible aspect of immigrant incorporation and is an indicator of the tie between the immigrant and the United States as a place of settlement and affiliation. Naturalization is a middle range step; assures ease of international travel, access to public benefits, all rights as a native-born citizen, except presidential office, including government employment and security clearances, conveys privileges in sponsoring family members as immediate relatives and under 1st, 3rd, and 4th preferences, and voting rights.

From the early studies of naturalization, length of residence and socioeconomic experiences in America are correlated with whether or not an immigrant has become naturalized (DeSipio 1987). For much of the past century, the actual timing of naturalization was not considered. Immigration was at lower levels than in earlier decades (Massey 1995), and many of the earlier immigrants had simply returned to their native countries (Hatton and Williamson 1994; Morawska 1990). As Latin American and Asian migration rose in the 1960s and 1970s, dramatic differences by origin appeared in the 1980 and 1990 censuses on citizenship status. Asians, many arriving as refugees, had naturalized quickly, but Latin American immigrants seemed to be naturalizing more slowly, and naturalization levels for the Mexican-born and Latin American-born populations were low in the 1980 and 1990 censuses (Yang 1994a; Liang 1994a; Chiswick and Sullivan 1995). Similar differentials in naturalization rates by origin were illustrated by Liang (1994b) with 1973 immigrant and naturalization statistics and in official reports based on linked immigrant and naturalization administrative records for 1977 and 1982 (U.S. Immigration and Naturalization Service (INS), various years).

The majority of foreign-born persons here for two decades had become naturalized citizens by 2000, with 86 percent of Asian origin persons naturalized, and similar levels for Europeans (81 percent), Africans (80 percent), Caribbeans (80 percent), South Americans (77 percent), and Non-Mexican Latin Americans (77 percent). A lesser share of long-resident Mexicans had naturalized (52 percent). These are higher levels than illustrated in 1990—Asians, 76 percent, Africans, 65 percent, Europeans or Canadians, 53 percent, or non-Mexican Latin Americans (50 percent), and Mexicans, 31 percent (Chiswick and Sullivan 1995:232; Woodrow 1992). The shares of recently

entered foreign-born persons holding citizenship are lower due to greater inclusion of ineligibles and to intended and unintended choices against having as yet naturalized.

The leading study of naturalization by Jasso and Rosenzweig (1986, 1990) focused on the 1971 cohort, before immigrant composition on country of origin, numerical limitation, and preference category had really begun to be shaped by the INA Amendments of 1965. With a microeconomic approach, Jasso and Rosenzweig (1986, 1990) analyzed naturalization for the 1971 immigrant cohort and sought to quantify immigration multipliers, that is, to identify the consequences from immigrants arriving in the 1950s and 1960s, who became eligible through naturalization to sponsor several relatives with dependents. Jasso and Rosenzweig (1986) found origin and admission criteria differentials in naturalization for 1971 immigrants after a decade. The study supported micro-level themes of labor force attachment and family reunification incentive as explaining naturalization with macro-level controls for economic development, governmental structure, U.S. relations, and English as official language. For men and women, naturalization was higher for employment-sponsored immigrants and refugees than for those who had come as family members of aliens or citizens. Women admitted under categories that indicate having fewer relatives in the U.S. (spouses of siblings or the labor-certified) were more likely to naturalize and siblings least likely. For men, the highest probabilities were for refugees and labor certified immigrants and least for spouses of siblings of citizens.

The effects of contextual variables for origins, such as gross national product per capita (GNP), literacy rate, distance, centrally planned economy, English as official language, U.S. military base presence, and Voice of America broadcasts in native

language, were as expected. Immigrants from high GNP countries were significantly less likely to have naturalized. VOA broadcasts in native language were also associated with increased naturalizing. Having an origin country with English as an official language facilitated naturalization. Women from the Western Hemisphere seemed to have lesser likelihood of naturalizing.

Using linked administrative records for multiple immigrant cohorts, the timing of naturalization has been shown to vary, for Chinese immigrants as for others, by mode of entry and immigrant visa class, net other influences of demographic and background characteristics (Woodrow-Lafield et al. 2000b). For immigrants from major sending countries, an explicit advantage is derived from having prior experience as nonimmigrants, refugees, or asylees. Having employment-sponsorship is a significant advantage as these immigrants are naturalizing faster than family-sponsored immigrants. Among categories of family-sponsored immigrants, those in spousal categories are naturalizing more quickly.

Patterns of immigrant transition to naturalized citizenship differ by country of origin. Immigrants from the Philippines, Vietnam, and China not only were observed as having naturalized at a higher level after at least a decade of residence, but also they were naturalizing more quickly than other immigrants from India, Korea, Cuba, and Colombia, or from Jamaica, the Dominican Republic, and Mexico, based on statistical models accounting for effects of visa class of admission, age, sex, marital status, nonimmigrant background, and year of entry (Woodrow-Lafield et al. 2004, 2000a, b). Filipino, Vietnamese, and Chinese immigrants were six to eight times as likely to naturalize as Mexican immigrants.

A detailed examination of admission criteria in relation to the timing of naturalizing for Chinese immigrants (Woodrow-Lafield et al. 2000b) revealed extremes for immediate relatives of citizens in that mothers and fathers of citizens were least likely to naturalize but wives and husbands of citizens naturalized very quickly, even more quickly than employment-sponsored principals, professionals and skilled workers. Although gender was not significant for China in the gender-pooled model, in the gender-specific models, there were significant differences for Chinese men and women. These wives of citizens were more likely to naturalize than similar husbands. Chinese wives' citizen-husbands may be strong sources of social capital for acquiring English proficiency, and understanding citizenship as conveying ability to bring parents.

Among interesting findings from that study, Chinese women admitted as sister-siblings of citizens showed greater propensity to naturalize, as did brother-siblings, but Chinese sisters of citizens were likely to naturalize more quickly than similar brothers. These siblings are joining one or more citizen-relatives whose established U.S. residence greatly enhances social capital resources promoting English acquisition, and thus facilitating naturalization. One hypothesis is that sister-siblings and their husbands are more educated, more English proficient, and more skilled, and these couples jointly naturalize more quickly. Employment-sponsored immigrants and their spouses from China, and particularly women workers, tend to be those most likely to naturalize. Women admitted as skilled workers were *more likely* to naturalize than their male counterparts, and husbands of skilled workers showed more propensity to naturalize than wives. Thus, two examples suggest marital homogamy.

In another set of cohort-specific analyses (Woodrow-Lafield, Xu, Poch, and Kersen 2001b, 2003), Chinese immigrants admitted as spouses of U.S. citizens were naturalizing more quickly than immigrants under either employment- or family-sponsored, and women were naturalizing similarly to men.

The present study seeks to elaborate on this framework for the timing of naturalization by admission circumstances for a specific Chinese immigrant community. Admission criteria represent to some degree individual endowments for receiving visas and for making their way as Americans whether considering social or economic dimensions. Are employment-sponsored immigrants more successful than family-sponsored immigrants? Which kinds of immigrants are more likely to naturalize? Focusing on a sample of immigrants settling in a geographic area or metropolitan context allows consideration of findings in the context of orientation of social institutions dealing with the complexities of immigrant groups' backgrounds, present situations, and hopes, expectations, or motivations. Gender, race, and class delineates immigrants' contacts with social institutions, given differentials by lower educational levels, lower income, mixed status family composition, concentration in hypersegregated metropolitan areas, lesser political power, differential access to health care, and differential access to public benefits and services. A second reason is the need to study naturalization as a temporal transition after a period in lawful permanent resident status.

This study is exploratory of whether empirical generalizations from other studies are applicable for a particular case of Chinese immigrants in the New York City contexts. This paper does not yet incorporate all the relevant literature or fully assess the feasibility of this approach at the place-level. We expect the results to be pertinent for the following

kinds of hypotheses. Human capital (employment or labor attachment) hypotheses: Individuals with labor attachment may have human capital that facilitates interest in naturalizing for securing more opportunities, and they may possess abilities or higher education than facilitate naturalization. Employment-sponsored immigrants are expected to naturalize more quickly.

Social capital hypotheses: Individuals with resident family members, especially citizens, may be more likely to seek to naturalize and to succeed in naturalizing. This social capital may help in understanding the value of citizenship and navigating the procedural steps. A particular category is spouses of citizens. Individuals with U.S. born children may seek to naturalize to gain uniformity within the family, for status consistency.

Family reunification hypothesis: Individuals with few family members already here, e.g., spouses of siblings of citizens, are expected to naturalize more quickly to gain sponsorship privileges and unify their families and enhance social capital. These include employment-sponsored immigrants, spouses of employment-sponsored immigrants, and spouses of aliens. Adult sons and daughters of citizens and married sons or daughters of citizens are likely to have lesser family reunification needs and therefore to naturalize more slowly. Siblings would not be expected to naturalize at a high propensity because they are unlikely to have needs for family reunification. The sponsoring immigrant can already sponsor the parents. Their spouses however may want to bring family.

Gender hypothesis: The effect of gender is expected to vary according to relative shifts in time and contexts in the independence level for women as associated with naturalizing more quickly.

DATA AND METHODOLOGY

The data are drawn from a broader project that utilized linked immigrant and naturalization records as a multi-cohort retrospective data source on naturalization in the 1980s and early 1990s. The data were provided to the principal investigator on a confidential, nonsharing basis by the Statistics Office in the former U.S. Immigration and Naturalization Service, now the Office of Immigration Statistics, Department of Homeland Security. The emphasis is on studying the process of naturalizing in time rather than simply current citizenship status. This resource has some advantages over cross-sectional sources, censuses and survey data, are limited by universe discrepancies (inclusion of unauthorized residents and other ineligibles), current rather than initial characteristics, and current naturalization status without date of naturalization. Included are data for lawful immigrants of 1978-1991, with subsequent naturalization outcomes during 1978-1996 (Woodrow-Lafield, Xu, Kersen, and Poch 2001a, 2002). (The INS Statistics Office provided these data files as available in June 1999. Processing of naturalization applications and approvals for 1997 was slow, incurring delays to individuals and to compilation of final data for 1997 until December 1999.) These data are similar to the INS 1977 Immigrant-Naturalization Cohort and INS 1982 Immigrant-Naturalization Cohort, linked administrative records that have been available as public-use microdata. I initiated the research project in response to a request for research on U.S. immigration to make maximum use of existing data, including administrative records.

There are more than 9 million (9,085,945) immigrant records for fiscal years 1978-1992 and about 5.5 million (5,539,763) naturalization records over fiscal years 1978-1996. After record linkage, there were 2.8 million (2,805,599) (about one-third)

immigrants with a matched naturalization record and 6.1 million (6,120,647) immigrants without a corresponding naturalization record, including individuals of all ages. Most analyses have excluded those under 21 years of age at admission, because they may have derived citizenship upon a parent's naturalization without their parents having filed for a naturalization certificate.

The available variables are somewhat more restricted than survey data, although the data are detailed by date of admission and naturalization, demographic characteristics, and class of admission. The dependent variable is duration of time until naturalization. Prior nonimmigrant experience is theoretically based on whether the immigrant is newly arriving or adjusting from a nonimmigrant status. This is surely an underestimate as missing previous nonimmigrant stays and undocumented experience for which surveys are more complete (Jasso, Massey, Rosenzweig, and Smith 2000; Massey and Malone 2002). Visa class refers to the specific provisions in the immigration law through which an immigrant gains permanent entry into the United States. In the analyses here, visa class of admission is restricted to three categories. Visa-class of admission includes numerically limited visas distributed on the basis of family sponsorship or employment sponsorship and a reference category including exempt or numerically unlimited visas for immediate relatives (spouses and parents) and refugees, asylees, and others. (See Woodrow-Lafield et al. 2000a for more detailed treatment of admission criteria.) Thus, measured covariates on visa class of admission ascertain labor force attachment or potential human capital through employment sponsorship and potential social capital ranging from not known as having any resident family members to known as having a U.S. resident spouse, usually a U.S. citizen, or having parents, siblings, or children as

citizens residing in the United States. The INS record also contains detailed occupational title reported at admission, referring to occupations in country of origin for those arriving to join family members, their current U.S. job for those adjusting status, or to the US job for which their entry is sponsored by an employer. The occupational categories are three (managerial and professional workers, technical, sales and administrative support, or all other categories).

These cohorts were admitted under the immigration preference system established in 1965 and numerical limitations in place for both Eastern and Western Hemispheres, with the preference system and per country limit applied to the Western Hemisphere countries after the INA Amendments of 1976. They were admitted before changes under the Immigration Act of 1990 were effective. Naturalization outcomes for immigrants legalized under the Immigration Reform and Control Act of 1986 (INS 2002.), who became lawful permanent residents in 1988-1991, are not examined here.

For this study, the sample of adult Chinese immigrants is utilized from an extract of NYC immigrant cases, based on residence at immigration or at naturalization, obtaining 36,244 cases. A previous study began with models for naturalizing for immigrants from the Dominican Republic, and Jamaica, China, and India are the other leading origin countries for immigrants in New York City. To define the analytic sample of immigrants for New York City, place of intended residence on the lawful permanent resident record for mailing the I-554 residence card is assumed as the initial place of settlement as many other researchers have assumed (Salvo and Ortiz 1992; Zavodny 1999; Bartel 1989; Jaeger 2004). The initial step is selection on New York City as intended place of residence or place of residence at naturalization in using zip code

information (Woodrow-Lafield et al. 2000). New York City was the designated place of residence for 364,920 immigrants, including 355,480 initially and 9,440 at naturalization (Table 1). For comparison, nearly one million (995,803) immigrants gave New York as either the state of intended residence (958,368) or the state of residence at naturalization (37,435) (Woodrow-Lafield and Poch 2003) The leading origin countries for NYC's diverse immigrant pool were the Dominican Republic (19.9 percent), China (10.0 percent), Jamaica (7.6 percent), Haiti (4.2 percent), Guyana (4.1 percent),[i] Colombia (3.3 percent), Ecuador (2.8 percent), India (2.8 percent), Philippines (2.6 percent), and Korea (2.2 percent), with several other countries also represented (Soviet Union, Trinidad, Cuba, Italy, Barbados, and Greece).

Table 1 about here

This study extends earlier strategies of event history modeling to explore variation in the timing of naturalization with the dependent variable as waiting time or duration of residence until naturalization (Woodrow-Lafield et al. 2001b; 2003). The most appropriate models are continuous-time parametric regression models, known as hazards or survival models, ideal for examining covariates on the duration of residence until naturalization. The first stage is selection of the most appropriate hazard models in continuous-time formulation (Allison, 1995; Blossfeld, Hamerle, and Mayer 1989) for the stochastic process of naturalizing over time, as specified below, for the underlying hazard or survival function over duration of residence:

$$h(t_j) = h_0(t)\, g(\mathbf{x}_j),$$

where $h(t_j)$ is the hazard function (in this study, it is defined as the risk of naturalization at time *t*, $h_0(t)$ is the baseline hazard function and $g(\mathbf{x}_j)$ is a nonnegative function of the

covariates. In the current study, $h_0(t)$ is assumed to be parametric. In Stata, three continuous-time proportional hazard models are implemented, namely the exponential, Weibull, and Gompertz models (Stata, 2001). Likewise, Stata has also implemented another family of continuous-time models as accelerated failure-time (AFT) models. These models can be generally denoted as

$$\ln t_j = \mathbf{x}_j \exists + z_j$$

where $\mathbf{x}_j$ is a vector of covariates, z is the error with density f(), which determines the regression models such as log-normal, log-logistic, or generalized gamma. From prior research for selected cohorts, we expected either the log-normal or logistic model as the best choice to model for quickly naturalizing populations, e.g., for Chinese immigrants' timing and occurrence of naturalization, as both allow for an inverted U-shape hazard.

An implicit assumption in continuous-time hazard or survival models is that the regression model includes all the relevant covariates among age group, gender, marital status, visa class of admission, whether an adjustment, and occupational category. We tested six alternative forms on the underlying hazard or survival function over duration to naturalization within admission cohort (14), with and without statistical controls for unobserved heterogeneity for a total of 168 models. The purpose is to discern a statistical presence of unobservable heterogeneity and which models are better. With unobservable heterogeneity, the hazard function can be described as an unobservable multiplicative effect $\forall$ and the model can be depicted as $h(t|\forall) = \forall h(t)$, where h(t) is a non-frailty function. As elaborated in Woodrow-Lafield et al. (2001b), the Inverse-Gaussian frailty distribution is chosen for the frailty models, and the presence of unobservable heterogeneity is allowed to change with entry cohort in predicting the timing and

occurrence of naturalization. Given that no allowance is made explicitly for either mortality or return migration, these competing outcomes are among sources of uncontrolled heterogeneity. New statistical methodologies to control for sources of unobserved heterogeneity are not universally accepted, but this set of models is aptly introduced given these data's shortcomings as administratively constrained. Of course, biases from unmeasured heterogeneity for the probability of naturalization might not persist over time, in that characteristics of those not naturalizing may converge toward those not naturalizing due to possession of the unmeasured characteristics.

FINDINGS

Table 2 illustrates descriptive characteristics for Chinese immigrants settling in New York City. Among 36,244 Chinese adult immigrants who initially settled in New York City over 1978-1991 or naturalized there over 1978-1996, over 16,000 had become naturalized citizens by 1996. Most immigrants were married, and nearly all were not living here already as nonimmigrants. Most were admitted under family preferences or as immediate relatives.

These are familiar patterns—that more Chinese immigrants are admitted under family-sponsored preference categories and immediate relative provisions than admitted under employment-sponsored preference categories. From our previous analysis, even greater shares of NYC immigrants from the Dominican Republic, Haiti, Jamaica, and Haiti, were admitted under the family preference categories, and immediate relatives appeared as substantial for the Philippines, Ecuador, and Colombia.

Most of these Chinese cohorts show more women than men, as commonly found. More women than men migrate to the United States and other major receiving countries,

although women's involvement is lower for developing countries than for developed ones (Zlotnick 1995). Among sending country characteristics that are influential in deciding to migrate, the constraining nature of gender roles, life cycle stage, and migration prevalence within the country are critical factors. Women may have a distinctive role, migrating from developing to developed contexts, in the evolution of temporary migratory patterns into settlement patterns.

Looking at occupation reported, a small percentage (8 percent) of these Chinese immigrants reported having a professional or managerial occupation. A slightly higher percentage (10 percent) reported having a technical or administrative occupation, but the majority of these immigrants were classified as having other occupations, including not reported.

This sample includes more immigrants in earlier cohorts than in the later cohorts. This might indicate changing responses to local conditions or greater attractiveness of other locations. We will look for explanations of this, including whether some cohorts were affected by missing data problems (or whether immigrants from Taiwan are included in the earlier cohorts). The percent naturalized ranges from 16 percent for the most recent to 66 percent for the earliest cohort. A higher share are naturalizing as length of residence increases. Looking at this table and the composition on characteristics for immigrants and the naturalized citizens, we see quickly there are differences, reflecting how individuals proceed to citizenship.

Table 2 and Figures 1 and 2 about here

We evaluated results for the full set of hazard or survival models estimated for each cohort with and without corrections for unobservable heterogeneity (choosing the

Inverse Gaussian frailty distribution), that is, a total of 168 models (6 x 14 x 2). Based on goodness-of-fit statistics and Akaike Information Criterion statistics, the best models are selected. The AIC statistics penalize the log likelihood statistics by taking the number of parameters being estimated in a particular model into consideration. This statistic is defined as

AIC = -2 (log likelihood) + 2 (c + p + 1), where c is the number of parameters and p is the number of model-specific ancillary parameters.

The best fitting models are generally the accelerated failure time (AFT) models utilizing either the log-logistic or log-normal functional form for the hazard function, with Inverse Gaussian controls for unobserved heterogeneity. The log-logistic model is best for nearly all cohorts although the log-normal model is nearly as good for recent cohorts. For ten cohorts, the log-logistic frailty model is the best model, the similar log-normal model is best for the 1985 and 1989 entry cohorts, and the gamma model is best for the 1986 and 1987 cohorts.

Table 3 about here

For Chinese immigrants, the models that allow for influences beyond the measured characteristics at admission are preferable. Such unobserved variables include socioeconomic characteristics, family integration, and intended lifetime settlement. Many Asian immigrants quickly move to naturalization upon eligibility, perhaps facing fewer barriers than Hispanic immigrants, and then the hazard of naturalizing drops to a lower level. Holding dual nationality is not possible for Chinese immigrants, so the hazard function form may reflect the schism between those willing and those reluctant to

give up their original citizenship. A set of unobserved variables may differentiate those unlikely to naturalize or those who are more isolated or in ethnic enclaves.

We note that the regression coefficients for the AFT models in Table 4 are opposite, in direction, to those that are in the hazard models, and second, that hazard ratios reported from models controlling for population heterogeneity lose their direct interpretation as a proportional change in hazard of naturalization for a unit increase in the covariate. (Hazard ratios can be presented as merely the exponentiated regression coefficients.) These interpretations are based on the frailty models accounting for unobserved heterogeneity.

As found for other groups, the younger, the married, and the U.S. experienced individuals are likely to naturalize more quickly than the older, the unmarried, and the non U.S.-experienced individuals. Generally, married immigrants naturalized more quickly. Those Chinese immigrants having nonimmigrant experience naturalized more quickly. Those Chinese immigrants admitted in their 20s or 30s were naturalizing more quickly than those older at admission, although age effects seemed to vary in importance for cohorts.

Admission class differentiates these NYC Chinese immigrants in naturalizing. For most of these NYC cohorts (1978-1980, 1982-1984, 1990 and 1991), Chinese immigrants under both family and employment preference categories appeared as naturalizing more slowly than those in the reference group (immediate relatives provisions and other categories), of which Chinese spouses of U.S. citizens were naturalizing quickly. For 1985-1989 cohorts, NYC Chinese immigrants under family preferences naturalized more slowly than either employment immigrants or the reference

group, primarily Chinese spouses of U.S. citizens who are at greatest propensity of naturalizing quickly. This finding tentatively suggests that those arriving on family criteria may have had lesser human or social capital to draw on for naturalizing than those with sponsoring parents, spouses, or children already naturalized or than employment-sponsored immigrants. Those with higher levels of human capital, as measured by employment sponsorship, are also likely to have strong needs for family reunification, and their propensities to naturalize quickly is dually attributable to greater ease and greater incentives. The behavior of the 1985-1989 cohorts could also have been influenced by the Tiananmen Square incidents with family preference immigrants simply unable to naturalize as quickly as others. Zhou (1992) noted that Chinese immigrants in the later 1980s were highly educated and seeking greater personal freedoms.

Table 4 about here

This similarity of propensity in naturalizing for employment-sponsored immigrants and the reference group seems to suggest these groups have similar skill levels on English proficiency and U.S. knowledge as well as similar motivations to stay rather than return. We might expect that some recent employment-sponsored immigrants would be resistant to naturalizing to preserve their Chinese citizenship and capability for participation in the global marketplace. Consistently with the employment visa class effect, reporting a white collar occupational background was associated with propensities to naturalize more quickly for Chinese immigrants in the later 1980s and for the 1981-82 cohorts.

The effect of gender is not significant for all cohorts; when significant, Chinese men were less likely to naturalize than women except for those entered in 1981.

Women's U.S. labor market experiences may enhance their human capital and sense of power within the household and community. Chinese women could be responsible for the U.S. citizenship part of the couple's portfolio (Jasso 1999). In addition, women may have more ties to public institutions than men through their children, and they may seek naturalization for bringing aging parents here..

CONCLUSION

This paper focuses on the temporal processes of naturalizing and influences of social capital and human capital. Admission criteria may be an early sorting of immigrants on propensity to naturalize. Immediate relative spouses have high propensity to naturalize quickly, which may result from having a citizen spouse as a form of social capital and from family reunification need. For China, both preference categories were somewhat less likely than the reference category for earlier cohorts, although employment-sponsored immigrants in the more recent cohorts seemed to have naturalized as quickly as spouses of U.S. citizens. White collar workers are likely to naturalize more quickly. Among the benefits of citizenship, sponsorship is heavily utilized by Chinese immigrants, and, since the mid 1990s, this is subject to meeting income thresholds for affidavits of support. Based on this study, those Chinese immigrants in NYC who are likely to naturalize more quickly are women, married, younger than 40 years, in white collar occupations, admitted under employment preferences or married to a U.S. citizen, and with some nonimmigrant experience. Having prior nonimmigrant experience is consistently associated with higher propensity in naturalizing although the effects seem more moderate than for immigrant visa class.

This study adopted an urban focus on New York City and we are looking at these results according to other analyses at the national level of naturalization outcomes for Chinese immigrants. Recent naturalizations are leading to sponsored immigration that helps sustain population levels for New York City. Chinese immigrants are choosing to settle in New York City and Los Angeles more than in other metropolitan areas with naturalization and family reunification as internal mechanisms of population increase.

One limitation on the present study is that the post-1996 naturalizations are not included and many immigrants naturalized in 1997-2004 in New York City. If the dataset were updated for these recent naturalizations, it might be possible to discern period influences on naturalizing. In 1996, the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) and the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) or the 1996 Welfare Reform Act restricted immigrants' sponsorship of family members by applying higher income thresholds and by making the long required affidavit of support legally binding and enforceable for ten years or until the immigrant naturalized, established penalties for unauthorized immigrants, and included language to bar noncitizen immigrants from several federal and state benefits. In the post-welfare reform era, naturalization may reflect self-protective behavior in securing access to public benefits and better health access.

Qualitative studies and anecdotal accounts (Singer and Gilbertson 2000) suggest varying reasons for naturalizing that are associated with legislation and current events post-September 11, 2001. In one account (Llorente 2002), a Dominican native stated "I wasn't interested in becoming a citizen before . . . I like to visit my country often, and now, with all the security and tougher immigration rules, I'm afraid I may not be let back

in if I am not a U.S. citizen." Ample opportunity remains for social scientists to draw on qualitative and quantitative orientations to study naturalization and political incorporation of immigrants within New York City and other metropolitan areas.

An advantage of a longitudinal survey of immigrants, e.g., the New Immigrant Survey, over this data archive would be the building of socioeconomic histories and treatment of causal relationships between social class measures and naturalizing for which census data are inadequate in lacking the exact date of naturalization. Nevertheless, these immigration-to-naturalization data offer advantages in covering the entire population of lawfully admitted immigrants in their transition to naturalization over time, rather than a sample observed at one date. The modeling strategies for treating time are demanding in data volume and even the NIS might not yield data for going beyond analyses of simply whether individuals are or are not naturalized by a certain date. Even the pioneering analyses (Jasso and Rosenzweig 1986) of the 1971 immigrant cohort resembled cross-sectional, census analyses in not treating the timing of naturalization. An interesting possibility is jointly modeling naturalizing with NIS and INP data.

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Table 1. Adult Immigrants Selected on New York or New York City as Intended Residence or Residence at Naturalization, Entered 1978-1991

Naturalization and Residence	Percent Naturalized	Residence at Immigration		
		Total	Inside State or City	Outside State or City
New York State				
Total	37%	995,803	958,368	37,435
Residence in NY	35%	876,892	839,457	37,435
Residence outside NY	x	90,641	90,641	x
Naturalized	--	372,120	334,685	37,435
Residence in NY	--	281,479	244,044	37,435
Residence outside NY	x	90,641	90,641	x
Not Naturalized				
Residence in NY	--	595,413	595,413	x
Residence outside NY	--	--	--	--
Unknown	--	28,270	28,270	--
New York City				
Total	40%	364,920	355,480	9,440
Residence in NY	38%	253,703	244,263	9,440
Residence outside NY	x	111,217	111,217	x
Naturalized	--	144,519	135,079	9,440
Residence in NY	--	33,302	23,862	9,440
Residence outside NY	x	111,217	111,217	x
Not Naturalized				
Residence in NY	--	220,401	220,401	x
Residence outside NY	--	--	--	--
Unknown	--	0	0	0

Table 2. Descriptive Statistics of China-Born Immigrants: By Naturalization Status

Characteristic	Percent			Numbers		
	Total	Non-Naturalized	Naturalized	Total	Non-Naturalized	Naturalized
Total		55.85	44.15	36,744	20,521	16,223
Class of Admission						
Family Preferences	67.06	64.53	70.26	24,642	13,243	11,399
Employment Preferences	6.13	3.98	8.84	2,251	817	1,434
Others	26.81	31.48	20.90	9,851	6,461	3,390
Occupation Reported						
Managerial and Professional	8.11	5.88	10.93	2,980	1,207	1,773
Technical, Sales, and Administrative	10.17	7.31	13.80	3,738	1,499	2,239
Others	81.72	86.81	75.27	30,026	17,815	12,211
Married						
No	26.83	27.10	26.50	9,860	5,561	4,299
Yes	73.17	72.90	73.50	26,884	14,960	11,924
Gender						
Female	54.29	53.14	55.74	19,947	10,905	9,042
Male	45.71	46.86	44.26	16,797	9,616	7,181
Age Groups						
21-29	28.47	18.28	41.35	10,461	3,752	6,709
30-39	24.68	22.36	27.63	9,070	4,588	4,482
40-49	16.69	18.65	14.20	6,131	3,828	2,303
50-59	15.76	19.32	11.26	5,792	3,965	1,827
60 and Above	14.40	21.38	5.56	5,290	4,388	902
Prior Nonimmigrant Experience						
No	91.60	94.29	88.19	33,657	19,350	14,307
Yes	8.40	5.71	11.81	3,087	1,171	1,916
Fiscal Year of Admission						
1978	6.41	3.86	9.64	2,357	793	1,564
1979	8.01	5.96	10.61	2,944	1,223	1,721
1980	9.52	7.52	12.04	3,497	1,543	1,954
1981	9.65	8.75	10.78	3,544	1,795	1,749
1982	11.68	11.16	12.33	4,291	2,290	2,001
1983	6.48	6.31	6.70	2,381	1,294	1,087
1984	5.52	5.61	5.41	2,028	1,151	877
1985	6.16	6.25	6.05	2,265	1,283	982
1986	6.33	6.97	5.53	2,327	1,430	897
1987	6.20	6.73	5.52	2,277	1,382	895
1988	5.82	6.76	4.62	2,137	1,387	750
1989	6.41	7.95	4.46	2,355	1,631	724
1990	5.72	7.06	4.03	2,101	1,448	653
1991	6.10	9.12	2.27	2,240	1,871	369

Table 3. Log Likelihood and Akaike Information Criterion (AIC) Statistics for Model Comparison: NY City Immigrants from China

	11 covariates	Without Inverse Gaussian Heterogeneity			With Inverse Gaussian Heterogeneity		
FY Cohort	Model	Log Likelihood	Model Ancillaries	AIC	Log Likelihood	Model Ancillaries	AIC
1978	Exponential	-2689.25	0	5,402.5	-2689.25	1	5,404.5
	Weibull	-2457.88	1	4,941.8	-2337.30	2	4,702.6
	Gompertz	-2605.26	1	5,236.5	-2591.57	2	5,211.1
	Log Normal	-2255.42	1	4,536.8	-2075.65	2	4,179.3
	Log Logistic	-2286.50	1	4,599.0	-1937.72	2	3,903.4
	Generalized Gamma	-2059.23	2	4,146.5	-2013.96	3	4,057.9
1979	Exponential	-3260.90	0	6,545.8	-3260.90	1	6,547.8
	Weibull	-3028.37	1	6,082.7	-2906.01	2	5,840.0
	Gompertz	-3170.12	1	6,366.2	-3154.66	2	6,337.3
	Log Normal	-2841.55	1	5,709.1	-2717.46	2	5,462.9
	Log Logistic	-2886.30	1	5,798.6	-2462.94	2	4,953.9
	Generalized Gamma	-2815.17	2	5,658.3	-2709.59	3	5,449.2
1980	Exponential	-3735.64	0	7,495.3	-3735.64	1	7,497.3
	Weibull	-3420.87	1	6,867.7	-3283.71	2	6,595.4
	Gompertz	-3588.84	1	7,203.7	-3560.64	2	7,149.3
	Log Normal	-3207.06	1	6,440.1	-3088.46	2	6,204.9
	Log Logistic	-3254.65	1	6,535.3	-2986.57	2	6,001.1
	Generalized Gamma	-3157.72	2	6,343.4	-3087.69	3	6,205.4
1981	Exponential	-3452.92	0	6,929.8	-3452.92	1	6,931.8
	Weibull	-3109.01	1	6,244.0	-2994.51	2	6,017.0
	Gompertz	-3285.02	1	6,596.0	-3263.62	2	6,555.2
	Log Normal	-2930.53	1	5,887.1	-2852.68	2	5,733.4
	Log Logistic	-2976.65	1	5,979.3	-2831.59	2	5,691.2
	Generalized Gamma	-2862.48	2	5,753.0	0.00	3	30.0
1982	Exponential	-3965.03	0	7,954.1	-3965.03	1	7,956.1
	Weibull	-3569.85	1	7,165.7	-3440.73	2	6,909.5
	Gompertz	-3818.87	1	7,663.7	-3809.07	2	7,646.1
	Log Normal	-3382.37	1	6,790.7	-3319.16	2	6,666.3
	Log Logistic	-3416.19	1	6,858.4	-3072.96	2	6,173.9
	Generalized Gamma	-3374.69	2	6,777.4	-3307.18	3	6,644.4
1983	Exponential	-2209.44	0	4,442.9	-2209.44	1	4,444.9
	Weibull	-1977.82	1	3,981.6	-1903.27	2	3,834.5
	Gompertz	-2119.88	1	4,265.8	-2113.67	2	4,255.3
	Log Normal	-1861.17	1	3,748.3	-1723.76	2	3,475.5
	Log Logistic	-1896.17	1	3,818.3	-1473.32	2	2,974.6
	Generalized Gamma	-1653.71	2	3,335.4	-1547.30	3	3,124.6

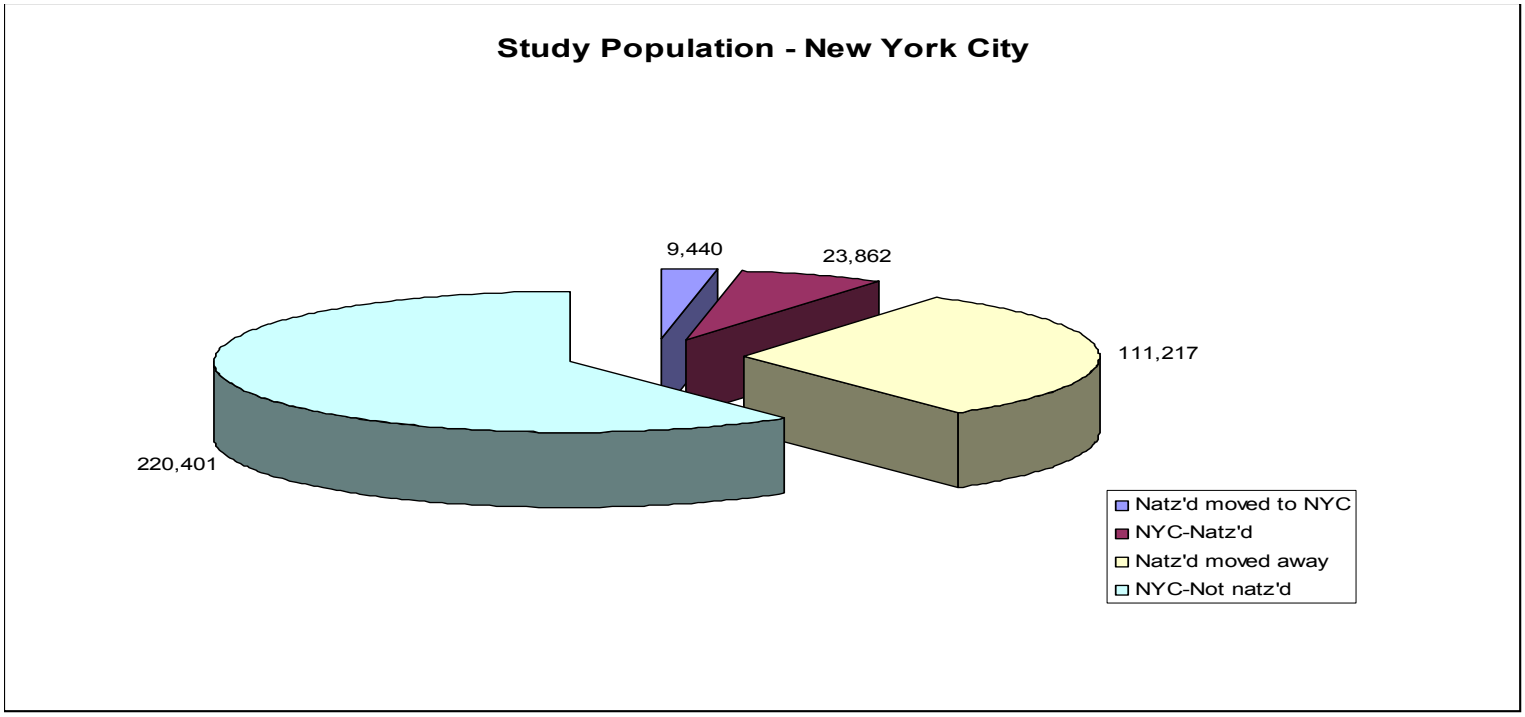
1984	Exponential	-1768.66	0	3,561.3	-1768.66	1	3,563.3
	Weibull	-1538.44	1	3,102.9	-1490.26	2	3,008.5
	Gompertz	-1656.54	1	3,339.1	-1651.29	2	3,330.6
	Log Normal	-1468.46	1	2,962.9	-1445.93	2	2,919.9
	Log Logistic	-1486.52	1	2,999.0	-1266.19	2	2,560.4
	Generalized Gamma	-1459.54	2	2,947.1	0.00	3	30.0
1985	Exponential	-1921.50	0	3,867.0	-1921.50	1	3,869.0
	Weibull	-1556.82	1	3,139.6	-1510.09	2	3,048.2
	Gompertz	-1693.93	1	3,413.9	-1684.76	2	3,397.5
	Log Normal	-1490.90	1	3,007.8	-1482.65	2	2,993.3
	Log Logistic	-1509.06	1	3,044.1	-1486.17	2	3,000.3
	Generalized Gamma	-1495.38	2	3,018.8	0.00	3	30.0
1986	Exponential	-1813.16	0	3,650.3	-1813.16	1	3,652.3
	Weibull	-1414.22	1	2,854.4	-1371.12	2	2,770.2
	Gompertz	-1526.70	1	3,079.4	-1510.66	2	3,049.3
	Log Normal	-1354.14	1	2,734.3	-1350.01	2	2,728.0
	Log Logistic	-1372.27	1	2,770.5	-1358.44	2	2,744.9
	Generalized Gamma	-1349.22	2	2,726.4	-1349.29	3	2,728.6
1987	Exponential	-1791.33	0	3,606.7	-1791.33	1	3,608.7
	Weibull	-1322.53	1	2,671.1	-1270.42	2	2,568.8
	Gompertz	-1432.21	1	2,890.4	-1400.36	2	2,828.7
	Log Normal	-1244.60	1	2,515.2	-1223.26	2	2,474.5
	Log Logistic	-1268.61	1	2,563.2	-1232.33	2	2,492.7
	Generalized Gamma	-1223.08	2	2,474.2	-1223.08	3	2,476.2
1988	Exponential	-1562.97	0	3,149.9	-1562.97	1	3,151.9
	Weibull	-1087.33	1	2,200.7	-1043.92	2	2,115.8
	Gompertz	-1153.96	1	2,333.9	-1115.10	2	2,258.2
	Log Normal	-1027.62	1	2,081.2	-1018.88	2	2,065.8
	Log Logistic	-1038.99	1	2,104.0	-1011.14	2	2,050.3
	Generalized Gamma	-1025.95	2	2,079.9	-1015.70	3	2,061.4
1989	Exponential	-1524.53	0	3,073.1	-1524.53	1	3,075.1
	Weibull	-907.74	1	1,841.5	-869.91	2	1,767.8
	Gompertz	-955.75	1	1,937.5	-916.08	2	1,860.2
	Log Normal	-854.79	1	1,735.6	-849.32	2	1,726.6
	Log Logistic	-872.41	1	1,770.8	-854.37	2	1,736.7
	Generalized Gamma	-849.77	2	1,727.5	0.00	3	30.0
1990	Exponential	-1321.77	0	2,667.5	-1321.77	1	2,669.5
	Weibull	-475.64	1	977.3	-452.85	2	933.7
	Gompertz	-472.84	1	971.7	-440.69	2	909.4
	Log Normal	-445.17	1	916.3	-443.41	2	914.8
	Log Logistic	-448.78	1	923.6	-439.10	2	906.2
	Generalized Gamma	-445.16	2	918.3	-442.39	3	914.8
1991	Exponential	-924.36	0	1,872.7	-924.36	1	1,874.7
	Weibull	-336.05	1	698.1	-320.65	2	669.3
	Gompertz	-319.66	1	665.3	-299.72	2	627.4
	Log Normal	-313.30	1	652.6	-308.22	2	644.4
	Log Logistic	-317.41	1	660.8	-299.19	2	626.4
	Generalized Gamma	-312.42	2	652.8	0.00	3	30.0

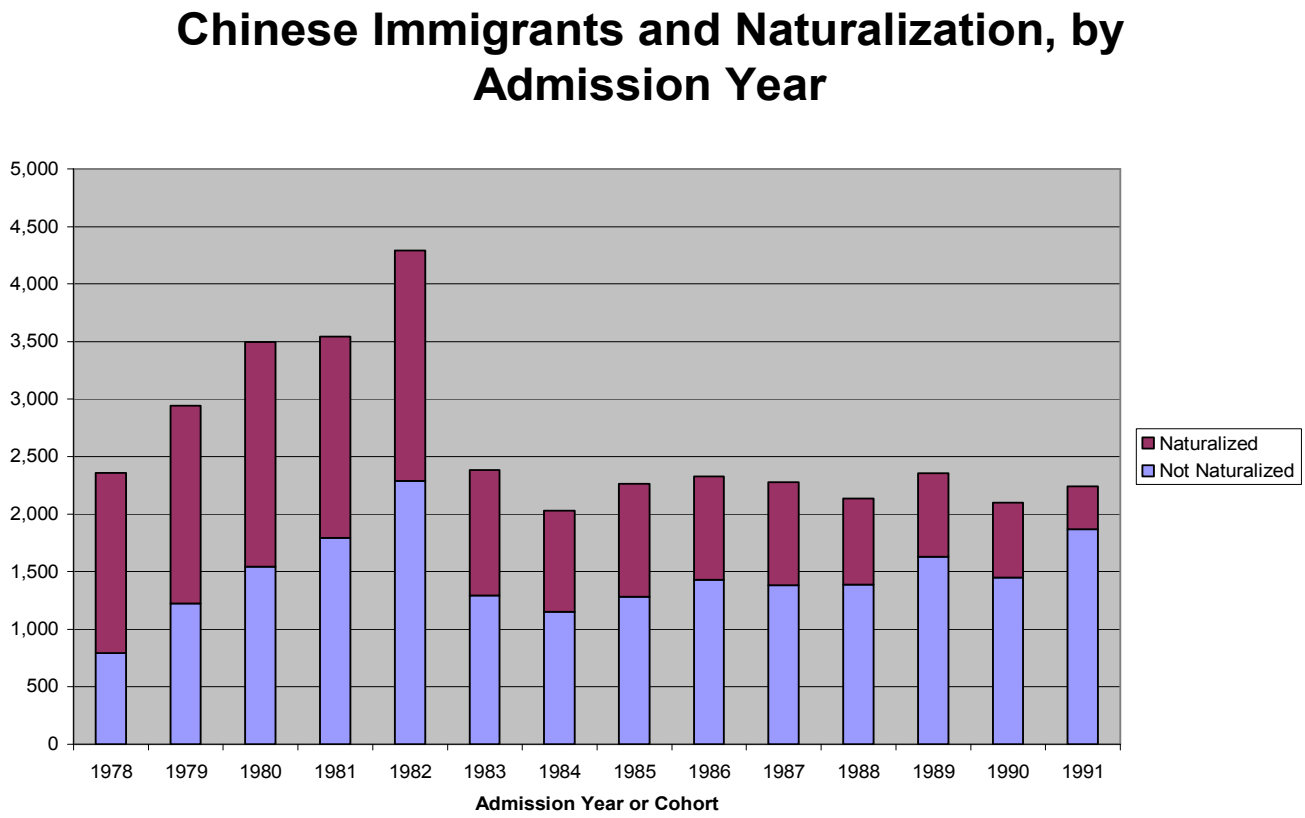
Table 4. Models of Naturalization for Immigrants Born in China

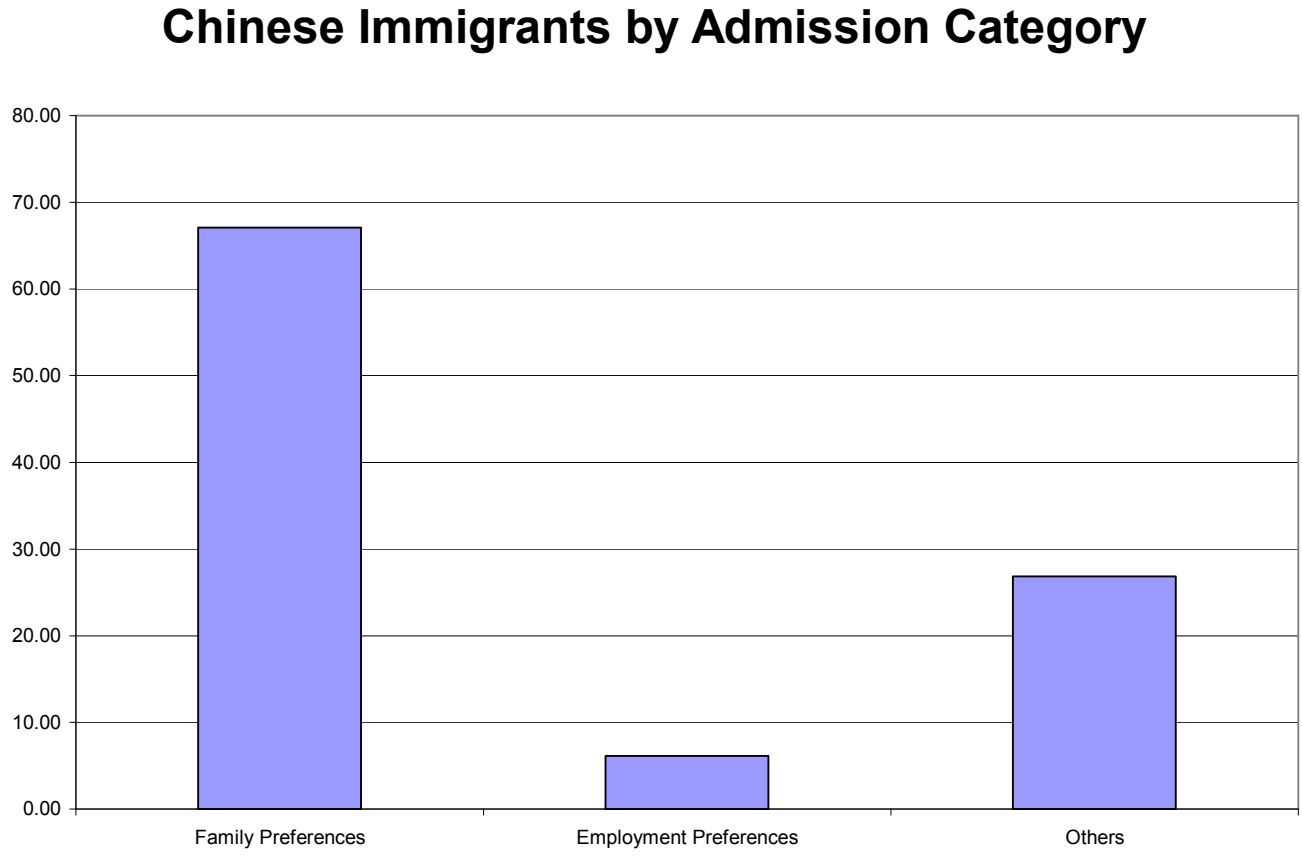
FY Immigrant Cohort	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Selected Model	Log Logistic	Log Logistic	Log Logistic	Log Logistic	Log Logistic	Log Logistic	Log Logistic	Log Normal	Gamma	Gamma	Log Logistic	Log Normal	Log Logistic	Log Logistic
Class of Admission														
Family-Based Preferences	0.252 ***	0.115 ***	0.187 ***	0.033	0.314 ***	0.418 ***	0.474 ***	0.128 ***	0.165 ***	0.133 ***	0.198 ***	0.128 ***	0.182 ***	0.250 ***
Employment-Based Preferences	0.225 ***	0.121 ***	0.201 ***	-0.041	0.324 ***	0.409 ***	0.495 ***	-0.144 *	-0.070	0.062	0.014	0.061	0.151 ***	0.273 ***
Reported Occupation														
Managerial and Professional	0.031 ***	-0.025	-0.002	-0.122 ***	-0.045 **	-0.016	-0.025	-0.330 ***	-0.336 ***	-0.322 ***	-0.239 ***	-0.214 ***	-0.114 ***	-0.103 ***
Technical, Sales, and Administrative Suppc	0.017	-0.033	-0.044 *	-0.190 ***	-0.041 **	-0.016	-0.040 **	-0.226 ***	-0.386 ***	-0.200 ***	-0.198 ***	-0.187 ***	-0.085 ***	-0.050 **
Age Cohorts														
21-29	-0.305 ***	-0.167 ***	-0.310 ***	-0.976 ***	-0.347 ***	-0.075 ***	-0.107 ***	-0.688 ***	-0.754 ***	-0.528 ***	-0.548 ***	-0.485 ***	-0.386 ***	-0.393 ***
30-39	-0.273 ***	-0.130 ***	-0.260 ***	-0.835 ***	-0.285 ***	-0.042	-0.077 *	-0.452 ***	-0.415 ***	-0.361 ***	-0.337 ***	-0.353 ***	-0.252 ***	-0.309 ***
40-49	-0.233 ***	-0.110 ***	-0.202 ***	-0.495 ***	-0.234 ***	-0.007	-0.045	-0.092	-0.082	-0.147 ***	-0.090 *	-0.154 ***	-0.173 ***	-0.260 ***
50-59	-0.162 ***	-0.098 ***	-0.159 ***	-0.369 ***	-0.185 ***	-0.031	-0.051	-0.034	-0.093	-0.031	-0.029	-0.026	-0.092 ***	-0.123 ***
Prior Immigration Experience	-0.071 **	-0.191 ***	-0.098 ***	-0.201 ***	-0.065 ***	-0.036 **	-0.069 ***	-0.273 ***	-0.345 ***	-0.300 ***	-0.213 ***	-0.226 ***	-0.177 ***	-0.108 ***
Married	-0.109 ***	-0.103 ***	-0.102 ***	-0.207 ***	-0.064 ***	-0.048 ***	-0.020	-0.201 ***	-0.233 ***	-0.196 ***	-0.138 ***	-0.171 ***	-0.107 ***	-0.053 ***
Gender	-0.016	0.010	0.003 ***	-0.074 ***	-0.009	0.001	0.005	0.075 **	0.064 *	0.025	0.056 **	0.058 ***	0.002	0.031 **
Constant	4.375 ***	4.327 ***	4.404 ***	5.488 ***	4.297 ***	3.873 ***	3.859 ***	5.250 ***	5.345 ***	5.003 ***	4.817 ***	4.905 ***	4.613 ***	4.401 ***
Model Summary														
Ln p														
p														
1/p														
Ln Gamma	-2.828 ***	-2.936 ***	-2.700 ***	-1.674 ***	-2.976 ***	-3.901 ***	-3.539 ***	-0.882 ***			-1.903 ***	-1.326 ***	-2.415 ***	-2.804 ***
Gamma	0.059	0.053	0.067	0.188	0.051	0.020	0.029	0.414			0.149	0.266	0.089	0.061
Ln Theta	3.486 ***	3.995 ***	3.819 ***	1.984 ***	4.431 ***	5.509 ***	5.177 ***	0.457	-2.951	-3.881	1.252 ***	0.014	0.249	1.373 ***
Theta	32.657	54.322	45.540	7.272	84.040	246.990	177.106	1.579	0.525	0.472	3.496	1.014	1.282	3.945
Ln Sigma									-0.644 ***	-0.750 ***				
Sigma									0.525	0.472				
Kappa									-0.392	-1.214 *				
LLR Chi-square for the Model	262.28 ***	155.02 ***	307.35 ***	313.7 ***	499.26 ***	472.18 ***	472.56 ***	390.3 ***	546.6 ***	428.2 ***	480.9 ***	611.9 ***	622.57 ***	473.6 ***
Degree of Freedom	11	11	11	11	11	11	11	11	11	11	11	11	11	11
LLR Chi-square for Heterogeneity	697.56 ***	846.71 ***	536.16 ***	290.1 ***	686.45 ***	845.7 ***	440.68 ***	16.5 ***	0.0	0.0	55.7 ***	10.9	19.4	36.4 ***
Number of Observations	2,357	2,944	3,497	3,544	4,291	2,381	2,028	2,265	2,327	2,277	2,137	2,355	2,101	2,240

[3] One Degree of Freedom

*** Significant at p <.001
** Significant at p < .01
* Significant at p < .05


Study Population - New York City
9,440
23,862
111,217
220,401
Natz'd moved to NYC
NYC-Natz'd
Natz'd moved away
NYC-Not natz'd


Chinese Immigrants and Naturalization, by Admission Year
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
Admission Year or Cohort
Naturalized
Not Naturalized


Chinese Immigrants by Admission Category
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
Family Preferences
Employment Preferences
Others