Changes in the Assimilation of Asian Americans from 1860–1940

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Abstract

Asian immigrants were an important source of unskilled labor in early American history, but little is known about their assimilation despite a vast literature on the assimilation of their European counterparts. I create four linked cohorts from 1860–1940 to conduct the first quantitative study of early Asian immigration to the United States. I find that Asian immigrants displayed a "catch-up" assimilation phenomenon: although their average starting rank was 17 percentiles lower than European immigrants, their mean upgrading increased sharply over time and resulted in reduction of one-third of their ranking gap relative to the native population over the course of the period. These findings complete the timeline of Asian migration to the United States and provide insight into the assimilation process of a prominent immigrant community in the modern day.

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1 Introduction

Asian migration has spanned the entire course of American history. It motivated the first major piece of federal immigration restriction with the Chinese Exclusion Act of 1882 (Wellborn 1912, p. 50; Chen 1992, p. 4). Today, Asians are one of the largest racial groups of new immigrants to the United States (Ward and Batalova 2023). The question of how this group assimilated into the United States has persisted the entire time. Modern Asian immigrants are viewed favorably because their high levels of income and education have led to their characterization as the "model minority" (Hsu 2015). Yet it was not so long ago that the prospect of Asian assimilation was viewed as incompatible with American society. In the majority opinion for *Chae Chan Ping v. United States* (1889) Justice Stephen J. Field determined that the Exclusion was not only Constitutional but also went so far as to write that the United States government had the right to exclude "foreigners of a different race in this country" who "will not assimilate with us" (Supreme Court of the United States 1889).

However, little is known empirically about the assimilation of the first Asian immigrants to the United States. This is especially true when compared to European immigration, for which there are established linking methods (e.g., the Census Linking Project) and an extensive literature on their assimilation patterns. In contrast, Asian immigrants do not have a comparable literature due to problems linking Asian names across English-language historical records (Hilger 2016). I am the first to use newly available linking methods to conduct a comprehensive study of Asian immigration to the United States spanning the 1860–1940 period. I examine how the assimilation of Asian immigrants changes across time and events in the historical record as measured through occupational status and geographical distribution. I also compare Asian assimilation to the assimilation of European immigrants and the occupational upgrading of natives to understand the role of Asian immigrants in American society before the modern period.

This paper is the first empirical investigation that builds on the qualitative work previously characterizing the discourse on early Asian immigration. The perception of immigrant assimilation in the United States is shaped by the European Age of Mass Migration, wherein 30 million Europeans came to the United States between 1850 and 1913 (Collins and Zimran 2023). During this period, European immigrants started in low-status occupations but showed occupational mobility at a rate on par with the native population (Abramitzky et al. 2014). The qualitative work on Asian immigration suggests that early Asian immigrants may have fulfilled a similar role in the labor force: contrary to the white-collar reputation of Asian immigrants in the present day (Chetty et al. 2020), the first Asian group who came to the United States in significant numbers was low-status Chinese laborers seeking to capitalize on the 1849 California Gold Rush (Daniels 1988), which incited a series of regional and then national controversies on racial identity that culminated

in the Chinese Exclusion Act of 1882.[1] Afterward, there was a remarkable change in the types of Asian immigrants who came to the United States. Immigrants from Japan and the Philippines worked in a wider array of occupations and spread to communities beyond a select few neighborhoods within cities in the western United States (Daniels 1988, pp. 69–70; 156–157).

I examine the assimilation of Asian immigrants by constructing four linked cohorts to measure economic mobility and enclave activity over time. I use the ABE race-NYSIIS-standard algorithm and then apply the Postel (2023) technique for linking Chinese names to all complete-count censuses spanning the 1860–1940 period. These linked cohorts, which I match at a rate sufficient for most standard analyses, address changes in cohort quality (Abramitzky et al. 2021) and selective return migration (Lubotsky 2007; Abramitzky et al. 2014) to allow for comparisons between cohorts over time. Specifically, I compare cohorts of Asian and European immigrants to examine changes in the assimilation of adult males across the four 20-year panels of 1860–1880, 1880–1900, 1900–1920, and 1920–1940. Two dimensions of assimilation are examined. To measure economic mobility, I use the Collins and Zimran (2023) ranking score, which is derived from an average of wealth and occupational data in the census. To measure co-ethnic interaction, I proxy with physical proximity to co-ethnics by calculating the per-county proportion of co-ethnics as defined by a common national origin. The resultant findings are robust across country of origin as well as changes in the occupational distribution over time, accommodating the demographic and economic changes associated with early Asian migration.

I first find a "catch-up" assimilation phenomenon for Asian immigrants: Asian immigrants started with a persistently low ranking score but showed higher levels of occupational mobility as time progressed. The mean Asian immigrant across all years had a starting absolute rank in the 25th percentile, which in 1860 was approximately equivalent to a mine operator. However, cohort upgrading levels changed dramatically from a 1 percentile decrease in the 1860–1880 period to a 7 percentile increase in the 1920–1940 period, which represents a reduction of one-third of their absolute ranking gap with the native population over the course of the investigative period. This shows the sharp increase in mobility available to the average Asian immigrant over the course of the late-19th to early-20th centuries.

My results also show that Asians assimilated differently from their European counterparts. In terms of the ranking score, the mean European immigrant across all years started in the 42nd percentile, translating to lumber inspectors, deliverymen and other semi-skilled professions that were more highly ranked than those employed by Asian immigrants. Upgrading levels for European cohorts were smaller in magnitude but reveal a strong temporal pattern that contrasts with Asian cohorts: in the 1860–1880 and 1880–1900 cohorts, European cohorts upgraded relatively more, while in the 1900–1920 and 1920–1940 cohorts, the reverse is

[1] European immigration remained unrestricted until the Immigration Act of 1924.

true.

The co-ethnic results suggest a similarly strong distinction between immigrant groups. For Asian immigrants, the relationship between co-ethnic residence and rank was null for all cohorts but the 1880–1900 cohort directly after the Exclusion: Asian immigrants had a 2 percentile decrease in rank relative to white natives per standard deviation from the mean co-ethnic share within a county. The patterns observed for European immigrants contrast sharply. European immigrants had a 1 percentile decrease in rank for the 1860–1880 cohort that gradually rose to a 0.5 percentile increase in rank for the 1920–1940 period. Although the results are not causal, they highlight how Asian immigrants also showed marked differences from European immigrants in this dimension of assimilation.

My work has several key implications. First and most importantly, it expands the body of quantitative work on Asian immigration during the period. Difficulties with linking Asian names (Hilger 2016) means that many empirical works focus on the effect of early Asian immigration on white competitors (Long et al. 2024; Hoi 2025), and work that does directly address Asian immigrants must compensate for deficiencies in standard linking techniques. My work relates most closely to Chen and Xie (2024), which uses these standard cohorts to determine that Chinese immigrants who faced more discrimination as a result of the Chinese Exclusion Act of 1882 increased their cultural assimilation by increasing their English proficiency and adopting English names. Though my results do not attribute patterns in assimilation to any event, I find the opposite pattern for post-Exclusion Asian cohorts, with Asian immigrants in the 1880–1900 cohort upgrading their occupational and wealth standing 5 percentiles less than white natives but 8 percentiles more than white natives during the 1900–1920 period. More importantly, I expand the findings in Chen and Xie (2024) by increasing lengthening the period of investigation and precisely determining patterns of Asian assimilation within the critical period surrounding Exclusion using my new linked cohorts, which are of a significantly greater size than previously available in the literature. This allows me to conduct the first comprehensive empirical investigation of Asian assimilation in the pre-modern period.

I also demonstrate that Asian assimilation is not an offshoot of the well-documented patterns of European assimilation but rather a distinct phenomenon in its own right. Comparisons to European immigrants reveal that Asian immigrants worked in different occupations, had different types of co-ethnic interactions, and assimilated in patterns distinct from European immigrants during the Age of Mass Migration. This is especially important given that it is the assimilation of European immigrants during the Age of Mass Migration that shapes perceptions of historical assimilation patterns. For the most part, my findings for European immigrants are consistent with the literature (Collins and Zimran 2023). However, they do diverge in one significant way: while Abramitzky et al. (2014) find that European immigrants eventually converged to native occupational levels, I find a persistent gap between European immigrant and white native outcomes

throughout the 1860–1940 period, with partial convergence occurring for Asian cohorts only. Clearly, the study of immigrant assimilation during this period is far from complete, and the study of Asian assimilation can both clarify pre-existing findings about immigrant behavior and provide new insight into the assimilation of a new population.

Finally, my work contributes to the discussion on the relationship between assimilation and co-ethnic interaction as well as the related conversation on assimilation and discrimination. Asian immigrants during this period clustered in highly identifiable ethnic enclaves and were one of the earliest foreign nationals subject to federal immigration legislation. As such, the former is of particular interest in the study of immigrant populations in this time period (Abramitzky et al. 2020a; Eriksson 2020), while the latter is a major theme in empirical work conducted on Asians during this period (Saavedra 2021; Chen and Xie 2024). Though my work is not causal, these findings provide important context on the behavior of Asian immigrants during this period of intense discrimination. My work also motivates interest in how social perception and institutional changes affect assimilation outcomes, which is especially relevant as more knowledge is developed on the behaviors of early Asian immigrants.

Since the 19th century, Asians have shaped the conversation about American immigration. I quantitatively describe the evolution of Asian migration and assimilation in concert with these broad thematic changes. My linked cohorts allow me to identify how Asian immigrants in the United States changed and were changed from their time spent in the United States. As the United States contends with a demographic shift—the Asian American population is predicted to nearly quadruple in size by 2060 (Budiman and Ruiz 2021)—these insights provide a more complete understanding of the future of migration and assimilation, of which Asians and Asian Americans have proven to be remarkably influential.

2 Background

2.1 Historic Patterns of Asian Assimilation

In 1852, Long Achick of San Francisco published an open letter to John Bigler, the Governor of California. Over the course of that decade, the number of Chinese immigrants would increase from a couple hundred to thirty-five thousand, but Long Achick was concerned about one man in particular: his friend, Hab Wa, who came to the United States to work in California's mines (Wa and Achick 1852). The Chinese men who had the dubious honor of being the first major group of Asian immigrants to the United States were menial laborers in the mining and railroad industries of the American West (Chen 1992, p. 3), and the white population was beginning to grow nervous. The new immigrants had "slantindicular eye[s]" and a

complexion of "yellow mud." They were preoccupied with opium (The Atlanta Daily Constitution 1875) yet simultaneously conspired to take away opportunities from white Americans. Governor Bigler warned that Chinese migrants were hoarding "the rich products of our soil," and that soon, they would grow numerous enough to "[fill] our cities" (Bigler 1855).

Another point of contention was the physical separation of these immigrants from mainstream American life. In the absence of a conventional family structure—these immigrants were almost always men and usually temporary migrant workers (Walker 1977)—Chinese ethnic enclaves provided community support for their members (Fei and Liu 1982, p. 375; Chen 1992, pp. 3–4). More egregiously, wages for Chinese workers were also much lower than for white workers in the same industry (The Cincinnati Daily Enquirer 1870; San Francisco Chronicle 1881), leading to the perfect environment for racial resentment. In an 1878 convention held to discuss Chinese exclusion, committee members pivoted quickly from suggesting that Californian employers abstain from using Chinese labor to engage in loaded speculation about the "evil reaches" of a "servile race" (San Francisco Chronicle 1878).

This hostile environment toward Chinese immigration led to the Chinese Exclusion Act of 1882, which was the first major piece of federal immigration legislation in the United States. On paper, it "suspended" the immigration of "Chinese laborers" to the United States for ten years (The 47th United States Congress 1882). In reality, repeated renewals meant that nearly all individuals of Chinese descent were prevented from entering the United States in the ensuing decades (Long et al. 2024). Census data in 1920 shows that the Chinese-born population was at forty-five thousand individuals, down from its peak of a hundred thousand in 1880. Numbers did not increase much until after the Exclusion was repealed in 1943.

However, the Asian American population was already changing. Other immigrants, mostly from Japan and the Philippines, started coming to the United States in large numbers. Between 1910 and 1940, there were more Japanese than Chinese individuals in the United States; Filipinos numbered some forty-four thousand by 1940. Some of these new immigrants took the low-wage, low-status jobs previously available to their Chinese counterparts (Sato 1973, p. 319), while others found work in industries uncommon to Chinese immigrants—for example, many Japanese settled in rural areas and became successful farmers (Lee 2002, p. 44; Daniels 1988, p.156–157). At the same time, they still faced many of the same legal obstacles as their Chinese predecessors. Japanese immigration was severely restricted under the 1907 Gentleman's Agreement (Inui 1925), and the 1924 Immigration Act excluded Asians as a class from legal migration to the United States (Ngai 1999, p.70–71).

Given this pivotal role of legal exclusion in the Asian migration experience, the quantitative work on Asian assimilation in this period centers around the earliest such instance of legislation: the Chinese Exclusion Act. As noted previously, Chen and Xie (2024) relates closely to this investigation, finding that Chinese immigrants

responded to the Exclusion by increasing their cultural assimilation with the adoption of English names and increasing their English proficiency. The Exclusion also affected the conditions of the local economy. Long et al. (2024) finds that the Chinese Exclusion Act reduced both Chinese migration and growth in the local communities that relied on Chinese labor. Hoi (2025) finds similar effects, with non-Chinese workers exposed to the Exclusion having lower occupational standings than those without exposure.

More broadly, the Exclusion exemplifies attitudes toward Asian immigration at the time. Asian immigrants faced frequent barriers to assimilation, including segregated schools (Twenty-Sixth Session of the Legislature of California 1885) and prohibitions on land ownership (Fortieth Session of the Legislature of California 1913). Abramitzky et al. (2020b) determine that the adoption of English-language names is associated with favorable economic outcomes for European immigrants during this period; similarly, Saavedra (2021) finds increased assimilation among Japanese Americans through the adoption of English names in the period after Pearl Harbor. Alternatively, reductions in discrimination can increase the attractiveness of integration into mainstream community life. In particular, reductions in labor market discrimination during the Civil Rights Movement have been cited as the cause for the economic convergence of Asians and Asian Americans in the 1960s (Duleep and Sanders 2012; Nee and Holbrow 2013; Hilger 2016).

Specifics on the assimilation of Asians outside of the discrimination literature is limited, so it is worth discussing the assimilative implications of the qualitative literature as well. Early accounts of Chinese immigrants characterize them as supremely uninterested in assimilation due to their limited time in the United States: as one newspaper proclaimed, they would choose select industries dominated by other Chinese, and after amassing a sufficient quantity of money, they would leave (Chicago Tribune 1876).

The diverse characteristics of post-Exclusion Japanese and Filipino immigrants means that there is no simple characterization of the extent of their assimilation, but there are recurring themes. One example is controversy over the inclusion of Asian students in the public education system. The 1885 prohibition for students "of Chinese or Mongolian descent" to attend non-segregated Californian public schools was originally designed to exclude the Chinese-origin Tape family (Twenty-Sixth Session of the Legislature of California 1885; Thomas 2021), but the controversy was of special interest to the Japanese government. In the 1907 Gentleman's Agreement, Japan restricted the emigration of both "laborers" to the continental United States in exchange for the elimination of "statutory discrimination" against Japanese immigrants such as school segregation (Inui 1925, p. 190–191). Unsurprisingly, this change in the ability of Asian students to access mainstream schooling options may result in higher amounts of occupational assimilation in later periods.

Finally, the empirical work on ethnic enclaves also provides context for early assimilation patterns. Chinese immigrants mostly settled in urban ethnic enclaves until the 1960s (Li 2005, p. 31), and while the Japanese immigrants of the period were more dispersed, many still clustered in enclaves (Inouye 2018,

p. 6). Scholars conventionally interpret ethnic enclaves as occupied by new immigrants who leave after assimilation to the mainstream economy (Li 2005, p. 38; Chaney 2010, p. 19). For European immigrants during the Age of Mass Migration, ethnic enclaves were negatively associated with economic convergence (Abramitzky et al. 2020a; Eriksson 2020). However, the conventional model of assimilation may be specific to European immigrants during the Age of Mass Migration (Li 2005, p. 38; Chaney 2010, p. 19). Indeed, more recent literature on Asians suggests that suburban enclave residence may be positively correlated with economic status (Logan et al. 2002) and that Asians may be less likely to leave ethnic enclaves after economic convergence (Li 2005, p. 38; Chaney 2010, p. 19–20).

2.2 Current Patterns of Asian Assimilation

The empirical work on Asian immigration is the richest after the Immigration Act of 1965. One reason is that there are more immigrants to study: the percentage of Asian immigrants relative to the total immigrant population increased from 6.7% in 1965 to 12.3% in 1966, remaining in the double digits for years afterward (Keely 1971, p. 162). The Act also increased the number of white-collar immigrants from Asia (Keely 1971, p. 165); subsequently, the study of Asian migration today centers on characteristics—educational (Hirschman and Wong 1986), cultural (Chetty et al. 2020), or otherwise (Sakamoto et al. 2022)—that explain the high assimilation of the archetypal Asian immigrant.

It is generally true that contemporary Asian immigrants show high levels of upward mobility relative to the native population (Abramitzky et al. 2021) and that second-generation Asian Americans have higher average individual incomes relative to the native population (Chetty et al. 2020). However, these same sources note that the phenomenon is found in many modern immigrant groups of Hispanic, African, or European origins whose second-generation cohort often displays similar economic characteristics relative to the native population as well. What makes Asians stand out from other immigrants in the modern period is their high mobility under certain circumstances and the high economic status of Asians in general. There is exceptional upward mobility for children of low-status Asian immigrants (Abramitzky et al. 2021) and for children in certain locations such as California (Hilger 2016). Second-generation Asian Americans are still upwardly mobile unlike the more static second generations of other immigrant groups (Chetty et al. 2020). Finally, the long-term closure of the income gap between Asian Americans and white Americans is not true for other ethnic minorities such as Native Americans and African Americans (Abramitzky et al. 2021).

However, Asian subgroups still have distinct characteristics that result in differences between their assimilation patterns. Chiswick (1983) attributes the high assimilation of Chinese and Japanese Americans to their high levels of education, in contrast to Filipino Americans, who have lower amounts of education. In

contrast, Zeng and Xie (2004) suggest that the place of education, not race or nativity, contributes to outcome disparities. The modern literature on co-ethnic residence and discrimination is related to discussions of heterogeneity as well. The effect of ethnic enclaves can depend on the national group; Xie and Gough (2011) find that Chinese immigrants to the United States have positive gains to co-ethnic interaction through residency in ethnic enclaves and that other Asian immigrant groups[2] have neither gains nor losses.

Much has been discussed about the literature that may provide insight on the unknown outcomes of Asian immigrants. In early Asian migration history, assimilation may relate to co-ethnic interaction and discrimination; later on, empirical work establishes the high assimilation of second-generation Asian Americans and post-1965 Asian immigrants. The empirical work shows that European immigrants also displayed high assimilation across source countries that were sensitive to discrimination, co-ethnic interaction, and a changing labor market. To truly understand the assimilation of Asian immigrants, it is imperative to examine Asian immigration with the same level of detail. This paper's linked cohorts allow Asian immigrants to be studied like and compared to European immigrants for the first time, bridging the gap between the historical and modern patterns of Asian assimilation.

3 Data/Methods

I construct four linked cohorts spanning the periods of 1860–1880, 1880–1900, 1900–1920, and 1920–1940 that consist of the population of Asian male immigrants, white male immigrants, and white native males who are enumerated in the corresponding full-count census and are aged 20–35 in the earlier year and aged 38–57 in the later year. I use the 1860, 1880, 1900, 1920, and 1940 full-count censuses with names in addition to the 1870 full-count census to create the following products.

3.1 Linkage Data

I link my Asian cohorts using standard linkage packages augmented with the Postel (2023) technique. Matches are generated with the ABE race-NYSIIS-standard algorithm[3] from the Census Linking Project crosswalk[4], which are derived from the ABE matching algorithm first developed by Ferrie (1996) and adapted by Abramitzky, Boustan and Eriksson (2012, 2014, 2017).

I augment these matched links with links generated using the Postel (2023) technique. This name-

[2] That is, Filipino, Indian, Vietnamese, and Korean immigrants.

[3] A successful link with the ABE race-NYSIIS-standard algorithm is defined as a match on an NYSIIS standardized name, birth state, and race with ages consistent within 2 years.

[4] That is, exact-standard, NYSIIS-standard, exact-conservative, NYSIIS-conservative, race-NYSIIS-standard, and race-NYSIIS-conservative. Each method has a degree to which first name, last name, and age (along with other demographic characteristics such as race and birth state, if included) must agree across censuses to be defined as a successful match.

cleansing technique increases the number of Chinese individuals linked in historical datasets by correcting and re-ordering name fragments that I then match using the ABE exact-standard algorithm. Under certain circumstances, the technique leads to a match rate comparable to match rates for cohorts of European immigrants. For example, when the ABE exact-standard matching algorithm[5] is applied to a cleansed cohort of Chinese individuals in the 1880–1900 period, the linkage rate for the 1880–1900 cohort increases to 9.6% (Postel 2023).[6]. To cleanse names from cohort years not included in the original algorithm (1860, 1920, and 1940), I first check the digitized names against the original census enumeration pages to correct missing characters and then use Chinese naming conventions to create the name fragments used for matching in addition to correcting common English-language misspellings. Finally, I append the new matches generated from this technique to the set of successful matches for each cohort.

As shown by Table 1, every method in the Census Linking Project creates an insufficient number of links to generate statistical significance for the 1880–1900 cohort given the age and geographic restrictions placed upon all cohorts: raw matches are typically in the low hundreds, and the linkage rates for the Asian immigrant population range from 0.8% to 2.9%. However, when each method is appended with the Postel (2023) technique, the number of Asian links increases dramatically, with the linkage rate ranging from 5.6% to 8.2% and corresponding to some three to five thousand raw matches per algorithm. Though these rates are still much smaller than the match rates for both European immigrants and white natives, the new matches are of a sufficient quantity for most standard analyses. I use the ABE race-NYSIIS-standard algorithm appended with links generated from the Postel (2023) technique because it generates the most number of Asian links in the 1880–1900 period, allowing for cohorts of sufficient statistical significance to be formed.

Finally, some additional observations on Chinese-language names should be considered. The Postel (2023) technique is designed to correct for the transliteration of Asian names in historical linkage: Chinese names in the census are frequently misspelled and have name-ordering issues derived from the structure of Chinese-language names, where the surname precedes the given name. Chinese names also have some other characteristics that make linking difficult. First, Chinese immigrants often give a diminutive to the census enumerator instead of a full name, a phenomenon that is especially frequent in the 1860 and 1880 censuses, and accounts for most Chinese-language names in the 1860 census. This is found when the given name of an individual is recorded as "Ah" or "A" while the surname is a single-syllable word; in these cases, the "first name" is a standard prefix, while the "surname" is a character that may or may not be found in the individual's full name. Given that diminutives reduce information about the full name and frequently overlap, the proportion of false links in early censuses will likely be much higher than anticipated.

[5] A successful link with the ABE exact-standard matching algorithm is defined as an exact match on a name and birth state with ages consistent within 2 years.

[6] Calculated for cohorts of Chinese men of any age.

Second, the adoption of English-language names by Chinese immigrants beginning in the 20th century. Chinese immigrants may choose an English given name and retain their Chinese-language given name as a "surname," as was the case for David Lai-Gim in the 1940 census. The opposite case also occurs; most frequently, Chinese immigrants adopt the surname "Louie" while retaining their Chinese-language given names. Given the transliteration issues associated with Chinese-language names, the linkage technique used will benefit those who choose to adopt English-language names in some capacity. In addition, the true Chinese surname is lost or difficult to discern, further complicating linkage efforts.

The linkage strategy for European immigrants and white natives is comparatively simple. I link white cohorts using the ABE race-NYSIIS-standard links in the Census Linking Project crosswalks. Because there is a much larger pool of linked European immigrants, no additional modifications are needed. Match rates and total match numbers for cohorts of Asian immigrants, European immigrants, and white natives are described in Figure 1 and Table 2, respectively. Asian immigrants have match rates ranging from 5.4% to 8.2%, and while notably lower than European immigrants and white natives, total match numbers are sufficient to generate statistical significance for all three cohorts.

Asian immigrants come from China, Japan, and the Philippines. European immigrants are from countries designated in the "Europe" section of the "birthplace" variable in IPUMS. Since birthplaces are occasionally designated inconsistently between the two censuses used to construct each cohort, immigrants are designated as individuals with a foreign birthplace in both censuses. Native-born individuals are similarly defined as those with a non-foreign birthplace in both censuses. Those with one foreign and one non-foreign birthplace are omitted from analysis.

All cohorts consist of non-Southern men aged 20–35 in the earlier census and 38–57 in the later census, meaning that there is a built-in allowance of 2 years in case of age misidentification. The structure of the age cohorts also avoids concern over the "binning" of reported ages, which appears to be particularly frequent for ages close in proximity to the nearest whole decade: those who are reported being 35 years of age are probably less likely to "round up" to age 40 relative to those who are 38 years of age. I also weigh linked individuals using observables including but not limited to age, occupational category, urban status, literacy, property holdings, and marital status. This ensures that the linked population reflects the characteristics of the broader population. Observables for each cohort can be found in Appendix A: Other Figures and Tables.

3.2 Assimilation Data

I use two measures of assimilation. First, I measure occupational assimilation using the Collins and Zimran (2023) ranking, where socioeconomic status is constructed as an average of two rankings constructed using

occupational data in the 1900 census ("occscore") and property data in the 1870 census ("wealthscore"). This ranking system is preferable to the IPUMS 1950-basis occupational classification system because it implements occupational and wealth data consistent with the time periods examined. The resultant ranking system creates a proxy for economic status that is used to quantify the convergence of the economic status of immigrants to the native population over time.

I calculate occupational scores using a 1910-basis occupational classification system that draws from the pool of non-southern Asian and white men in the corresponding year aged 20–35 with a stated occupation. I calculate wealth scores from the property data of Asian and white men aged 38–57 in the labor force, with the 1870 census serving as a baseline. The ranking score is the change in the average of these two scores between the beginning and end of a cohort period.

Some additional observations on the ranking score should be considered. First, occupational status is used in the economic history literature to quantify economic assimilation over direct measures like income (Borjas 2015) because wage and salary income was not collected until the 1940 decennial census (e.g., Villarreal and Tamborini 2018). Second, the ranking system can be broadly interpreted using the occupational categories of the IPUMS 1950-basis occupational classification system: White Collar, Farmer, Craft, Operative, Unskilled, and Farm Family (Collins and Zimran 2023). A higher rank corresponds to a better occupational category: for example, a white collar physician in 1880 was ranked at the 92nd percentile, which was much higher than a household worker who ranked at the 13th percentile.

Finally, I use occupational weights that require additional discussion. To account for this ambiguous occupational status in the IPUMS classification system, rankings for the Farm Family occupational category are separated into lower estimates, middle estimates, and upper estimates as Farm Labor, Midpoint, and Farmer, respectively (Collins and Zimran 2023). The Farm Labor estimate classifies Farm Family members as low-status laborers, while the Farmer estimate classifies Farm Family members as higher-status farm owners; these weights affect the magnitude of the occupational score of individuals classified within the Farm Family occupation. Since Asian immigrants were farmers at a rate much lower than European immigrants and white natives, the rankings do not substantially alter the findings. I use all three weights for the Asian cohorts and the midpoint weights for European immigrants to create a clean comparison.

In addition to occupational status, I examine proximity to co-ethnics as another measure of assimilation. Figure 2 shows distinct differences in residential patterns among Asian and European immigrants. Asian immigrants residing in counties with a much greater average share of co-ethnics relative to European immigrants in the 1860–1880 and 1880–1900 cohorts. This trend reverses for the 1900–1920 and 1920–1940 cohorts. Over time, both Asian and European immigrants see a decline in the average share of co-ethnics within their county, suggesting a greater geographic dispersion of immigrants over time. Due to the wide

range in co-ethnic share per county in each cohort, I use the standard deviation from the mean co-ethnic share per county. I draw enclaves at the county level and define county boundaries from ICPSR counties, and I define co-ethnics as those in the same county sharing a foreign birth country with the individual. Counties are not harmonized across time, and by construction, enclave residency is not defined in absolute terms. Overall, this measure allows for non-tangible elements of assimilation such as socialization and cultural cohesion to be examined.

4 Main Empirical Strategy

It can be helpful to compare rank changes for Asians, Europeans, and natives on an absolute scale. The following calculation simply defines the change in the weighted average rank for each cohort as the difference between the weighted average starting rank and the weighted average final rank:

$$\Delta\text{rank}_{\text{C,Abs.}} = \frac{\sum_{i=1}^{\text{I}} \text{rank}_{\text{F},i}\ \text{w}_i}{\sum_{i=1}^{\text{I}} \text{w}_i} - \frac{\sum_{i=1}^{\text{I}} \text{rank}_{\text{S},i}\ \text{w}_i}{\sum_{i=1}^{\text{I}} \text{w}_i} \tag{1}$$

The outcome of interest is the change in the weighted average rank of the cohort $\Delta\text{rank}_{\text{C,Abs.}}$. It is calculated from subtracting the average starting ranking score $\sum_{i=1}^{\text{I}} \text{rank}_{\text{S},i}$ from the average final ranking score $\sum_{i=1}^{\text{I}} \text{rank}_{\text{F},i}$. Each individual i has a corresponding inverse probability weight of w_i that ensures the characteristics of the linked cohort reflect the population of theoretically linkable individuals.

Consider the following illustrative example: an individual j in the 1860–1880 Asian panel with a starting rank in the 13th percentile ($\text{rank}_{\text{S},j} = 0.132$) and an ending rank in the 92nd percentile ($\text{rank}_{\text{F},j} = 0.920$) can be interpreted as a household worker who became a physician after 20 years. Assuming that the personal characteristics of this individual occurred in the same proportion for both the linked population and the broader population of all Asian men who could have been linked ($\text{w}_j = 1$), we have that the change in rank for the individual j is a 79 percentile increase ($\Delta\text{rank}_{j,\text{Abs.}} = 0.788$).

The main estimator equation calculates the weighted change in the ranking score for cohorts of Asian immigrants and European immigrants relative to the change in the score for white natives:

$$\Delta\text{rank}_{i,\text{Rel.}} = \beta_0 + \beta_1\, \text{foreign}_i + \beta_2\, \text{age}_i{}^{\text{P}} + \epsilon_i \tag{2}$$

The outcome variable $\Delta\text{rank}_{i,\text{Rel.}}$ is the weighted relative change in rank for an individual i. It is conditional on the indicator variable foreign_i which takes a value of 0 if the individual is native-born and 1 if the individual is a foreign immigrant. It is also conditional on the quartic age polynomial $\text{age}_i{}^{\text{P}}$. Each individual i continues to be weighted using the inverse probability weights. Finally, the coefficient of interest β_1 is the

relative change in the average rank per cohort that is attributable to foreign status, and it forms the basis of the assimilation patterns described in this investigation.

5 Main Findings

The results in Figure 3, Table 3, Figure 4, and Table 4 can be summarized as follows. First, I find that Asian immigrants started at a lower average occupational tier than European immigrants. Second, I find that Asian assimilation reflects a "catch-up" pattern where Asian immigrants started with lower average ranking scores than their European counterparts but demonstrated greater cohort convergence toward native occupational characteristics. Though that convergence did not eliminate their outcome gap relative to other groups, Asian immigrants nevertheless reduced their gap in the absolute ranking score relative to white natives by one-third, demonstrating their rapid assimilation over the course of the investigative period.

In Figure 3 and Table 3, I plot the absolute ranking score for cohorts of Asian immigrants, European immigrants, and white natives spanning the period 1860–1940. The starting absolute ranking score and the final absolute ranking score is described by the variables $\text{rank}_{\text{S},i}$ and $\text{rank}_{\text{F},i}$ in Equation 1. The difference between these two scores $\Delta\text{rank}_{\text{C,Abs.}}$ provides a visualization of how the score increases after 20 years. Because each cohort increases its final rank relative to its starting rank, the lower connected point denotes the average starting rank while the upper connected point denotes the average final rank. For ease of interpretation, this set of results uses the midpoint weighting.

Asian immigrants had a very low absolute starting rank: their average starting rank over the course of the period was at the 25th percentile, which was 17 percentiles lower than that of European immigrants and 25 percentiles lower than that of white natives. This confirms what the qualitative literature has already described: on average, Asian immigrants started out in low-tier occupations like mine operators (25th percentile) and laundresses (27th percentile). Contrast this to European immigrants and white natives, whose average starting occupations are comparable to deliverymen (44th percentile) and painters (50th percentile), respectively.[7]

However, the absolute final ranking score of Asian immigrants remained low relative to other groups. Even though their absolute final ranking score increased from the 27th percentile in 1860 to the 34th percentile in 1940, it was still behind the absolute final ranking scores for both European immigrants and white natives. The former's average final rank was at the 48th percentile, and the latter's average final rank at 56th percentile, which once again suggests a substantial difference in average cohort characteristics between groups. This difference also shows that it was not just new Asian immigrants who had low-tier occupations:

[7] Ranking points are taken from the 1880 period in the 1860–1880 cohort corresponding to each racial group and are an example of how the ranking may order individuals.

relatively older immigrants who stayed in the United States were not still typically observed in the same tiers of occupations observed for European immigrants and white natives, and though average final rank values still show a persistent gap between European immigrants and white natives, the gap between Asian immigrants and these groups far exceeds that disparity.

The finding on the ranking gap between European immigrants and white natives requires further clarification. Although Abramitzky et al. (2014) find that European immigrants eventually converged to native occupational levels, an examination of the absolute final ranking scores in this investigation reveals that the outcome gap between European immigrants and white natives remained persistent throughout the 1860–1940 period. The most likely factor contributing to this difference is the more restrictive matching algorithm used in Abramitzky et al. (2014). In Robustness, I discuss related robustness checks that verifies my empirical findings.

Finally, observe that this part of the main findings is robust with the exception of the absolute change in rank for Asian immigrants in the 1860–1880 cohort, in which case there is ambiguity over whether the average ranking score changed after 20 years. Otherwise, the ranking scores of Asian immigrants, European immigrants, and white natives are distinct with no overlap in values that suggests ambiguity in the characterizations of the absolute ranking scores that are described above.

Now I examine the age-controlled ranking score for Asian immigrants and European immigrants relative to white natives. In contrast with the previous discussion where I examined ranking scores on an absolute scale, these relative rankings allow me to compare how these ranking scores upgrade over a period of 20 years. Figure 4 and Table 4 show the relative change in rank values within each cohort as measured by the coefficient β_1 derived from Equation 2. Here, the 20-year change in the ranking score for white natives is set to zero in each period, and the 20-year change in the ranking score for Asian immigrants and European immigrants is determined relative to that score of zero. Thus, a negative value for immigrants would indicate a smaller 20-year change in the ranking score compared to white natives, and a positive value for immigrants would indicate a larger 20-year change in the ranking score compared to white natives. For this set of core results, the lower, midpoint, and upper weightings are included for Asian cohorts, while white cohorts use the midpoint weighting. Discussion of specific results centers on the midpoint weighting, but note that the lower and upper weightings follow the same general patterns found when using the midpoint weighting.

Three observations are immediately apparent. First and most important is the main finding of this investigation: over the course of the 19th and 20th centuries, Asian immigrants consistently started in low-tier occupations yet dramatically increased their upgrading over time, resulting in a "catch-up" pattern of assimilation that decreased the gap in the absolute ranking score between Asian immigrants and white natives by one-third. Specifically, Asian immigrants go from upgrading 10 percentiles less than white natives in the

1860–1880 period, 5 percentiles less in the 1880–1900 period, 8 percentiles more in the 1900–1920 period, and finally, 7 percentiles more in the 1920–1940 period. The absolute ranking gaps calculated previously show that Asians reduced their absolute ranking gap by one-third relative to white natives between the 1860–1880 and 1920–1940 cohort, highlighting the scale of this transformation over the period.

The timing of the "catch-up" phenomenon is also relevant. In the 1860–1880 and 1880–1900 cohorts, Asian immigrants assimilated less than European immigrants and white natives. Compare this to the 1900–1920 cohort, Asian immigrants assimilated much more than both European immigrants and white natives, and the 1920–1940 cohort, where Asian immigrants assimilated more than white natives. Although I do not conduct a causal investigation, it is interesting that the dramatic change in the rate of assimilation occurs after the Chinese Exclusion Act of 1882. The timing of these findings suggests that immigration legislation may be relevant to the assimilation of both incoming and current immigrants to the United States.

The final observation relates to the "u-shape" upgrading pattern for European immigrants. European immigrants upgraded 2 percentiles more than white natives in the 1860–1880 period and 6 percentiles more than white natives in the 1920–1940 period. Contrast this to how they upgraded 2 percentiles less than white natives in the 1880–1900 period and 0.6 percentiles less than white natives in the 1900–1920 period. With the exception of the 1920–1940 period, these magnitudes are also smaller than Asian immigrants, demonstrating that the dramatic increase in 20-year upgrading observed in Asian immigrants was not the case for all immigrant groups. In fact, the shape of upgrading for European immigrants, with higher upgrading in the later periods and lower upgrading in the middle periods, matches the "u-shape" described in Collins and Zimran (2023), which reinforces the assimilation patterns attributed to European immigrants within the literature.

The findings associated with Figure 4 and Table 4 are robust across cohorts and weighting mechanisms. The standard errors for the 1920–1940 Asian immigrant cohort are high, but with the exception of this cohort, the range of upgrading values within the 95% confidence interval is still higher than the range of upgrading values for the corresponding European immigrant cohort. Thus, there is little statistical ambiguity in the characterizations of the relative ranking scores.

6 Enclave Empirical Strategy

I now compute the age-controlled change in the ranking score per standard deviation from the mean share of co-ethnics within a county, which is compared to the change in the ranking score for white natives of the same time period:

$$\Delta\text{rank}_{i,\text{Rel.}} = \beta_0 + \beta_1\,\text{z-score}_i + \beta_2\,\text{age}_i{}^{\text{p}} + \epsilon_i \tag{3}$$

The outcome variable $\Delta\text{rank}_{i,\text{Rel.}}$ remains the weighted relative change in rank for an individual i. Here, it is conditional on the variable z-score_i, which measures the the z-score of the proportion of co-ethnics for each immigrant.[8] By construction, the variable z-score_i takes a non-zero value for each immigrant unless the proportion of that immigrant's co-ethnics within the county of residence exactly matches the mean value. Natives take a z-score of 0. The variable $\text{age}_i{}^{\text{p}}$ continues to be the quartic age polynomial. The coefficient of interest remains the change in the weighted average rank of the cohort β_1 with each individual i weighted for representation. This coefficient represents the effect of changes in the share of co-ethnics for the ranking score of Asian versus European cohorts relative to the white native population, and it forms the basis of the enclave-related assimilation findings in this investigation.

7 Enclave Findings

In this section, I examine the relationship between the share of co-ethnics and the ranking score for Asian and European immigrants relative to white natives. In Figure 5 and Table 5, I graph the coefficient β_1 as derived from Equation 3 to show the relationship between the share of co-ethnics on the 20-year upgrading amount associated with cohorts of Asian and European immigrants relative to the white native population. This time, age-controlled ranking scores are regressed not against immigrant status but rather the z-score of the proportion of co-ethnics for each immigrant. A negative value for the associated immigrant group suggests that an increase from the mean share of co-ethnics per county is associated with a smaller 20-year change in the ranking score compared to white natives, while a positive value for the associated immigrant group would indicate a larger 20-year change in the ranking score compared to white natives.

Before a discussion of the specific results, note that I do not interpret results casually because they do not account for selection-into bias. This means that those immigrants who choose to stay in enclaves may have characteristics distinct from the general population, such as lack of language fluency, that may present a barrier to assimilation. The timeline I provide for changes associated with co-ethnic proximity is useful because it aids in the future identification of events able to provide this causal interpretation. When these results are considered with the broader patterns of assimilation that Asian immigrants experience, the main insight is the divergent patterns of assimilation for Asian and European immigrants across multiple dimensions over time.

[8] That is, the number of standard deviations of an immigrant's proportion of co-ethnics from the mean share of co-ethnics for all immigrants within a cohort.

I now examine the findings for Asians. First, note that for Asian immigrants, the relationship between proximity to co-ethnics and the relative change in rank was null for all cohorts but the 1880–1900 cohort, which is the first linked cohort that occurs after the Chinese Exclusion Act. In this cohort, Asian immigrants had a 2 percentile decrease in rank relative to white natives per standard deviation from the mean co-ethnic share within a county. Though significant, great caution should be taken in assigning specific meaning to the timing of these results: I do not account for selection-into bias, which is of particular concern in the study of Asian enclaves given their strong association with poor assimilation in the early history of Asian migration to the United States. In fact, preliminary investigation already suggests that selection-into bias affects the size of enclaves in this period as well. As shown in Figure 2, there is a sudden and dramatic decrease in the mean share of co-ethnics per county for Asian immigrants between 1880 and 1900, meaning that there may be changes in the pool of immigrants able to interact within the United States. These results suggest that further investigation into Asian co-ethnic interaction in the immediate aftermath of the Exclusion may be valuable, and though the findings are not casual, they provide important preliminary context for such an investigation.

European immigrants had notably different behaviors throughout the period. European immigrants had a 1 percentile decrease in rank for the 1860–1880 cohort, null results for the 1880–1900 and 1900–1920 cohorts, and a 0.5 percentile increase in rank for the 1920–1940 period. This suggests that over time, the negative association between proximity to co-ethnics and the relative change in rank changed to a positive association between proximity to co-ethnics and the relative change in rank. Though the magnitude of these changes is small relative to Asian cohorts, the 1860–1880 and 1920–1940 cohorts are robust, and they provide an interesting contrast to the existing literature, which suggests a negative relationship between European co-ethnic residency and assimilation. Therefore, I place these results as an indication that there may be further nuance to the conventional interpretation of the role of European enclaves while again cautioning that these results are not causal but rather a preliminary step in future analyses of the enclave debate.

Overall, the enclave results suggest that greater proximity to co-ethnics is associated with a decrease in the relative change in rank for Asian immigrants in the 1880–1900 period, while European immigrants experienced a "negative-to-positive" pattern. Though the findings are not causal, they provide additional context for the assimilation patterns of early Asian immigrants, ultimately highlighting the divergent patterns of assimilation for Asian and European immigrants across multiple dimensions over time.

8 Robustness

I perform a series of robustness checks that provide alternatives to the existing linkage strategy and assimilation measurement. The checks indicate that the assimilation patterns described in this investigation are consistent for all cohorts and robust across most changes in cohort composition, suggesting that the main results are useful for determining the broad features of Asian assimilation and that further refinement of Asian linkage techniques does not substantially alter the findings.

In Appendix B: ABE Exact-Standard Linkage, I replicate all tables and figures using the ABE exact-standard algorithm with Postel (2023) matches appended for Asian cohorts. Since the Postel (2023) matches also use the ABE exact-standard algorithm, this method is consistent in the matching algorithm used for the investigation. I find that all characterizations of mobility are consistent across both linking strategies. Asian immigrants had an average absolute starting rank in the 24th percentile as opposed to an average absolute starting rank in the 25th percentile observed in the main results. Asian immigrants also had an average absolute ending ranking score ranging from 29th percentile in the 1880–1900 period to the 35th percentile in the 1920–1940 period, which is very close to the range from the 27th to the 34th percentile observed in the main results. The magnitude of the 20-year upgrading observed for cohorts of Asian immigrants is generally within the 95% confidence interval of the previous results, and upgrading comparisons to European immigrants all hold. Finally, all results remain statistically significant.

The enclave results also remain consistent. Results for Asian immigrants are similar in direction relative to the ones discussed in this section. Asian immigrants in the 1880–1900 period show a negative but statistically insignificant change in the ranking score per standard deviation from the mean share of co-ethnics within a county, while all other years show a positive but statistically insignificant change, with the exception of the 1860–1880 cohort, which is statistically significant. Contrast this with the findings under the standard linking strategy, which show results in the same direction but with statistical significance in the 1880–1900 cohort only. For European immigrants, the "negative-to-positive" pattern remains intact under the new linkage strategy, with the notable caveat that statistical significance in all cohorts but the 1920–1940 cohort. Once again, particular caution should be taken to avoid interpreting the results causally: the trends described suggest a strong association between proximity to co-ethnics and assimilative behavior during certain periods, but as a result of selection-into bias, the results cannot be attributed to events in the time period.

In Appendix C: Conditional Assimilation, I address the concern that changes in the characteristics of immigrants between cohorts may influence relative rank over time. I perform the analysis conditional on the occupational upgrading, occupational distribution, and national distribution displayed in each cohort, which

controls for the unique distribution patterns of each cohort. Consider the following example: the integration of the Postel (2023) technique, which is specific to names of Chinese origin, results in cohorts that consistently underrepresent Filipino immigrants. By running the main analysis conditional on the counterfactual that all cohorts feature the nationality distribution of the 1860–1880 cohort, and so forth, the factors shaping the pattern of assimilative behavior can be determined.

The main results are robust for both cohorts across the occupational and nationality distributions. However, my Asian cohort is not robust conditional on occupational upgrading, suggesting that my findings on Asian assimilation may be related to changes in upward mobility associated with various professions within the American economy over time. Given that Asian immigrants were concentrated in select low-ranking occupations, it is not particularly surprising that changes in the upward mobility associated with those occupations might easily explain changes in mobility for Asians overall. Though this investigation is not causal, this finding suggests that future inquiry into the "catch-up" assimilation phenomenon for Asian immigrants may prove useful.[9]

9 Conclusion

Asian migration has a rich global history, but the study has been limited by translation barriers in the English-speaking world. However, new developments in the consistent transliteration of Asian names mean that it is now possible for data on Asian immigrants to be sufficiently detailed for the study of historical Asian immigrants to the United States. In this paper, I create linked cohorts of Asian immigrants from the 1860–1940 period, allowing me to study how their economic characteristics change in the United States over time.

Today, Asian migration is growing rapidly, and Asian Americans are the subject of broad economic interest. Current skills-based restrictions on immigration contribute to the characterization of Asian immigrants as a "model minority" and have been studied extensively in the empirical literature. Yet Asian immigrants in their early years also faced intense social and political backlash, of which little is known empirically. Using my linked cohorts, I complete the timeline of Asian migration history before the 21st century. Although my analysis does not casually explain the effects of any single event, it provides the relevant background knowledge needed for the future study of Asian migration.

I find that Asian immigrants during the Age of Mass Migration display distinct assimilation patterns that have not yet been described in the empirical literature. First and most importantly, Asian immigrants

[9] Since this paper does not seek to casually explain the changes observed in Asian assimilation, this finding serves as a starting point for further exploration of the topic. This robustness check is intended to demonstrate that, except for the aforementioned example, the assimilation patterns of Asian and white cohorts are not related to changes in the American economy over time.

assimilated more in each successive cohort—not enough to achieve convergence with white natives, but enough to eventually halve their occupational gap with the white native population. This is despite their low ranking score, which I confirm is significantly lower than that of European immigrants and white natives throughout the entire period. I also challenge conventional theories about immigrant assimilation during the Age of Mass Migration through my work on enclaves. Asian and European immigrants displayed divergent behaviors, with Asian immigrants during the 1880–1900 cohort experiencing a negative association between co-ethnic proximity and assimilation while European immigrants displayed a "negative-to-positive" pattern of co-ethnic association. Together, these contributions suggest that Asian immigrants showed unusually high mobility and had assimilation characteristics distinct from other groups of immigrants at the time, providing a blueprint for the study of an important group that can clarify the broader understanding of migration and assimilation.

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Tables

Table 1: Linkage Matches, 1880–1900

	(1) Exact-Standard	(2) NYSIIS-Standard	(3) Exact-Conservative	(4) NYSIIS-Conservative	(5) Race-NYSIIS-Standard	(6) Race-NYSIIS-Conservative
Unaltered						
Asian Native	0	0	0	0	1	1
Population	689	689	689	689	689	689
Linkage Rate	0.000	0.000	0.000	0.000	0.001	0.001
Asian Immigrant	442	1651	144	485	1663	495
Population	57,472	57,472	57,472	57,472	57,472	57,472
Linkage Rate	0.008	0.029	0.003	0.008	0.029	0.009
+ Postel (2023)						
Asian Immigrant	3,496	4,705	3,198	3,539	4,717	3,549
Population	57,472	57,472	57,472	57,472	57,472	57,472
Linkage Rate	0.061	0.082	0.056	0.062	0.082	0.062
Unaltered						
White Native	728,747	777,281	485,403	495,976	782,621	500,070
Population	3,469,788	3,469,788	3,469,788	3,469,788	3,469,788	3,469,788
Linkage Rate	0.210	0.224	0.140	0.143	0.226	0.144
White Immigrant	124,875	149,902	68,776	78,288	149,939	78,305
Population	1,107,593	1,107,593	1,107,593	1,107,593	1,107,593	1,107,593
Linkage Rate	0.113	0.135	0.062	0.071	0.135	0.071

Sources: IPUMS Full-Count Censuses, 1880 and 1900; Census Linking Project Crosswalk, 1880–1900; Postel (2023) data package.

Notes: The linkable population is restricted to non-southern males aged 20–35 in the earlier census who are of the correct race and birthplace. Linked cohorts are restricted to non-southern males aged 20–35 in the earlier census and aged 38–57 in the later census.

Table 2: Linkage Matches

	(1) 1860–1880	(2) 1880–1900	(3) 1900–1920	(4) 1920–1940
Asian Immigrant	1,355	4,717	1,877	2,750
Population	20,243	57,472	34,454	34,267
Linkage Rate	0.067	0.082	0.054	0.080
White Native	406,565	782,621	1,168,240	2,165,838
Population	1,932,585	3,469,788	5,326,459	7,334,778
Linkage Rate	0.210	0.226	0.219	0.295
White Immigrant	97,308	149,939	216,754	369,893
Population	900,505	1,107,593	1,786,134	2,278,858
Linkage Rate	0.108	0.135	0.121	0.162

Sources: IPUMS Full-Count Censuses, 1860, 1880, 1900, 1920, and 1940; Census Linking Project Crosswalks, 1860–1880, 1880–1900, 1900–1920, and 1920–1940; Postel (2023) data package. Corresponds to Figure 3.

Notes: Linked cohorts are restricted to non-southern males aged 20–35 in the earlier census and aged 38–57 in the later census. White native, European immigrant, and Asian native cohorts are linked using the ABE race-NYSIIS-standard algorithm, with Asian natives included for illustrative purposes only. Asian immigrant cohorts are linked using the ABE race-NYSIIS-standard algorithm and supplemented with the links generated from the Postel (2023) technique.

Table 3: Absolute Rank Values

	(1) 1860–1880	(2) 1880–1900	(3) 1900–1920	(4) 1920–1940
Initial Asian Immigrant	0.277	0.261	0.209	0.247
	(0.008)	(0.003)	(0.006)	(0.006)
Final Asian Immigrant	0.272	0.285	0.338	0.337
	(0.009)	(0.004)	(0.008)	(0.007)
Initial White Immigrant	0.413	0.444	0.425	0.381
	(0.001)	(0.001)	(0.001)	(0.000)
Final White Immigrant	0.505	0.488	0.460	0.462
	(0.001)	(0.001)	(0.001)	(0.000)
Initial White Native	0.497	0.492	0.498	0.511
	(0.000)	(0.000)	(0.000)	(0.000)
Final White Native	0.582	0.562	0.545	0.543
	(0.000)	(0.000)	(0.000)	(0.000)

Sources: IPUMS Full-Count Censuses, 1860, 1880, 1900, 1920, and 1940; Census Linking Project Crosswalks, 1860–1880, 1880–1900, 1900–1920, and 1920–1940; Postel (2023) data package; Collins and Zimran (2023) data package. Corresponds to Figure 3.

Table 4: Relative Change in Rank

	(1) 1860–1880	(2) 1880–1900	(3) 1900–1920	(4) 1920–1940
Midpoint				
Asian Immigrant	-0.096***	-0.049***	0.082***	0.072***
	(0.011)	(0.007)	(0.011)	(0.027)
White Immigrant	0.019***	-0.017***	-0.007***	0.061***
	(0.001)	(0.001)	(0.001)	(0.002)
Lower				
Asian Immigrant	-0.098***	-0.096***	0.042***	0.061**
	(0.011)	(0.007)	(0.011)	(0.027)
Upper				
Asian Immigrant	-0.080***	-0.023***	0.097***	0.076***
	(0.011)	(0.007)	(0.011)	(0.027)

Significance levels: *** p<0.01, ** p<0.05, * p<0.1

Sources: IPUMS Full-Count Censuses, 1860, 1880, 1900, 1920, and 1940; Census Linking Project Crosswalks, 1860–1880, 1880–1900, 1900–1920, and 1920–1940; Postel (2023) data package; Collins and Zimran (2023) data package. Corresponds to Figure 4.

Table 5: Relative Change in Rank per Standard Deviation from Mean Co-Ethnic Share

	(1) 1860–1880	(2) 1880–1900	(3) 1900–1920	(4) 1920–1940
Midpoint				
Asian Immigrant	0.018	-0.020***	0.022*	0.025
	(0.013)	(0.005)	(0.011)	(0.027)
White Immigrant	-0.014***	-0.002	0.000	0.005***
	(0.001)	(0.001)	(0.001)	(0.002)
Lower				
Asian Immigrant	0.016	-0.016***	0.019*	0.030
	(0.013)	(0.006)	(0.011)	(0.027)
Upper				
Asian Immigrant	0.018	-0.020***	0.020*	0.022
	(0.012)	(0.005)	(0.011)	(0.027)

Significance levels: *** p<0.01, ** p<0.05, * p<0.1

Sources: IPUMS Full-Count Censuses, 1860, 1880, 1900, 1920, and 1940; Census Linking Project Crosswalks, 1860–1880, 1880–1900, 1900–1920, and 1920–1940; Postel (2023) data package; Collins and Zimran (2023) data package. Corresponds to Figure 5.

Notes: The proportion of co-ethnics is calculated as the share of individuals from one's country of birth within an IPUMS county.

10 Figures

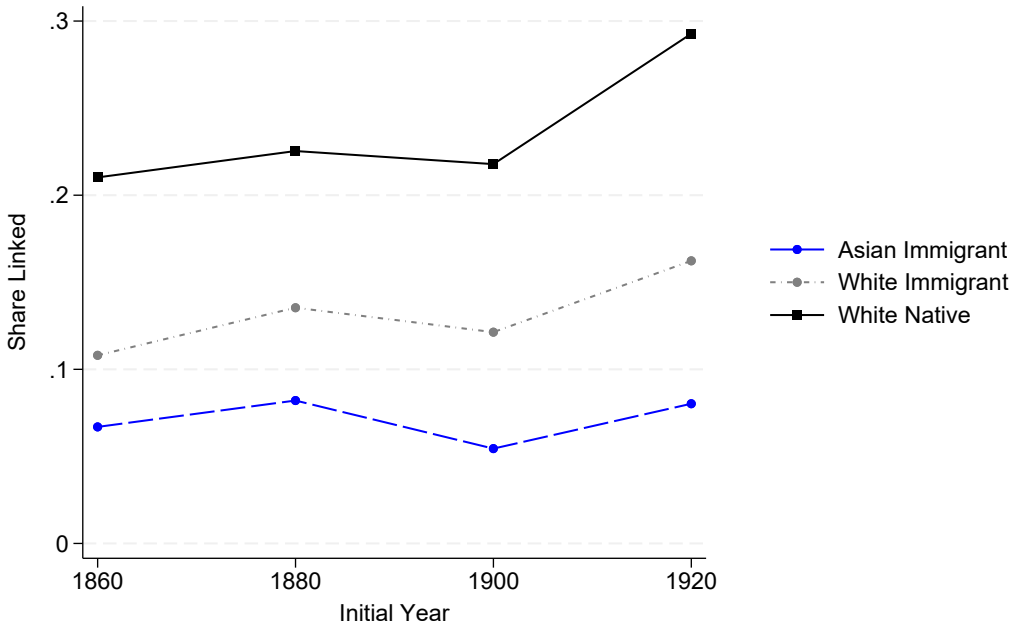

Figure 1: Linkage Match Rates

Sources: IPUMS Full-Count Censuses, 1860, 1880, 1900, 1920, and 1940; Census Linking Project Crosswalks, 1860–1880, 1880–1900, 1900–1920, and 1920–1940; Postel (2023) data package. Corresponds to Table 2.

Notes: The population of potential links within a cohort is defined as the number of non-southern males aged 20–35 of the correct race and birthplace in the earlier year of the cohort. Linked cohorts are restricted to non-southern males aged 20–35 in the earlier census and aged 38–57 in the later census. White native and European immigrant cohorts are linked using the ABE race-NYSIIS-standard algorithm. Asian imimgrant cohorts are linked using the ABE race-NYSIIS-standard algorithm and supplemented with the links generated from the Postel (2023) technique.

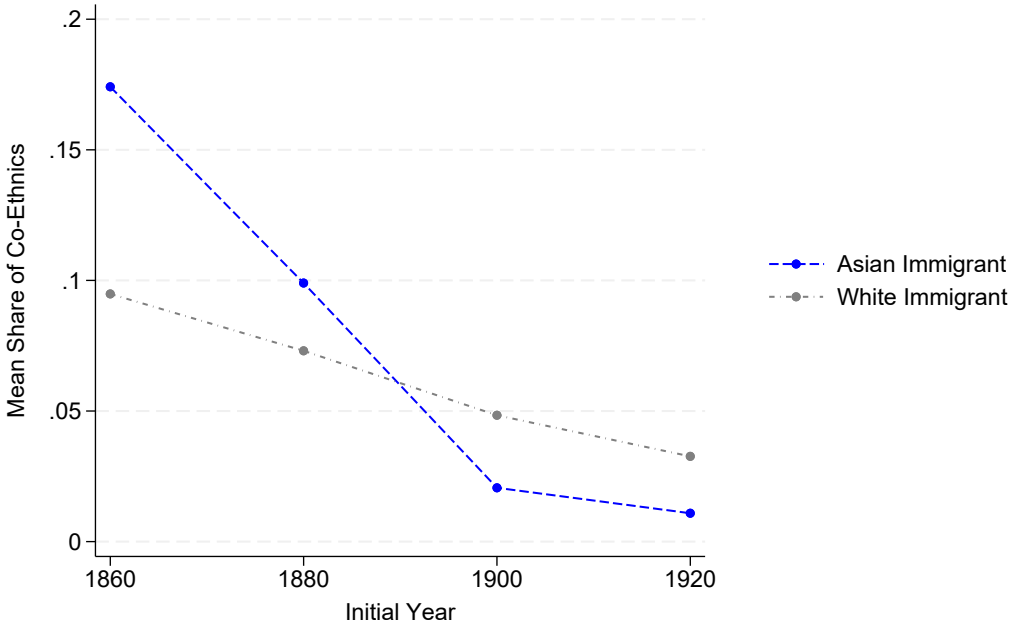

Figure 2: Mean Share of Co-Ethnics within County

Sources: IPUMS Full-Count Censuses, 1860, 1880, 1900, 1920, and 1940; Census Linking Project Crosswalks, 1860–1880, 1880–1900, 1900–1920, and 1920–1940; Census Place Project Crosswalks, 1860, 1880, 1900, 1920, and 1940; Postel (2023) data package.

Notes: Shares are calculated using the earlier census.

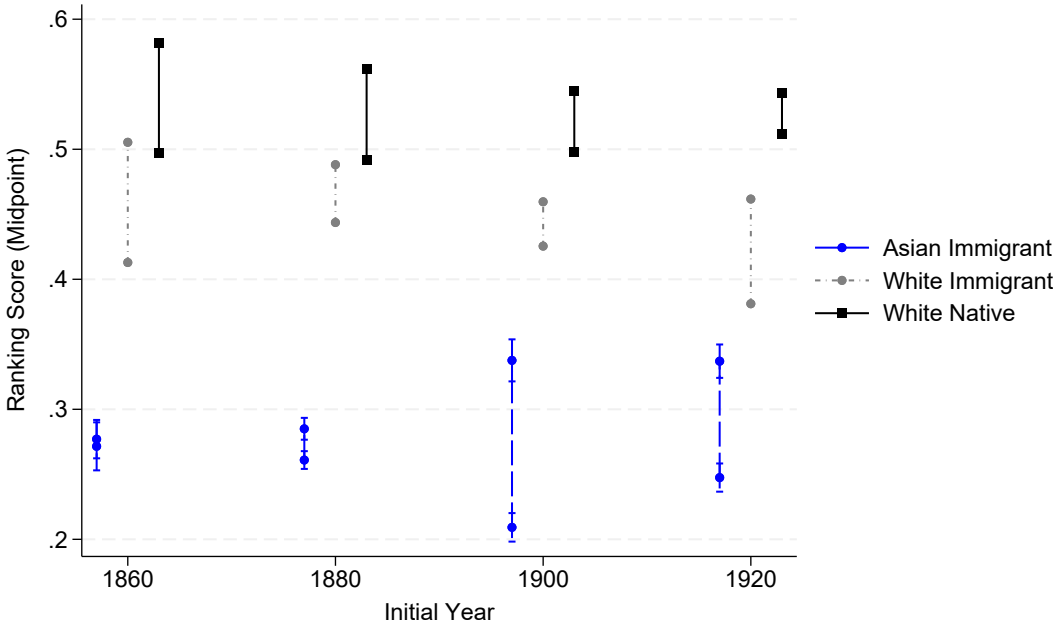

Figure 3: Absolute Rank Values

Sources: IPUMS Full-Count Censuses, 1860, 1880, 1900, 1920, and 1940; Census Linking Project Crosswalks, 1860–1880, 1880–1900, 1900–1920, and 1920–1940; Postel (2023) data package; Collins and Zimran (2023) data package. Corresponds to Table 3.
Notes: Error bars are calculated using a 95% confidence interval.

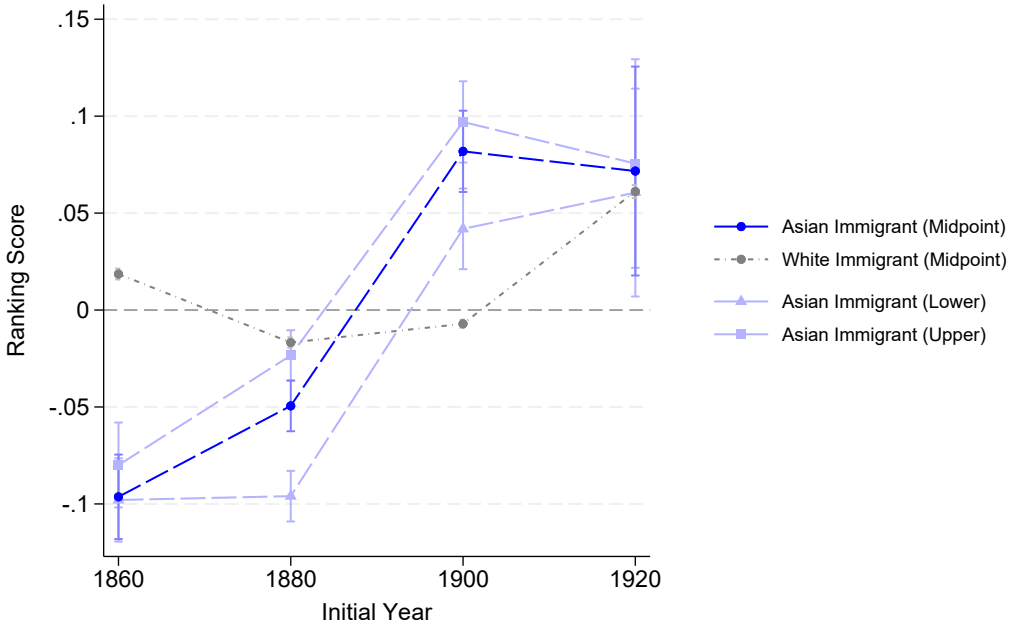

Figure 4: Relative Change in Rank

Sources: IPUMS Full-Count Censuses, 1860, 1880, 1900, 1920, and 1940; Census Linking Project Crosswalks, 1860–1880, 1880–1900, 1900–1920, and 1920–1940; Postel (2023) data package; Collins and Zimran (2023) data package. Corresponds to Table 4.
Notes: Error bars are calculated using a 95% confidence interval.

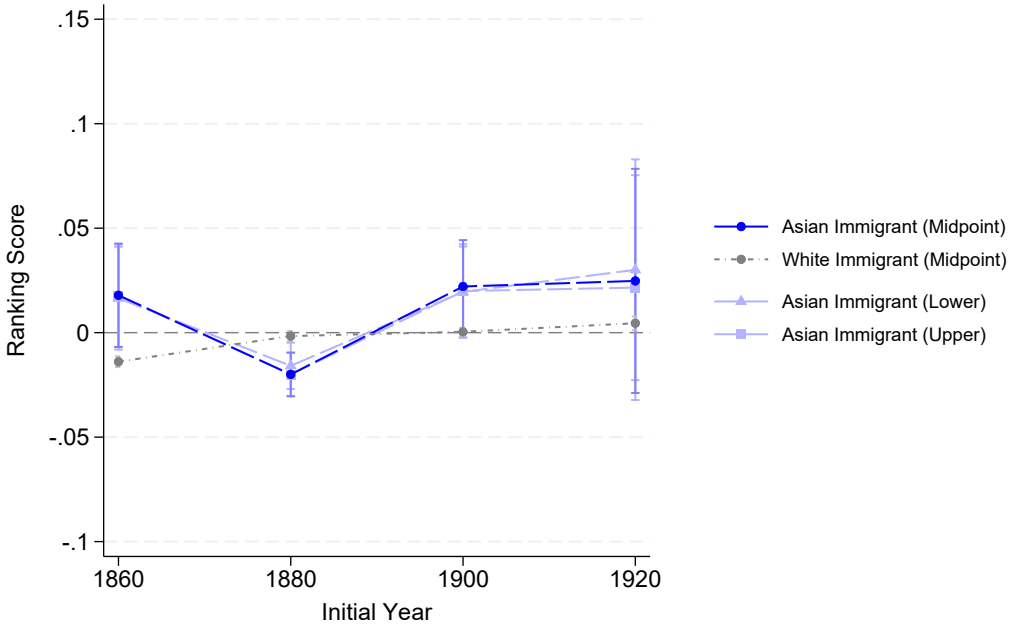

Figure 5: Relative Change in Rank per Standard Deviation from Mean Co-Ethnic Share

Sources: IPUMS Full-Count Censuses, 1860, 1880, 1900, 1920, and 1940; Census Linking Project Crosswalks, 1860–1880, 1880–1900, 1900–1920, and 1920–1940; Postel (2023) data package; Collins and Zimran (2023) data package. Corresponds to Table 5.
Notes: The proportion of co-ethnics is calculated as the share of individuals from one's country of birth within an IPUMS county. Error bars are calculated using a 95% confidence interval.

11 Appendix A: Other Figures and Tables

Table 6: Observables

	(1) Asian Imm.	(2) Prev. Linked	(3) White Imm.	(4) Prev. Linked	(5) White Native	(6) Prev. Linked
1860–1880						
Age	27.386	27.347	27.922	27.802	27.396	26.875
Urban	0.075	0.100	0.464	0.448	0.055	0.158
Farm	0.000	0.000	0.103	0.167	0.043	0.370
Literacy	0.989	0.905	0.927	0.955	0.982	0.973
NumberHH	13.030	11.350	14.167	11.612	5.866	7.338
WC	0.028	0.064	0.077	0.110	0.055	0.129
Farmer	0.000	0.000	0.103	0.167	0.043	0.370
Craft	0.003	0.005	0.189	0.265	0.024	0.191
Operative	0.365	0.836	0.130	0.162	0.195	0.086
Unskill	0.045	0.094	0.279	0.296	0.098	0.224
1880–1900						
Age	27.469	26.852	28.405	28.217	27.261	26.543
Urban	0.367	0.531	0.526	0.512	0.183	0.264
Farm	0.011	0.008	0.137	0.182	0.030	0.308
Literacy	0.786	0.821	0.909	0.937	0.504	0.967
NumberHH	104.733	87.771	16.226	12.568	17.296	8.179
WC	0.060	0.087	0.118	0.139	0.009	0.163
Farmer	0.011	0.008	0.137	0.182	0.030	0.308
Craft	0.016	0.027	0.176	0.191	0.036	0.129
Operative	0.386	0.392	0.225	0.224	0.147	0.131
Unskill	0.508	0.486	0.312	0.264	0.501	0.270
1900–1920						
Age	28.361	27.794	28.236	28.008	25.214	26.782
Urban	0.594	0.615	0.652	0.644	0.773	0.405
Farm	0.013	0.013	0.073	0.108	0.011	0.200
Literacy	0.791	0.786	0.882	0.914	0.830	0.981
NumberHH	112.840	117.243	17.282	13.428	23.533	10.207
WC	0.068	0.088	0.119	0.150	0.116	0.217
Farmer	0.013	0.013	0.073	0.108	0.011	0.200
Craft	0.012	0.012	0.175	0.212	0.021	0.152
Operative	0.244	0.298	0.198	0.213	0.330	0.127
Unskill	0.555	0.588	0.326	0.316	0.390	0.303

1920–1940						
Age	28.481	28.007	28.933	28.750	27.865	26.927
Urban	0.654	0.686	0.801	0.800	0.835	0.565
Farm	0.086	0.100	0.037	0.054	0.029	0.161
Literacy	0.910	0.907	0.881	0.916	0.926	0.995
NumberHH	67.989	32.559	24.515	19.099	26.966	14.859
WC	0.169	0.221	0.146	0.178	0.242	0.263
Farmer	0.086	0.100	0.037	0.054	0.029	0.161
Craft	0.037	0.033	0.209	0.249	0.043	0.206
Operative	0.103	0.134	0.246	0.258	0.159	0.156
Unskill	0.491	0.512	0.299	0.261	0.403	0.213

Sources: IPUMS Full-Count Censuses, 1860, 1880, 1900, 1920, and 1940; Census Linking Project Crosswalks, 1860–1880, 1880–1900, 1900–1920, and 1920–1940; Postel (2023) data package.

Notes: The population is defined as the number of non-southern males aged 20–35 of the correct race and birthplace in the earlier year of the cohort. Linked cohorts are restricted to non-southern males aged 20–35 in the earlier census and aged 38–57 in the later census. White native, European immigrant, and Asian native cohorts are linked using the ABE exact-standard algorithm, with Asian natives included for illustrative purposes only. Asian immigrant cohorts are linked using the ABE exact-standard algorithm and supplemented with the links generated from the Postel (2023) technique.

12 Appendix B: ABE Exact-Standard Linkage

Table 7: Linkage Matches

	(1) 1860–1880	(2) 1880–1900	(3) 1900–1920	(4) 1920–1940
Asian Immigrant	1,196	3,496	840	1,180
Population	20,243	57,472	34,454	34,267
Linkage Rate	0.059	0.061	0.024	0.034
White Native	354,069	728,747	1,131,206	2,024,677
Population	1,932,585	3,469,788	5,326,459	7,334,778
Linkage Rate	0.183	0.210	0.212	0.276
White Immigrant	80,620	124,875	170,159	257,950
Population	900,505	1,107,593	1,786,134	2,278,858
Linkage Rate	0.090	0.113	0.095	0.113

Sources: IPUMS Full-Count Censuses, 1860, 1880, 1900, 1920, and 1940; Census Linking Project Crosswalks, 1860–1880, 1880–1900, 1900–1920, and 1920–1940; Postel (2023) data package. Corresponds to Figure 6.

Notes: Linked cohorts are restricted to non-southern males aged 20–35 in the earlier census and aged 38–57 in the later census. White native, European immigrant, and Asian native cohorts are linked using the ABE exact-standard algorithm, with Asian natives included for illustrative purposes only. Asian immigrant cohorts are linked using the ABE exact-standard algorithm and supplemented with the links generated from the Postel (2023) technique.

Table 8: Absolute Rank Values

	(1) 1860–1880	(2) 1880–1900	(3) 1900–1920	(4) 1920–1940
Initial Asian Immigrant	0.272	0.264	0.200	0.217
	(0.007)	(0.004)	(0.008)	(0.008)
Final Asian Immigrant	0.289	0.284	0.343	0.352
	(0.010)	(0.005)	(0.013)	(0.010)
Initial White Immigrant	0.413	0.450	0.445	0.405
	(0.001)	(0.001)	(0.001)	(0.001)
Final White Immigrant	0.505	0.496	0.466	0.449
	(0.001)	(0.001)	(0.001)	(0.001)
Initial White Native	0.498	0.494	0.500	0.513
	(0.000)	(0.000)	(0.000)	(0.000)
Final White Native	0.582	0.563	0.545	0.543
	(0.000)	(0.000)	(0.000)	(0.000)

Sources: IPUMS Full-Count Censuses, 1860, 1880, 1900, 1920, and 1940; Census Linking Project Crosswalks, 1860–1880, 1880–1900, 1900–1920, and 1920–1940; Postel (2023) data package; Collins and Zimran (2023) data package. Corresponds to Figure 8.

Table 9: Relative Change in Rank

	(1) 1860–1880	(2) 1880–1900	(3) 1900–1920	(4) 1920–1940
Midpoint				
Asian Immigrant	-0.062***	-0.052***	0.111***	0.094***
	(0.012)	(0.008)	(0.016)	(0.029)
White Immigrant	0.019***	-0.013***	-0.011***	0.035***
	(0.002)	(0.001)	(0.001)	(0.002)
Lower				
Asian Immigrant	-0.063***	-0.098***	0.075***	0.085***
	(0.012)	(0.008)	(0.016)	(0.028)
Upper				
Asian Immigrant	-0.046***	-0.026***	0.126***	0.098***
	(0.012)	(0.008)	(0.016)	(0.029)

Significance levels: *** p<0.01, ** p<0.05, * p<0.1

Sources: IPUMS Full-Count Censuses, 1860, 1880, 1900, 1920, and 1940; Census Linking Project Crosswalks, 1860–1880, 1880–1900, 1900–1920, and 1920–1940; Postel (2023) data package; Collins and Zimran (2023) data package. Corresponds to Figure 9.

Table 10: Relative Change in Rank per Standard Deviation from Mean Co-Ethnic Share

	(1) 1860–1880	(2) 1880–1900	(3) 1900–1920	(4) 1920–1940
Midpoint				
Asian Immigrant	0.043***	-0.014	0.023	0.015
	(0.014)	(0.006)	(0.018)	(0.030)
White Immigrant	-0.012***	-0.007***	0.005***	0.002
	(0.001)	(0.001)	(0.001)	(0.002)
Lower				
Asian Immigrant	0.041***	-0.009	0.022	0.020
	(0.014)	(0.006)	(0.018)	(0.029)
Upper				
Asian Immigrant	0.046***	-0.014	0.020	0.012
	(0.014)	(0.006)	(0.019)	(0.030)

Significance levels: *** p<0.01, ** p<0.05, * p<0.1

Sources: IPUMS Full-Count Censuses, 1860, 1880, 1900, 1920, and 1940; Census Linking Project Crosswalks, 1860–1880, 1880–1900, 1900–1920, and 1920–1940; Postel (2023) data package; Collins and Zimran (2023) data package. Corresponds to Figure 10.

Notes: The proportion of co-ethnics is calculated as the share of individuals from one's country of birth within an IPUMS county.

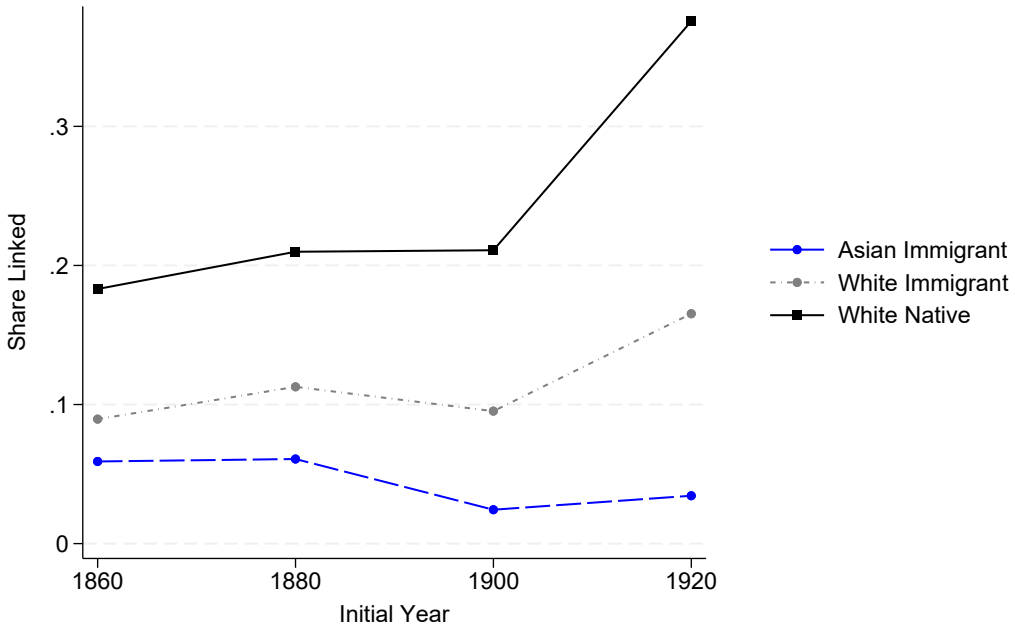

Figure 6: Linkage Match Rates

Sources: IPUMS Full-Count Censuses, 1860, 1880, 1900, 1920, and 1940; Census Linking Project Crosswalks, 1860–1880, 1880–1900, 1900–1920, and 1920–1940; Postel (2023) data package. Corresponds to Table 7.

Notes: The population of potential links within a cohort is defined as the number of non-southern males aged 20–35 of the correct race and birthplace in the earlier census. Linked cohorts are restricted to non-southern males aged 20–35 in the earlier census and aged 38–57 in the later census. White native, European immigrant, and Asian native cohorts are linked using the ABE exact-standard algorithm, with Asian natives included for illustrative purposes only. Asian immigrant cohorts are linked using the ABE exact-standard algorithm and supplemented with the links generated from the Postel (2023) technique.

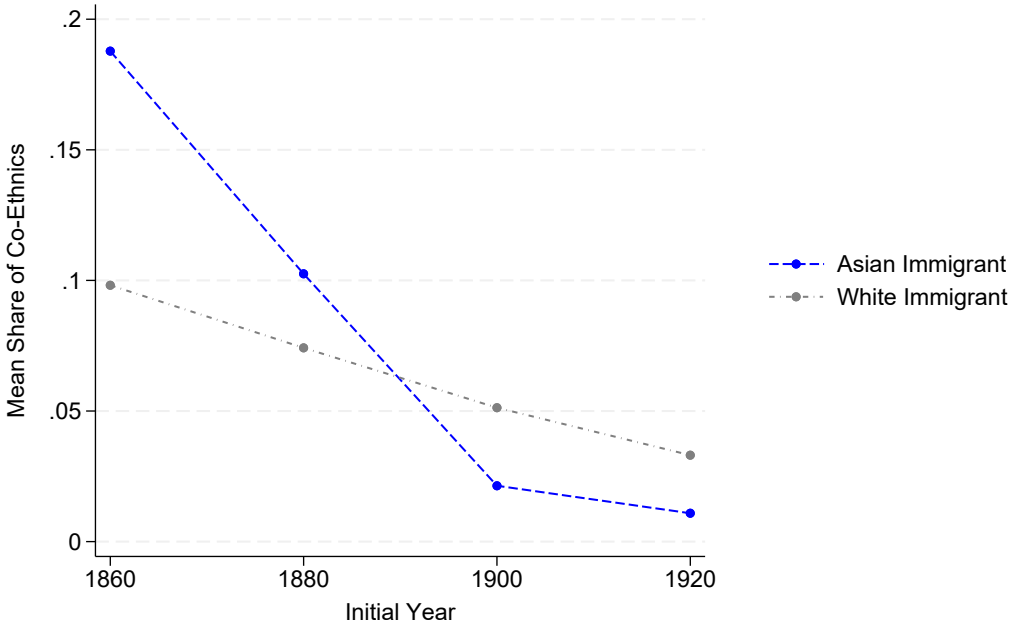

Figure 7: Mean Share of Co-Ethnics within County

Sources: IPUMS Full-Count Censuses, 1860, 1880, 1900, 1920, and 1940; Census Linking Project Crosswalks, 1860–1880, 1880–1900, 1900–1920, and 1920–1940; Census Place Project Crosswalks, 1860, 1880, 1900, 1920, and 1940; Postel (2023) data package.

Notes: Shares are calculated using the earlier census.

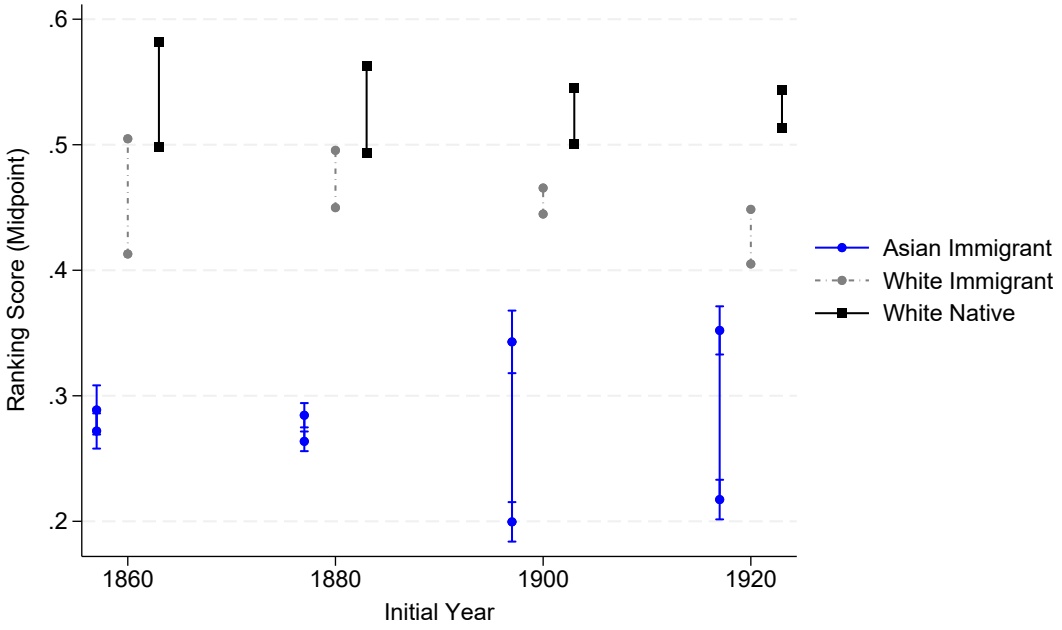

Figure 8: Absolute Rank Values

Sources: IPUMS Full-Count Censuses, 1860, 1880, 1900, 1920, and 1940; Census Linking Project Crosswalks, 1860–1880, 1880–1900, 1900–1920, and 1920–1940; Postel (2023) data package; Collins and Zimran (2023) data package. Corresponds to Table 8.
Notes: Error bars are calculated using a 95% confidence interval.

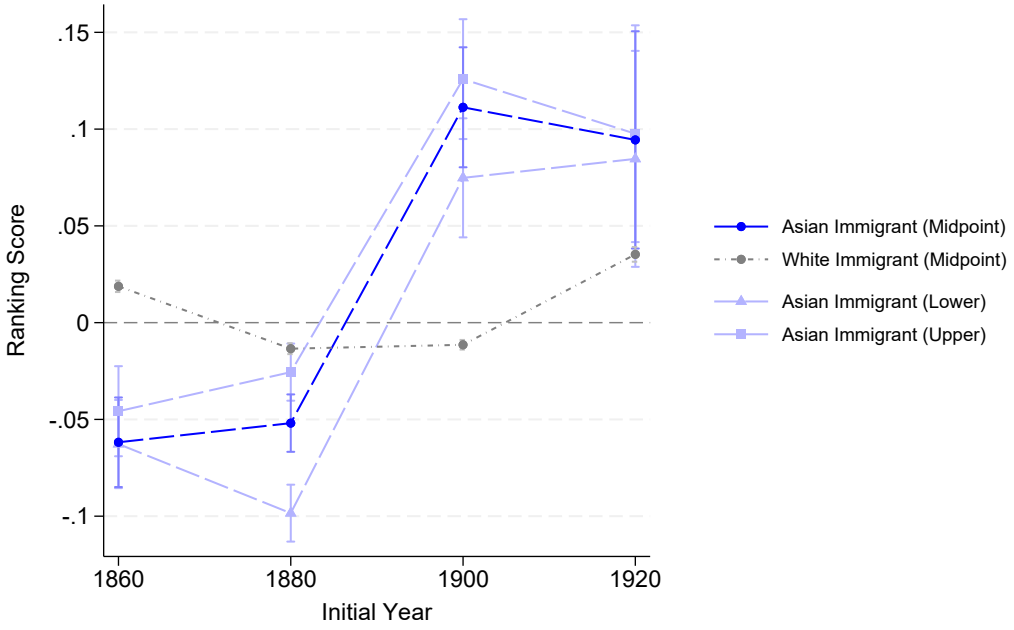

Figure 9: Absolute Change in Rank

Sources: IPUMS Full-Count Censuses, 1860, 1880, 1900, 1920, and 1940; Census Linking Project Crosswalks, 1860–1880, 1880–1900, 1900–1920, and 1920–1940; Postel (2023) data package; Collins and Zimran (2023) data package. Corresponds to Table 9.
Notes: Error bars are calculated using a 95% confidence interval.

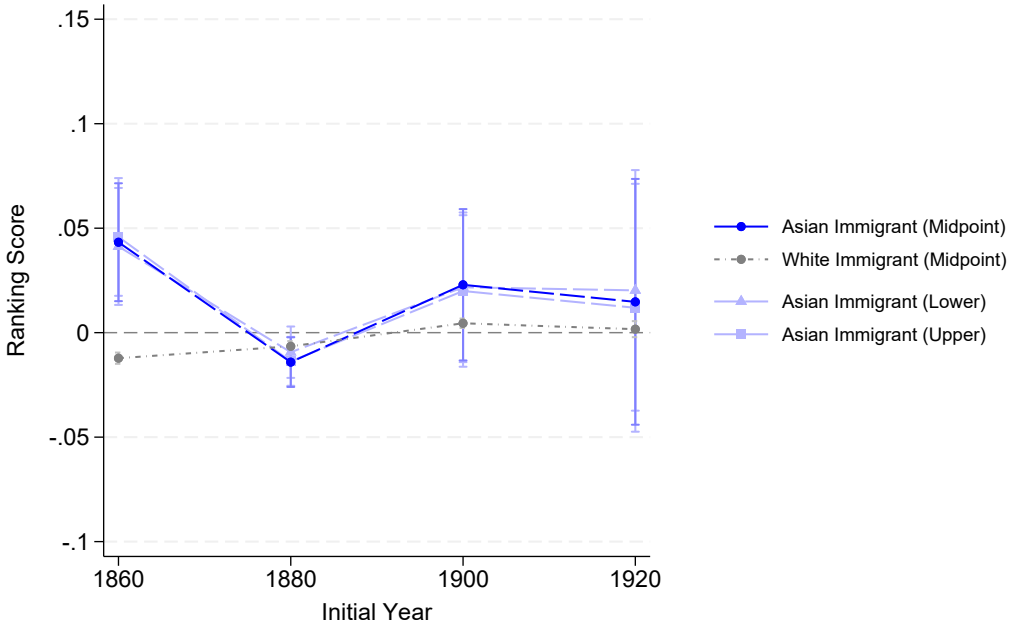

Figure 10: Relative Change in Rank per 1pp Increase in Co-ethnics

Sources: IPUMS Full-Count Censuses, 1860, 1880, 1900, 1920, and 1940; Census Linking Project Crosswalks, 1860–1880, 1880–1900, 1900–1920, and 1920–1940; Postel (2023) data package; Collins and Zimran (2023) data package. Corresponds to Table 10.

Notes: The proportion of co-ethnics is calculated as the share of individuals from one's country of birth within an IPUMS county. Error bars are calculated using a 95% confidence interval.

13 Appendix C: Conditional Assimilation

13.1 Conditional on Occupational Upgrading

Table 11: Relative Change in Rank Conditional on Occupational Upgrading, Asian

	(1) 1860–1880	(2) 1880–1900	(3) 1900–1920	(4) 1920–1940
1860 Basis	-0.094***	-0.225***	-0.225***	-0.281
	(0.011)	(0.016)	(0.024)	(0.034)
1880 Basis	-0.015*	-0.049***	0.022**	-0.049***
	(0.009)	(0.007)	(0.010)	(0.017)
1900 Basis	0.116***	0.051**	0.082***	0.026
	(0.042)	(0.020)	(0.011)	(0.018)
1920 Basis	0.076**	0.046	0.150***	0.072***
	(0.038)	(0.036)	(0.029)	(0.027)
True	-0.094***	-0.049***	0.082***	0.072***
	(0.011)	(0.007)	(0.011)	(0.027)

Significance levels: *** p<0.01, ** p<0.05, * p<0.1

Sources: IPUMS Full-Count Censuses, 1860, 1880, 1900, 1920, and 1940; Census Linking Project Crosswalks, 1860–1880, 1880–1900, 1900–1920, and 1920–1940; Postel (2023) data package; Collins and Zimran (2023) data package. Corresponds to Figure 11.

Table 12: Relative Change in Rank Conditional on Occupational Upgrading, White

	(1) 1860–1880	(2) 1880–1900	(3) 1900–1920	(4) 1920–1940
1860 Basis	0.018***	-0.058	-0.070	-0.054
	(0.001)	(0.005)	(0.003)	(0.003)
1880 Basis	0.013***	-0.017***	-0.014***	0.012***
	(0.002)	(0.001)	(0.002)	(0.003)
1900 Basis	0.024***	-0.004***	-0.007***	0.013***
	(0.001)	(0.001)	(0.001)	(0.001)
1920 Basis	0.062***	0.038***	0.039***	0.061***
	(0.002)	(0.002)	(0.002)	(0.002)
True	0.018***	-0.017***	-0.007***	0.061***
	(0.001)	(0.001)	(0.001)	(0.002)

Significance levels: *** p<0.01, ** p<0.05, * p<0.1

Sources: IPUMS Full-Count Censuses, 1860, 1880, 1900, 1920, and 1940; Census Linking Project Crosswalks, 1860–1880, 1880–1900, 1900–1920, and 1920–1940; Postel (2023) data package; Collins and Zimran (2023) data package. Corresponds to Figure 12.

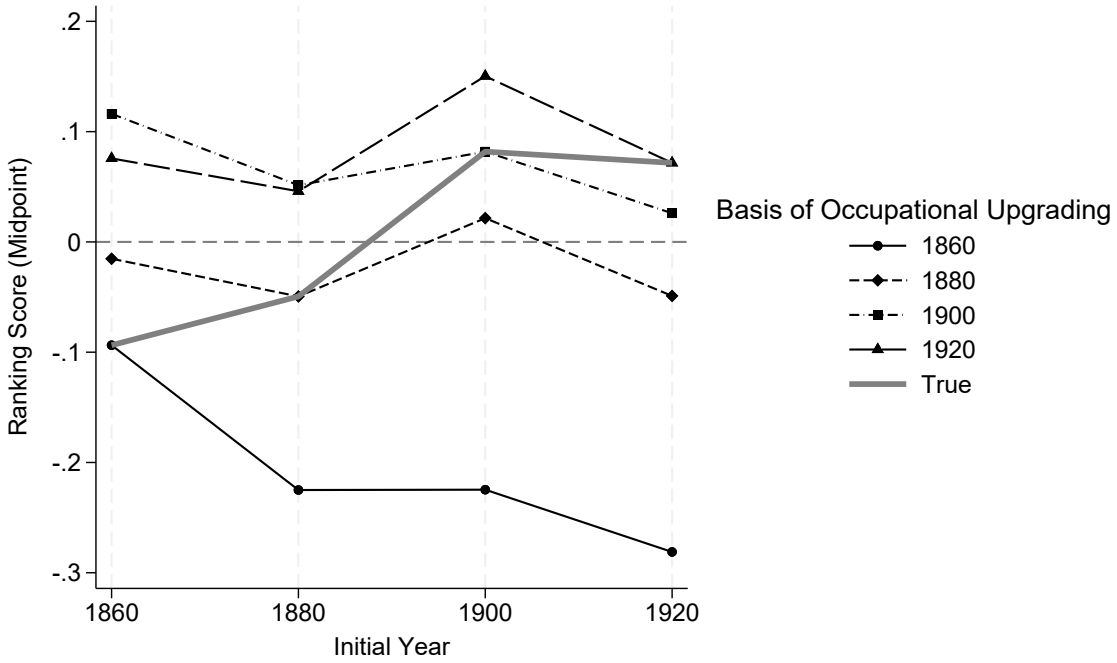

Figure 11: Relative Change in Rank Conditional on Occupational Upgrading, Asian

Sources: IPUMS Full-Count Censuses, 1860, 1880, 1900, 1920, and 1940; Census Linking Project Crosswalks, 1860–1880, 1880–1900, 1900–1920, and 1920–1940; Postel (2023) data package; Collins and Zimran (2023) data package. Corresponds to Table 11.

Notes: For clarity, error bars are not included; see Table 10 for standard error values.

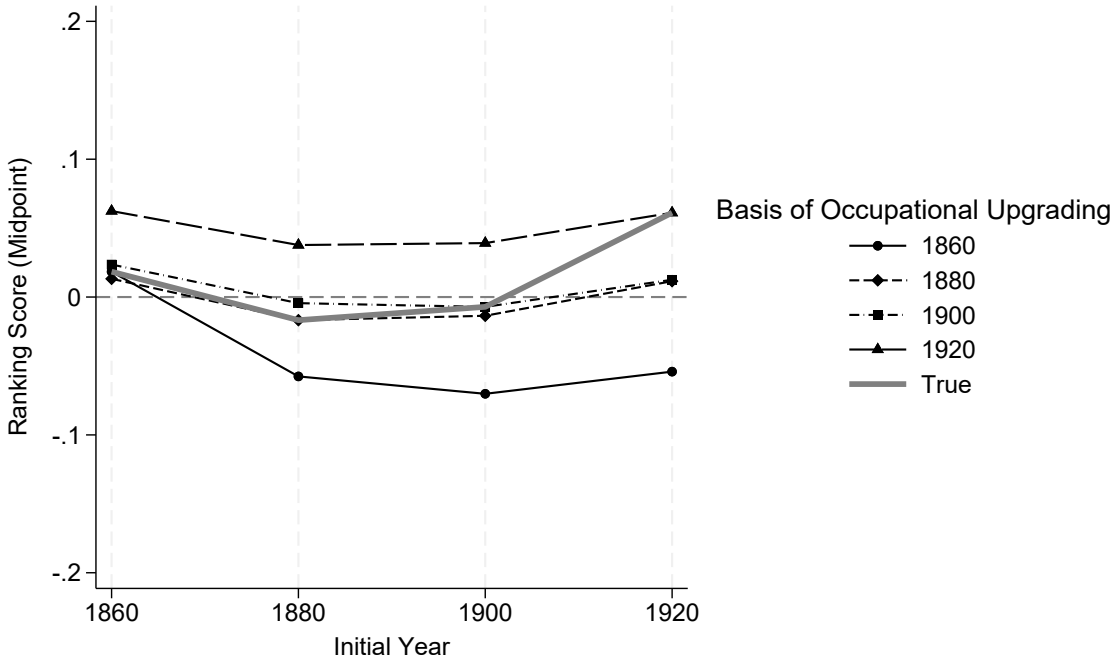

Figure 12: Relative Change in Rank Conditional on Occupational Upgrading, White

Sources: IPUMS Full-Count Censuses, 1860, 1880, 1900, 1920, and 1940; Census Linking Project Crosswalks, 1860–1880, 1880–1900, 1900–1920, and 1920–1940; Postel (2023) data package; Collins and Zimran (2023) data package. Corresponds to Table 12.

Notes: For clarity, error bars are not included; see Table 12 for standard error values.

13.2 Conditional on Occupational Distribution

Table 13: Relative Change in Rank Conditional on Occupational Distribution, Asian

	(1) 1860–1880	(2) 1880–1900	(3) 1900–1920	(4) 1920–1940
1860 Basis	-0.094***	-0.015*	0.116***	0.076**
	(0.011)	(0.009)	(0.042)	(0.038)
1880 Basis	-0.225***	-0.049***	0.051**	0.046
	(0.016)	(0.007)	(0.020)	(0.036)
1900 Basis	-0.225***	0.022**	0.082***	0.150***
	(0.024)	(0.010)	(0.011)	(0.029)
1920 Basis	-0.281	-0.049***	0.026	0.072***
	(0.034)	(0.017)	(0.018)	(0.027)
True	-0.094***	-0.049***	0.082***	0.072***
	(0.011)	(0.007)	(0.011)	(0.027)

Significance levels: *** p<0.01, ** p<0.05, * p<0.1

Sources: IPUMS Full-Count Censuses, 1860, 1880, 1900, 1920, and 1940; Census Linking Project Crosswalks, 1860–1880, 1880–1900, 1900–1920, and 1920–1940; Postel (2023) data package; Collins and Zimran (2023) data package. Corresponds to Figure 13.

Table 14: Relative Change in Rank Conditional on Occupational Distribution, White

	(1) 1860–1880	(2) 1880–1900	(3) 1900–1920	(4) 1920–1940
1860 Basis	0.018***	0.013***	0.024***	0.062***
	(0.001)	(0.002)	(0.001)	(0.002)
1880 Basis	-0.058	-0.017***	-0.004***	0.038***
	(0.005)	(0.001)	(0.001)	(0.002)
1900 Basis	-0.070	-0.014***	-0.007***	0.039***
	(0.003)	(0.002)	(0.001)	(0.002)
1920 Basis	-0.054	0.012***	0.013***	0.061***
	(0.003)	(0.003)	(0.001)	(0.002)
True	0.018***	-0.017***	-0.007***	0.061***
	(0.001)	(0.001)	(0.001)	(0.002)

Significance levels: *** p<0.01, ** p<0.05, * p<0.1

Sources: IPUMS Full-Count Censuses, 1860, 1880, 1900, 1920, and 1940; Census Linking Project Crosswalks, 1860–1880, 1880–1900, 1900–1920, and 1920–1940; Postel (2023) data package; Collins and Zimran (2023) data package. Corresponds to Figure 14.

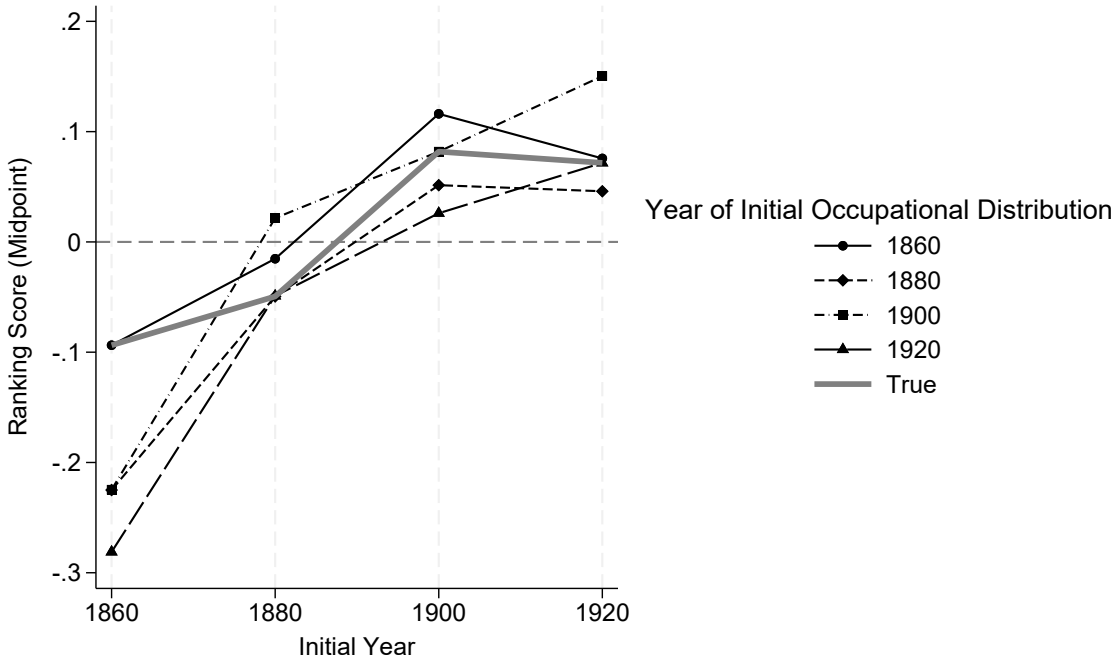

Figure 13: Relative Change in Rank Conditional on Occupational Upgrading, Asian

Sources: IPUMS Full-Count Censuses, 1860, 1880, 1900, 1920, and 1940; Census Linking Project Crosswalks, 1860–1880, 1880–1900, 1900–1920, and 1920–1940; Postel (2023) data package; Collins and Zimran (2023) data package. Corresponds to Table 13.

Notes: For clarity, error bars are not included; see Table 13 for standard error values.

Figure 14: Relative Change in Rank Conditional on Occupational Upgrading, White

Sources: IPUMS Full-Count Censuses, 1860, 1880, 1900, 1920, and 1940; Census Linking Project Crosswalks, 1860–1880, 1880–1900, 1900–1920, and 1920–1940; Postel (2023) data package; Collins and Zimran (2023) data package. Corresponds to Table 14.

Notes: For clarity, error bars are not included; see Table 14 for standard error values.

13.3 Conditional on Nationality Distribution

Table 15: Relative Change in Rank Conditional on Nationality Distribution, Asian

	(1)	(2)	(3)	(4)
	1860–1880	1880–1900	1900–1920	1920–1940
1860 Basis	-0.096***	-0.049***	0.042***	0.023
	(0.011)	(0.007)	(0.016)	(0.040)
1880 Basis	-0.096***	-0.049***	0.042***	0.023
	(0.011)	(0.007)	(0.016)	(0.040)
1900 Basis	-0.096***	-0.049***	0.082***	0.043
	(0.011)	(0.007)	(0.011)	(0.035)
1920 Basis	-0.096***	-0.049***	0.098***	0.072***
	(0.011)	(0.007)	(0.012)	(0.027)
True	-0.096***	-0.049***	0.082***	0.072***
	(0.011)	(0.007)	(0.011)	(0.027)

Significance levels: *** p<0.01, ** p<0.05, * p<0.1

Sources: IPUMS Full-Count Censuses, 1860, 1880, 1900, 1920, and 1940; Census Linking Project Crosswalks, 1860–1880, 1880–1900, 1900–1920, and 1920–1940; Postel (2023) data package; Collins and Zimran (2023) data package. Corresponds to Figure 15.

Table 16: Relative Change in Rank Conditional on Nationality Distribution, White

	(1) 1860–1880	(2) 1880–1900	(3) 1900–1920	(4) 1920–1940
1860 Basis	0.019***	-0.017***	-0.002	0.013***
	(0.001)	(0.002)	(0.001)	(0.005)
1880 Basis	0.020***	-0.017***	-0.000	0.024***
	(0.003)	(0.001)	(0.001)	(0.003)
1900 Basis	0.012	-0.029	-0.007***	0.049***
	(0.012)	(0.003)	(0.001)	(0.002)
1920 Basis	0.005	-0.041	-0.012***	0.061***
	(0.018)	(0.005)	(0.001)	(0.002)
True	0.019***	-0.017***	-0.007***	0.061***
	(0.001)	(0.001)	(0.001)	(0.002)

Significance levels: *** p<0.01, ** p<0.05, * p<0.1

Sources: IPUMS Full-Count Censuses, 1860, 1880, 1900, 1920, and 1940; Census Linking Project Crosswalks, 1860–1880, 1880–1900, 1900–1920, and 1920–1940; Postel (2023) data package; Collins and Zimran (2023) data package. Corresponds to Figure 16.

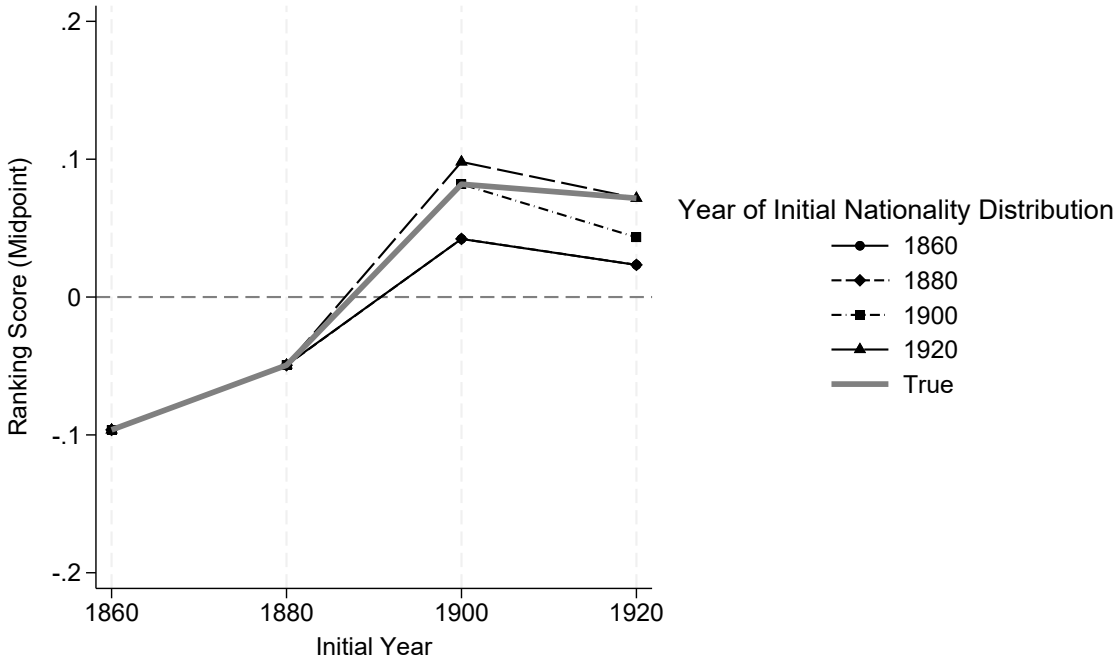

Figure 15: Relative Change in Rank Conditional on Occupational Upgrading, Asian

Sources: IPUMS Full-Count Censuses, 1860, 1880, 1900, 1920, and 1940; Census Linking Project Crosswalks, 1860–1880, 1880–1900, 1900–1920, and 1920–1940; Postel (2023) data package; Collins and Zimran (2023) data package. Corresponds to Table 15.

Notes: For clarity, error bars are not included; see Table 15 for standard error values. Year-adjusted distributions are identical in the 1860-adjusted distribution and the 1880-adjusted distribution because they consist entirely of Chinese immigrants.

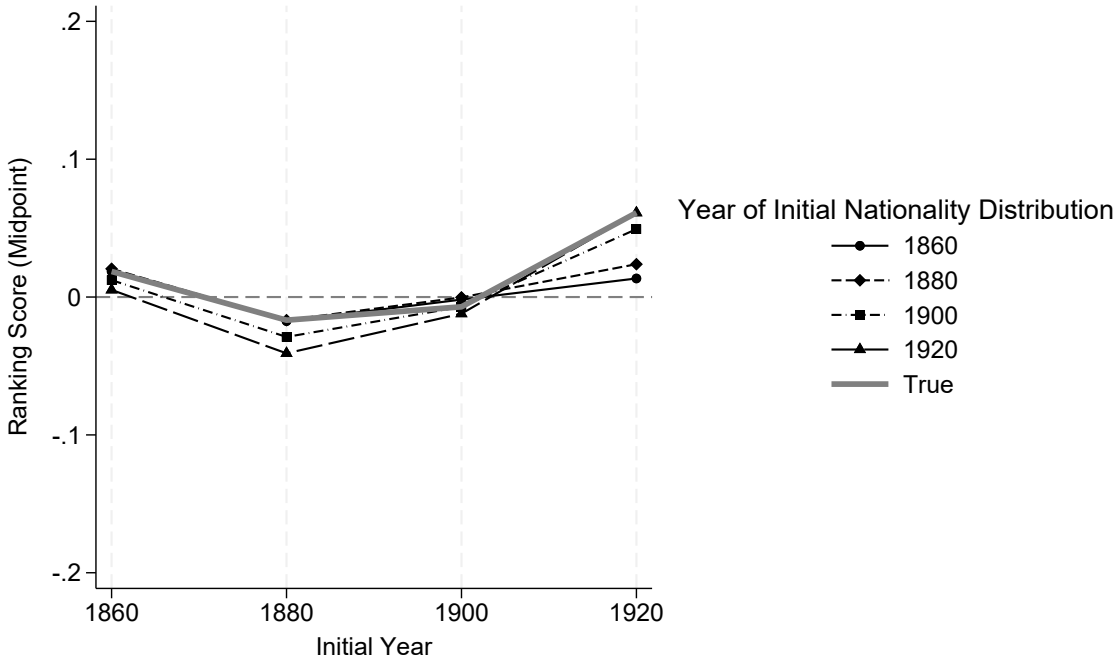

Figure 16: Relative Change in Rank Conditional on Occupational Upgrading, White

Sources: IPUMS Full-Count Censuses, 1860, 1880, 1900, 1920, and 1940; Census Linking Project Crosswalks, 1860–1880, 1880–1900, 1900–1920, and 1920–1940; Postel (2023) data package; Collins and Zimran (2023) data package. Corresponds to Table 16.

Notes: For clarity, error bars are not included; see Table 16 for standard error values.