The Uneven Economic Advance of Mexican Americans before World War II

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Abstract: Various explanations for Mexican immigrants' and their descendants' lagging economic progress in recent decades do not apply one hundred years ago: English skills were less valuable, inequality was decreasing, ethnic enclaves were smaller, and undocumented entry was not criminalized until 1929. Using new data from full-count censuses prior to 1940, we show that, despite some favorable conditions, Mexican migrants were lower skilled than white natives and other non-English-speaking Europeans, invested less in English skills after arrival, upgraded to high-skilled jobs at slower rates, and therefore may have fallen behind white natives and Europeans in the decades after arrival. Subsequent generations then improved on first-generation outcomes and converged towards non-Mexican white natives; yet, 3rd-generation Mexican Americans were still lower skilled than 4th-generation white natives. Labor market outcomes for Mexican immigrants and their progeny were closer to those for African Americans than for non-Mexican whites. The evidence suggests that concentration in agricultural occupations, racial discrimination and geographic isolation led to persistence in outcomes for generations of Mexican Americans.

JEL Classification: J15, J61, J62, N31, N32

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I. Introduction

Mexican migrants and their descendants lag behind natives in income and education; further, their children and grandchildren only partially close the gap (Borjas and Katz, 2007; Duncan and Trejo, 2011). This has led to substantial skepticism that Mexicans will assimilate as well as Europeans did one hundred years ago (Portes and Zhou, 1993; Rumbaut, 1994); indeed, a comparison between Mexicans now and Europeans then show that Mexicans are closing skill differentials at slower rates (Perlmann, 2005). There are several theories about lagging progress for Mexican migrants such as rising inequality leaving behind those less skilled, large ethnic enclaves slowing investment in highly valuable English skills, and questions of legal status limiting undocumented migrant's ability to participate in the high-wage labor market (Duncan and Trejo, 2015; Perlmann and Waldinger, 1997; Borjas, 2015; Vigdor, 2010). On the other hand, Europeans one hundred years ago faced a more advantageous environment: they arrived freely and legally able to work in an economy where one could easily find work without a high school diploma and inequality decreased during the early 20th century, which helped to close income gaps for descendants of the first generation (Goldin and Katz, 2008; Perlmann, 2005).

Rather than comparing Mexicans now to Europeans then, we directly compare Europeans one hundred years ago to Mexicans who arrived at the same time – a comparison ignored in a European-dominated historical literature (Abramitzky, Boustan and Eriksson, 2014; Ferrie, 1999). With this comparison, we uncover the rate of assimilation in a time period when the gap between Mexican migrant and American education levels was smaller, Mexican migrants were positively selected, networks were less developed, and undocumented immigration was not criminalized until 1929 (Morrisson and Murtin, 2009; Kosack and Ward, 2014; Ngai, 2003). While this suggests that Mexicans in the early 20th century fared relatively better, there are other historical elements that worked against occupational upgrading – primarily, racial discrimination. For example, there were several Congressional debates over Mexicans' right to citizenship because some argued that migrants were neither white nor of African descent (Gratton and Merchant, 2016; Padilla, 1980). Moreover, Mexicans and Mexican Americans in the Southwest were segregated into Mexican-only schools, much like African Americans in the South (Gross, 2006).

For the time period before World War II, we estimate the rate of economic progress for the first generation of Mexican migrants and the progress for the children and grandchildren.

To do this, we benefit from the recent digitization of full-count United States censuses prior to 1940. These data solve three problems faced in studies on migrant outcomes. First, the censuses observe the entire set of a relatively small population: the prior IPUMS samples contained too few Mexicans for in-depth analysis.[1] Second, we can build longitudinal data by linking Mexicans from census to census; panel data is needed to estimate upgrading free from bias due to selective return migration (Lubotsky, 2007; Abramitzky, Boustan and Eriksson, 2014). Third, due to the ability to link we can measure intergenerational progress for one more generation than the prior literature, since we can observe grandparent's country of birth in the 1940 Census. Others have explored intergenerational progress past 1940, but most of this research relies on the ancestry and the Hispanic identifier starting with the 1980 Census, a variable which selectively identifies only a subset of those with Mexican grandparents (Borjas, 2001; Duncan and Trejo, 2007; Smith, 2003).[2]

We find that despite some favorable features of the early 1900s, Mexican migrants lagged behind white natives and other European migrants in the decades after arrival; yet, their outcomes were slightly more favorable than black natives. A similar fraction of non-English Europeans and Mexicans arrived holding white-collar jobs, but Mexicans fell behind in the decades afterwards as Mexicans upgraded to white-collar work at a slower rate throughout the life cycle. Rather, Mexicans were more likely to concentrate in unskilled work relative to Europeans and especially white natives. Therefore, it appears that the first generation of Mexican Americans did not exhibit substantial upward mobility in the decades after arrival, and may have actually experienced negative assimilation as they missed the broad gains in the early 20th century economy. Compared with black natives, Mexicans had a similar proportion of skilled and white-collar workers at arrival; the largest differences were that Mexicans were less likely to be farmers more but likely to be unskilled workers.

While the first generation of Mexicans did not have much upward mobility, each subsequent generation of Mexican Americans converged with white natives in all categories of

[1] There is some research on Hispanics in the 1910 Census due to an oversample that covers about 10 percent of the Hispanic population. See Gutmann, Frisbie and Blanchard (1998).

[2] See Duncan, Grogger, Leon and Trejo (2017) for a recent study on multigenerational advance for Mexican Americans using grandparent's country of birth as an identifier. Note that it is also possible to identify higher order generations prior to 1940 using the Spanish surname variable from IPUMS, which identifies Hispanics based on a list of surnames in 1980. While useful, this method also suffers from limitations. First, it cannot separate third from higher-order generations. Second, it cannot differentiate Mexican Hispanic and non-Mexican Hispanic for the third generation. Third, descendants of female first generation or second generation Mexicans who married outside of the Mexican ancestry are also missed. Yet out marriage was not common: 94 percent of first-generation Mexican females married in-group, and 78 percent of second generation females married in-group (Wildsmith, Gutmann and Gratton, 2003, Table 1).

unskilled, semi-skilled, white-collar and farming jobs. However, there still remained large differences between third-generation Mexicans, third-generation Europeans and 4th-generation Americans (those with four American-born grandparents). Compared with white natives with four American-born grandparents and those with at least one European-born grandparent, the grandchildren of first-generation Mexicans had lower levels of income and education in 1940. For example, third-generation Mexicans had 6.3 years of schooling on average compared to 9.2 years for whites with four American-born grandparents and 5.7 for blacks. Further, the children of third-generation Mexicans, also had lower levels of schooling compared with native children in the 1940 Census; this gap is not explained by the lower education levels of the parents, income of the parents, or neighborhood of residence, suggesting that either factors outside the family or unobservable factors within the family cause the generational persistence of relatively low status.

Two factors that could contribute to the slow convergence of skill gaps are racial discrimination and geographic isolation in the Southwest. Although the outcomes for Mexican migrants and descendants of these migrants did not reach levels of native whites, they were much closer to those of African Americans. Although legally considered white in the eyes of the law, Mexicans and Mexican Americans were subjected to *de facto* discrimination that was analogous to the treatment of African Americans in the Jim Crow South. These discriminatory acts included exclusion from public accommodations, segregated schools, and preventing individuals from serving on juries or voting (Gross, 2006). Even in the unlikely event that labor market discrimination did not take place, the fact that Mexicans were segregated into lower quality schools surely impeded the process of human capital accumulation and economic advance, much as it did for African Americans (Carruthers and Wanamaker 2016). African Americans improved their relative position in the U.S. economy and partially closed the black-white wage gap by seeking better opportunities north in the Great Migration (Collins and Wanamaker 2014). Even over multiple generations, Mexicans and their progeny did not spread far beyond the Southwest. This geographic isolation kept them subjected to the racial discrimination described previously, and did not allow them the opportunity to explore career paths beyond the unskilled and agricultural positions that dominated the economy of the border states.

II. An Overview of Mexican Migration Prior to World War I

Although no official data exist until 1908, migration from Mexico to the United States was low relative to migration from Europe in the 19th and early 20th centuries. Only 72,000 Mexican-born were observed in the 1880 Census, one eightieth the size of the European stock (See Figure 1).[3] Despite the potentially large gain in real wages, few Mexicans could afford the trip northward from central Mexico since the Mexican railroad to El Paso was not complete until 1884 (Cardoso, 1980).[4] Further, information about life abroad was relatively scarce as migration networks had yet to diffuse southward in Mexico.[5] While the stock's level was low, it increased proportionally from decade to decade, quadrupling between 1850 and 1880 from 15,000 to 72,000, and then tripling between 1880 and 1910 to 237,000. The first great migration of Mexicans in absolute numbers was during the 1910s when the violent Mexican Revolution, one of the deadliest conflicts of the 20th century, pushed hundreds of thousands of refugees northward; although many returned home, the Mexican stock doubled between 1910 and 1920 (Gamio, 1930; McCaa, 2003). Migration continued after the Revolution's end, leading to the 1920s being the peak of Mexican immigration prior to the Bracero Program during and after World War II (Kosack, 2016). Migration then halted in the 1930s as the Great Depression hit the United States; similar to other European countries, there was a net return back home, which led to a halving of the Mexican stock from 624,000 in 1930 to 386,000 in 1940. However, the return flow of Mexicans was not entirely voluntary, as some were forcibly deported south of the border.

While Mexican migrants were positively selected in terms of height and literacy prior to 1940, likely because of liquidity constraints restricting travel, they concentrated in low-skilled work after arrival (Feliciano, 2001; Kosack and Ward, 2014). In 1920, 78 percent of male Mexicans were either laborers (40 percent), farm owners or laborers (33 percent), or miners (5 percent), a small set of occupations. Many switched between these jobs with seasonal demands, and then after the end of the season many returned home to Mexico (Gamio, 1931;

[3] The United States did not start to record border crossings until 1908 and even then, official tallies of immigrants only record those who planned to stay at least one year (Cardoso, 1980). For a short overview of the history of Mexican Americans in the Southwest, please see Gratton and Merchant (2015).

[4] Of course, the same areas that Mexicans settled in the late 19th and early 20th centuries were formerly part of Mexico until the Treaty of Guadalupe Hidalgo in 1848 and Gadsden Purchase in 1853. The population of Mexicans living in these areas was sparse compared to the source of migrations in central Mexican states in the 20th century, in part because indigenous groups resisted settlement (Meinig, 1971). As part of the Treaty of Guadalupe Hidalgo, Mexicans living in annexed areas were allowed to become United States citizens.

[5] See Gould (1980) and Spitzer (2015) for a discussion about diffusion of migration networks in Europe during the Age of Mass Migration. Morales (2016) presents a similar argument for Mexico between 1900 and 1940.

Taylor, 1929). Unlike some higher skilled Europeans, Mexicans were relatively ill-prepared to acquire high-skilled jobs: few could speak English, read or write at arrival, reflecting the gap in education levels between Mexico and the US (1 year versus 6 years in 1900) (Feliciano, 2001; Morrisson and Murtin, 2009). Yet the starting point for Mexicans was not far from low-skilled Southern Europeans, who also arrived relatively illiterate and unable to speak English (Ward, 2017).

Mexican's position in the skill distribution was not only due to low levels of pre-migration human capital, but also due to discrimination from natives. Mexicans were considered racially inferior to Anglo-Americans by many; for example, in an analysis of immigration from Latin America, a 1925 Department of Labor report concluded that Latin Americans do "not attain the race value of the white stocks, and therefore immigrants from these countries tend to lower the average of the race value of the white population of the United States" (Foerster, 1925). Mexicans were viewed as unable to assimilate because they were "non-white" and some nativists went far enough to argue that Mexican Americans should be disqualified from citizenship because they were neither white nor of African descent (Padilla, 1980).[6] While Mexican American's right to citizenship was upheld in the 1897 *In Re Rodriguez* case, a eugenics-obsessed society still aimed to classify low-skilled migrants as inferior, an obsession that not only applied to Mexicans but also to Southern and Eastern Europeans (Higham, 1955).

Despite the *de jure* classification that Mexicans were white, they experienced *de facto* treatment as if they were non-white.[7] Much of the Mexican immigrant's experience in the Southwest was analogous to the experience of blacks in the Jim Crow South. For example, Mexicans and their children faced segregated schools, hundreds of cases of lynching, exclusion from so-called "sundown towns," debt peonage tying them to "company towns," restrictions from voting and juries, and segregated public accommodations (e.g., water fountains, restaurants, pools, etc.) (Carrigan and Webb, 2003; Gross, 2006).[8] The infamous "Whites Only" signs applied to both blacks and Mexican Americans in places such as Texas and

[6] This is despite the Treaty of Guadalupe Hidalgo granting immediate citizenship to those living in the acquired territory.

[7] For a more detailed description of both the *de jure* and *de facto* discrimination facing Mexican migrants and Mexican Americans, see Gross (2006).

[8] "Sundown" towns are those which Mexicans were not welcome after the sun had set. Another famous instance of racial tension between Mexican- and Anglo-Americans were the Zoot Suit Riots, when military servicemen attacked Mexican Americans who were perceived to be violating war-time rations on textile consumption.

southern California.[9] It was not until the Supreme Court case of *Hernandez vs. Texas* in 1945 that Mexican Americans were granted equal protection under the 14th Amendment; further, the first time a federal court ruled against segregated schools was for a case involving Mexicans Americans in Los Angeles in 1947, rather than the more famous *Brown v. Board* decision seven years later (Gross, 2006).[10]

Perhaps the two most well-known instances of differential treatment of Mexican Americans occurred around 1930. First, the 1930 United States Census was the first and only to classify "Mexican" as a race in order to separate Mexican Americans from Anglo Americans. This category was removed from the 1940 Census due to protests from Mexican Americans concerned about the legal ramifications of being labeled non-white (Hochschild and Powell, 2008).[11] Second, was the mass – and illegal – deportation of hundreds of thousands of Mexicans and second-generation citizens during the Great Depression, an event which California officially apologized for in 2005. Many cities bought train tickets to encourage Mexicans and their families to return home, which some migrants took advantage of due to the lack of work; however, as the Depression dragged into the 1930s, deportation raids became more commonplace as the United States government blamed Mexicans for the lack of jobs for Anglo-Americans (Balderrama and Rodriguez, 2006; Gratton and Merchant, 2013).[12]

The second generation of Mexican Americans, on average, were also lower skilled relative to the Anglo-American population; however, the second generation of Mexican Americans improved over the first generation's location in the skill distribution (Alba, Lutz and Vessilnov, 2001; Borjas, 1994; Smith, 2003).[13] Due to Mexican Americans primarily living in the Southwest, they were relatively unexposed to the industrial jobs in the northeast which

[9] The treatment of Mexican Americans was so poor that in 1929 The League of United Latin American Citizens (LULAC) was formed to empower them and fight for basic civil rights. LULAC continues today as an important advocacy group for this community.

[10] See *Mendez v. Westminster School District of Orange County*.

[11] Gratton and Merchant (2016) argue that the inclusion of the Mexican race category was largely met with indifference from Mexican Americans (with the exception of those in New Mexico), either due to familiarity with such racial classifications that were already in the Mexican Census or because they were relatively detached from arguments over classifying races in Washington DC. Much of the debate over the Mexican racial category was during the 1930s, when the Division of Vital Statistics classified Mexicans with the "colored" or non-white groups in order to separate the higher infant mortality rate for the Mexican population from the lower rate for the non-Mexican white population. It was not until the 1970 Census that Mexicans were alternatively identified; however, now it was not by a separate race but rather a separate ethnicity question for whether one was Hispanic.

[12] The Great Depression was not the first instance of deportation. Another famous instance occurred in 1917 when Mexican miners on strike in Bisbee, Arizona were illegally sent to New Mexico by a local militia.

[13] Our paper also relates to others who explore historical upward mobility for groups other than non-Hispanic whites. See Collins and Wanamaker (2017) for a study on intergenerational mobility for African Americans since 1880, and see Hilger (2016) for Asian Americans.

many Europeans used to move up the occupational ladder. Further, states in the Southwest passed compulsory schooling laws at later points than states with more Europeans, which may have led to slower intergenerational progress (Bandiera et al., 2016; Clay et al., 2016).[14] Given the exclusion of Mexican Americans from white schools, it is also likely that the quality of schooling was much lower for Mexican Americans due to fewer resources. We move beyond the prior literature on intergenerational progress for Mexican Americans before World War II by examining outcomes of the third generation, which we can identify because with data on grandparent's country of birth.[15]

III. Data

Advances after Arrival – 1900 to 1929 Arrival Cohorts.

We aim to estimate how quickly Mexican immigrants upgraded occupations in the decades after arrival, and also how future generations of Mexican Americans improved occupations relative to the first generation. We use United States censuses prior to 1940 to answer these questions. The censuses are the best available datasets during this time period, particularly because one is able to track individuals across censuses since names are publicly released; however, there is likely under enumeration of the highly transient Mexican migrant population, the extent of which is unknown (Cardoso, 1980). Therefore, our results will only apply to the population of observed migrants who are likely slightly higher skilled than the unobserved population if there is positive selection into enumeration.

The first research goal of estimating the rate of occupational upgrading after arrival requires panel data; otherwise, the synthetic cohort method as used by Borjas (1985) conflates any change across censuses with selective return migration (Lubotsky, 2007). Note that Mexican return migration rates were high, up to 44 percent, yet return migrants had similar heights as permanent migrants suggesting that selective return migration may not strongly bias estimates (Kosack and Ward, 2014). Nevertheless, to avoid the problem of selective return

[14] According to Bandiera et al. (2016), the compulsory schooling laws were passed in the following years: Arizona (1899), California (1874), New Mexico (1891), Texas (1915). For reference, other states with a large number of European immigrants were New York (1874), Massachusetts (1852), Illinois (1883) and Pennsylvania (1895). Note that Clay, Lingwall and Stephens (2016, Table 6)) show that compulsory schooling laws slightly increased years of education for the second generation in the 1940 Census. Lleras-Muney and Shertzer (2015) argue that compulsory school laws increased attendance at school but had little effect on foreign-born adult occupation or wages.

[15] Smith (2003) examines the intergenerational progress of Mexican Americans using later data from the 1940 Census to 1994 CPS. See a series of articles by Duncan and Trejo (2007, 2011, 2015) that explore intergenerational progress for Mexican Americans for more recent decades.

migration, we use longitudinal data that tracks a migrant cohort from observation in the first census to ten years later in a second census; the data we use for 1900 to 1919 arrivals was first created by Ward (2016).[16] To additionally capture the outcomes of the 1920 to 1929 cohort, we link them when they first observed in the 1930 Census forward to the 1940.[17]

The panels consist of males who are between 16 and 40 and arrived within the last ten years at first observation. For example with the 1910 census, we link those arrived between 1900 and 1909 to the 1920 census; we drop those who arrived in the same year as census enumeration since we do not observe the full arrival cohort. After linking, we keep only those who report an occupation, the main outcome variable we analyze.[18] This leaves us with a sample of 5,669 Mexicans linked between 1910 and 1920, 23,637 observations between 1920 and 1930, and 19,508 observations between 1930 and 1940.[19] Note that with this data we only study the assimilation of *permanent* Mexican migrants (or those who have stayed at least 10 years), which may be different from the outcomes of *temporary* migrants. Since we are interested in the long-run assimilation of Mexicans, however, we focus on this group of permanent migrants.[20]

We compare rates of occupational upgrading for Mexicans to those for native-born males and other non-English-speaking Europeans – that is, we drop the United Kingdom and Ireland from the data. The non-English-speaking Europeans (heretofore referred to as "Europeans" for convenience) are also found in the linked sample from Ward (2016), which includes 359,921 individuals from 1910 to 1920, 282,374 from 1920 to 1930, and 204,785 from 1930 to 1940.[21] For comparisons with the native born, we append native-born males, either

[16] For example, the 1900 to 1904 cohort is first observed in the 1910 census and then later tracked to the 1920 census; therefore, this data is from the linked censuses between 1910 and 1920, and 1920 and 1930.Ward (2016) also has data on 1890 to 1899 arrival cohorts, but this is created by linking the 5 percent 1900 sample to the 1910 sample. Due to the smaller sample sizes, we do not use the sample of Mexicans in this linked dataset.

[17] We link 1930 and 1940 Censuses in a similar manner as Ward (2016), which is described in further detail in Appendix A. We specifically clean Mexican first names prior to linking to account for common misspellings that the NYSIIS standardization does not account for.

[18] If an occ1950 code does not exist for an observation because it has yet to be classified by IPUMS, then we match the occupation string with the 1920 to 1940 full-count census to update the occ1950 code. We drop those not matched.

[19] Since we do not exploit the panel aspect of the data, we include observations who are successfully linked across two censuses, but only report a job in one of the censuses. This pattern is more prevalent for younger ages in the sample, such as 16 year olds who do not report a job in the first census, but do report a job by 26 in the second census.

[20] Kosack and Ward (2014) find that return and permanent migrants have similar heights at arrival, suggesting no strong selection on outcomes. Note that Greenwood and Ward (2015) show that 90 percent of return migrants move back home within ten years of stay.

[21] Ward (2016) also does not link non-English-speaking Europeans from 1930 to 1940, so we link them according to the method in Appendix A.

black or white, from the 1910 to 1940 IPUMS cross sections**.** The native group is used as a reference to account for aging and period effects; therefore, all results on the rate of assimilation and cohort quality are presented relative to the native-born. We will also present results when comparing separately to either native-born blacks or whites.

Linked samples are typically higher skilled than the underlying population of permanent migrants because those who are higher skilled tend to be linked at higher rates.[22] Therefore, the Mexicans and Europeans in our sample likely had higher skilled jobs than the underlying population. However, we are unconcerned over this bias since it would go against the results of this paper, which show that Mexican migrants were lower skilled than natives and upgraded at slower rates. Nevertheless, the representativeness of the linked sample compared to the cross section is shown in Appendix Table A2.[23] We reweight the linked sample to be representative in terms of age, literacy and English ability to mitigate concerns over biases arising from linking. The qualitative results are unchanged when using the unweighted sample.[24]

The descriptive statistics from the final samples of Mexicans, Europeans, native-born whites and blacks are shown in Table 1. Overall, Mexican immigrants held jobs that paid 30 percent less than the jobs for native-born whites and Europeans; this partially follows from Mexicans' lower levels of observable human capital in terms of literacy and English fluency. At the same time, Mexican immigrants held jobs that paid 5 percent more than native-born blacks. These statistics provide the overall skill gaps across groups, but the primary interest of this section of the paper is to estimate the rate at which skill gaps closed after arrival. Another key point from this table are the differences in location: 82 percent of Mexicans lived in a southern border state, compared with 10 percent of native whites, 8 percent of native blacks, and 5 percent of Europeans. We will later explore how geography influences upgrading rates for Mexican immigrants.

[22] Linked samples for immigrants tend to be higher skilled because those with uncommon names are more likely to be linked, and uncommon names are weakly associated with higher skills (Ferrie, 1996; Abramitzky, Boustan and Eriksson, 2014).

[23] To determine representativeness, we compare the linked sample to the random IPUMS sample from the cross section; for example, compare the 1900 to 1909 arrival cohort in 1920 in the linked sample to the cross section from IPUMS. Note that the representativeness of the 1920-1929 arrival cohort linked from 1930 to 1940 cannot be checked because the 1940 Census did not record when migrants first arrived in the country.

[24] Results available from authors upon request.

IV. Methodology to Measure Assimilation Rates and Results

We estimate the rate of assimilation using the standard methodology in the literature (Chiswick, 1978; Borjas, 1985). Pooling the immigrant panels and native cross sections together, the regression takes the following form:

$$\text{Occupation}_{it} = \beta_0 + f(Years\ in\ US_{it}) \times (Mexican)_i + f(Years\ in\ US_{it}) + \sum 1(Cohort_i) \times (Mexican)_i + \sum 1(Cohort_i) + g(Age_{it}) + \gamma_t + \varepsilon_{it} \quad (1)$$

where an individual *i*'s occupational skill group is regressed on a quadratic of years in the United States to account for U.S. labor market experience, cohort of arrival indicators (separated into five-year bins from 1900-1904 to 1925-1929) to account for changing arrival cohort quality, a quadratic of age to account for life-cycle effects, and census year dummies to account for general time period changes.[25] Note that this method does not use the panel features of the data; rather, the benefit of the panel data is that it eliminates bias from selective return migration.

Two functions are of primary interest: the shape of the years in the United States profile (i.e. assimilation or experience profile) and the pattern of cohort effects over time. If one uses only immigrants in the regression, then cohort of arrival, years in the United States and year are linearly dependent and thus are not identified. Further, age and years in the United States are also collinear. The key assumption in the literature is that the native born are included in the regression to identify both year and life-cycle effects; accordingly, natives are the excluded group for years in the United States and arrival cohort. Therefore, the regression measures immigrant outcomes, adjusted for age and year, relative to natives in a difference-in-difference framework. The expectation is that migrants upgrade their jobs through the life cycle at a faster rate than natives since migrants additionally learn US-specific human capital; in other words, we expect the assimilation profile to be positively sloped. However, if Mexicans are left behind and do not experience the gains made by the broader economy, then the assimilation profile will be negatively sloped. Finally, we allow for the assimilation profile and cohort effects to vary by Mexican and European immigrants by interacting both with an indicator variable for Mexico.

[25] Note that arrival cohort if calculate by Year minus Years in the United States. Additionally, we perform the analysis for occupational score as well and results are available upon request.

Results Using Occupational Categories

We present results after assigning immigrants to four broad occupational categories: unskilled, farmer, white collar and semi-skilled.[26] Note that farm laborers are included in the unskilled category, an important allocation since approximately 20 percent of Mexicans in our sample held these jobs.

Figure 2 shows that the largest difference across occupational categories is that on arrival, Mexicans were 36 to 44 percentage points more likely to hold an unskilled job relative to the native white average of 40 percent (see Table 1); this proportion for Mexicans was also 20 to 30 percentage points higher than the European proportion. This lopsided allocation of Mexicans into unskilled work implies that Mexicans had fewer individuals in the other occupational categories: indeed, Mexicans lagged behind natives in white-collar, skilled and farming work by 10 to 15 percentage points each.

Following these occupations at arrival, did Mexicans close the gaps with natives in the following decades? Figure 3 shows that the gap for unskilled work between Mexicans and natives closed by 6 percentage points after two decades; this was the same percentage point closure for European immigrants, showing that Mexicans and Europeans' gap in unskilled work remained wide.[27] Despite closing the unskilled gap with the native born throughout the life cycle, a majority of Mexicans (greater than 60 percent) still worked in unskilled occupations such as laborer, farm laborer or miner after two decades in the United States.[28]

After two decades of living in the United States, Mexicans also closed the occupational gaps for the farming and skilled occupational categories by about 5 percentage points each, showing an advance in occupational status. A common occupational switch for Mexican immigrants was a movement upward from farm laborer to the farmer category, a transition which reflects the high number living in rural areas. Yet, Mexican immigrants' rural locations may have caused them to lag behind the native born in the white-collar category. As opposed

[26] We code these following the three-digit occ1950 codes in IPUMS. Unskilled occupations start with a 6, 7, 8 or 9, but excluding those with a non-occupational response such as students, house wives and inmates. These jobs include operatives, low-skilled service workers, farm laborers and general laborers. Farmers are those starting with a 1. Skilled workers are occupations starting with a 5, which are craftsmen. White-collar occupations start with a 0, 2, 3 or 4, reflecting professional, managerial, clerical and sales positions. We have calculated all regressions using the 1901 and 1950 occupational scores, but are currently creating a score that is more specific to Mexican earnings.

[27] This figure plots the predicted results from the regression coefficients on years in the United States and its square.

[28] Note that after twenty years, in addition to the effect of years in the United States, Mexicans moved out of unskilled work according to the age profile and census year effects.

to convergence with natives, as occurred for the other job categories of unskilled, farmer and skilled, Mexicans slightly diverged for the fraction working in white-collar jobs. While Mexican immigrants remained stuck in a wide gap with natives for white-collar work, Europeans closed the gap with natives by 10 percentage points, suggesting that access to white-collar jobs was a main difference between the assimilation profiles of Mexicans and Europeans.

We can exploit the panel features of the data to provide more detail on these occupation transitions from census to census. Table 2 shows how many of those starting in an occupation ended in a farming, skilled or white-collar job, splitting the data by Mexicans and Europeans. Compared with Europeans who started in the same occupation or category, Mexicans were less likely to hold either a skilled, white collar or farmer job in the second census. For example, only 21 percent of Mexican laborers changed their occupation to the skilled, white collar or farmer category, compared with 36 percent of Europeans. Similarly, only 21 percent of Mexican farm laborers upgraded their job outside of the unskilled category, compared with 50 percent of European farm laborers. The data suggests that Mexicans had slower upgrading rates within occupational skill group, implying that a lower starting position does not explain a slower upgrading rate relative to Europeans.

Mexican immigrants' falling behind natives is surprising in the context of a human capital model where immigrants acquire productive skills, such as English fluency, after arrival. Indeed, Mexican immigrants did acquire English fluency at a rapid pace, though at a slower pace relative to Europeans (see Figure 4).[29] However, acquisition of English skill was relatively unimportant for occupational upgrading in the early 20th century, reflective of an agricultural and manufacturing-dominated economy (Ward, 2016). Mexican immigrants' divergence in skill level may be related to discrimination causing Mexicans to not enjoy the same benefits from economic growth in the early 20th century; alternatively, it may be that Mexicans were located in states that did not improve over time as much as those in the northeast.

Heterogeneity across Race

The main comparisons presented thus far are between Mexicans, Europeans and all natives, both black and white. However, given the high levels of discrimination against Mexican immigrants during the early 20th century, it is informative to separately compare

[29] This is using the simple means by years in the United States. Note this is only for 1900 to 1919 arrivals since the 1920 to 1929 arrivals' English fluency cannot be measured in the 1940 Census.

Mexicans to native-born blacks. For example, while Mexicans lagged behind all native born, it may be that Mexican progress over time mirrored that of another group that experienced substantial discrimination.

In Figures 5 and 6, we show separately the differences between Mexican migrants and both white and black natives for various arrival cohorts. Mexican immigrants held a position in the skill distribution that was in between Anglo Americans and African Americans, but were closer to the African American's position. Relative to white natives, Mexican migrants held more unskilled jobs (by about 40 to 50 percentage points) and fewer jobs in higher skill categories (by about 10 to 20 percentage points). By contrast, the main difference in the occupation composition between Mexicans and blacks is that arriving Mexicans held more unskilled jobs (but only by 15 to 20 percentage points) and fewer farming jobs (also by 15 to 20 percentage points); otherwise, the number in skilled and white-collar jobs was similar.

In Figures 7 and 8, we estimate assimilation profiles for Mexican migrants relative to natives, broken down separately by race in the native population. The estimates show that Mexican migrants exited unskilled occupations by 15 percentage points more than native blacks, but only by about 5 percentage points more than native whites over the life cycle. Mexicans joined the farmer and skilled occupation groups by about 5 percentage points more than both native whites and blacks. Finally, there was almost no change in the move to white collar jobs relative to either white or black natives. Thus, Mexican migrants seem to do better against black natives than against white natives. Relative to Europeans, however, they were not able to move as much into white –collar occupations.[30]

V. The Assimilation of Subsequent Generations of Mexican Americans

The prior section demonstrates that the average Mexican immigrant started and remained in a low-skilled job relative to native-born whites and first-generation Europeans; however, Mexicans immigrants held a slightly favorable position relative to native-born blacks. This section explores whether subsequent generations of Mexican Americans improved on the first-generation's relative position in the skill distribution. Improving occupations across generations is expected since children are raised in the United States environment which likely yielded a higher return than the source country's childhood environment. At the same time the

[30] The estimates based on occupational score show that the average Mexican upgraded his occupation throughout the life cycle by 5 percent less than the average black individual. Therefore, depending on the arrival cohort, the average Mexican immigrant ended up at the same or slightly higher part of the skill distribution than native-born blacks, a position that was still far from the average skill level of a white native-born individual.

US environment was not homogenous: immigrants sorted into ethnic enclaves that may have led to different quality of schooling or other neighborhood-level inputs, which could cause high levels of persistence across time (Borjas, 1992; Borjas, 1995). Further, Mexican Americans may have had a different rate of intergenerational progress than European Americans since racial discrimination was strong in the early 20th century; in this section we will compare the intergenerational progress to both European Americans and African Americans.

To estimate intergenerational progress of Mexican Americans, we move to a different set of data; specifically, we use data on the first generation from the 1880 Census, the second generation from the 1910 Census and the third generation from the 1940 Census.[31] Note that we assume generations are thirty years apart and stack cross sections, rather than use linked grandfather-father-son data. To explore the intergenerational progress of Mexican Americans, we exploit the fact that we can observe parent's country of birth in the 1910 Census and thus the second generation; further, we can observe grandparent's country of birth in the 1940 Census, which can be used to identify the third generation.

The 1940 Census does not contain grandparents' country of birth; therefore, we have to observe it in another way. Ward (2017) solves this problem by linking adults in the 1940 Census to their childhood household in 1910, when both parents reported their own parents' countries of birth; while Ward (2017) focuses primarily on Europeans, we explore data on Mexican Americans. The dataset is of a sample of males who are 30 to 44 years old as adults: specifically, 12,282 first-generation Mexicans in 1880, 10,289 second-generation Mexicans in 1910, and 11,062 third-generation Mexicans in 1940.[32] Note that we define a third generation Mexican American as having one first-generation Mexican grandparent; with this definition we capture all grandchildren of first-generation Mexicans, but it is also possible that a third-generation Mexican American has one foreign-born parent.[33]

We compare Mexican Americans to what we term "longer-established Americans", or those who have been in the United States at least one generation longer than the comparison

[31] While California and Texas were admitted into the United States in 1850 and 1845, respectively, both Arizona and New Mexico were later admitted in 1912. However, they were still taken as part of the 1880 and 1910 Censuses. Of course, it is almost certain that the Mexican American population was undercounted in these early censuses.

[32] Linking restricts the sample because we can only infer grandparents' country of birth from children still in the household. This is restricted to 0 to 14 year olds in the 1910 census since older children may have already left the household. Given the children are 0 to 14 years old in 1910, they are 30 to 44 years old in 1940.

[33] This occurs if a first-generation Mexican grandparent's native-born child marries another foreign-born immigrant.

group Mexican Americans in each census. That is, we compare first-generation Mexicans to second-plus generation natives in 1880, second-generation Mexican Americans to third-plus generation natives in 1910, and third-generation Mexican Americans to fourth-plus generation natives in 1940. For example, a fourth-plus generation native is US-born to two US-born parents and four US-born grandparent; however, we cannot differentiate someone whose family has been in the United States for four or more generations.

Prior to showing the occupational convergence across generations, it is important to note that subsequent generations of Mexican Americans remained in border states rather than moving north to either the Midwest or Northeast (see Figure 9). This fact is particularly surprising given the higher income levels that were in the North relative to the South, and mirrors a class question in the economic history literature of why blacks did not move from the South to the North. Nevertheless, since there was little spatial assimilation of Mexican American descendants into other regions by 1940, Mexican Americans may have lagged behind other populations by remaining isolated in the Southwestern economy, which was primarily agricultural. It was not until later in the 20th century that Mexican immigrants started to spread away from the southwest, yet most today still live in California, Arizona, New Mexico or Texas (Borjas and Katz, 2007).[34] A lack of movement north reflects a pattern from Canadian immigrants during the early 20th century: French Canadians primarily located in New England and also did not move far away from the source country, perhaps resisting assimilation in a new country (MacKinnon and Parent, 2012).

The convergence between subsequent generations of Mexican Americans and longer-established natives in occupational categories are shown in Figure 10. The first generation's occupations reflect results from the prior section: first-generation Mexicans were more likely to hold an unskilled job than natives (75% versus 31%), and therefore were less likely to hold a white collar (4% versus 16%), farming (15% versus 40%) or skilled occupation (6% versus 12%). Remember that the first generation in this figure includes the stock of 30 to 44 year-old males, not estimated for those who just arrived as in in the prior section.

The second generation of Mexican Americans, or those who were US-born to at least one Mexican-born parent, converged towards natives in most skill categories, particularly for unskilled and farming work. The gap between Mexican Americans and longer-established natives closed from 44 percent in the first generation to 31 percent in the second generation;

[34] Some exceptions to this are settlement in the northern cities of Chicago and Detroit (see maps in Figure 7).

despite almost a third of the difference closing, the resulting gap was still wide. Similarly, the gap for the farmer category also closed (25 percentage points in the first generation down to 12 in the second generation), a closing that is primarily because natives shifted away from farming between 1880 and 1910.[35] Otherwise, the gaps for white-collar and semi-skilled work remained the same size between the first and second generations. Therefore, the second generation still lagged far behind natives despite being raised in the United States.

The new data on the third generation of Mexican Americans in 1940 – the US-born with and at least one first-generation grandparent – shows that convergence in occupational skill gaps occurred, but was still far from complete convergence. Third-generation Mexican Americans were 18 percentage points more likely to hold an unskilled job, closing the gap in the second generation from 31 percentage points. Therefore, the gap in unskilled work closed by about 60 percent between the first and third generations, a significant improvement, but one that took sixty years. In addition to the convergence in the unskilled category, there was progress for Mexican Americans in other skill categories: the third generation doubled the number of white-collar workers, which closed the gap with natives 12 to 9 percentage points. Further, the gap in farming and skilled work in the second generation halved by the third generation.

In Figures 11 and 12, we present a similar analysis, but split the sample of natives by race to better understand the differential multigenerational assimilation of Mexican immigrants relative to both white and black natives. The gap with white natives across three generations in the unskilled category closed by about the same as the three-generation gap with black natives (28 percentage points and 33 percentage points, respectively). However, by the third generation there still existed a large disparity with white natives while those of Mexican origin were now 12 percentage points less likely than black natives to be unskilled workers. In both the white-collar and skilled categories, Mexicans gained more relative to blacks than they did relative to whites across the three generations (six to ten percentage points against African Americans versus about three percentage points against whites). In both cases, Mexican migrants in all three generations were more concentrated in these higher skilled areas than black individuals, but less concentrated in them than whites. Finally, Mexican migrants gained in farmer occupations relative to white natives (gaining about 21 percentage points over three generations), while gaining much less relative to black natives (only about eight percentage

[35] Note that the percentage in farming was higher than in the prior section since the first generation in this section is observed in 1880, while the prior section they are observed between 1910 and 1940.

points over the three generations). By the third generations, the Mexican gap was about the same (six to seven percentage points) white both black and white natives.

Occupational categories are unfortunately crude, but we can use income data from the 1940 Census to more precisely estimate the differences between Mexican Americans, longer-established white Americans, and blacks; furthermore, we can decompose the reasons behind the income gap. Table 3 reports results from a regression of log income on education, age and geographic controls; of interest is a dummy variable for whether one is a third-generation Mexican American.[36]

First, there is a 43 percent income deficit for third-generation Mexican Americans relative to white US-born individuals with four US-born grandparents, larger than the 15 percent deficit when using occupational scores, confirming that occupations substantially mask income differentials between the groups. The results show that the difference in income between whites and Mexican Americans is mostly explained by gap in education; a 43 percent income deficit for Mexican Americans falls to 16 percent after controlling for education. However, controlling for county of residence increases the gap to 22 percent; this is because Mexican Americans located in higher income counties on average, which may reflect higher incomes for in western and mountain-region States (McLean and Mitchener, 2001).

Unique to historical census files, one can make geographical comparisons at much finer levels than the county. In particular, one can compare Mexican Americans to others listed on the same census sheet; since the census was enumerated door to door, those listed next to each other on the census sheet were often next-door neighbors (Logan and Parman, 2017). Therefore, when one controls for the census sheet and thus compares to their close-by neighbors, then Mexican Americans earn 10 percent less, more than halving the estimate from the country-level control. This could reflect that Mexicans Americans concentrated in lower-income neighborhoods within either urban or rural areas; however, 3rd-generation Mexican Americans still earned less than their similarly educated neighbors.

While Mexican Americans earned less than whites in the same neighborhood, they earned 19 percent more than similarly educated blacks in the neighborhood. The difference in income even for those living in the same neighborhood may be that there was less racial

[36] Note that income in the 1940 census is only reported for wage workers – therefore, self-employed workers are dropped. Further, income is top coded at $5,000. Also, we code education as dummy variables to account for non-linear effects of education on income.

discrimination against third-generation Mexican Americans than against blacks: 96 percent of Mexicans Americans were recorded as white, which likely yielded an advantage in the labor market (Mill and Stein, 2016).

VI. Outcomes for the Children of the Third Generation

Finally, the data allow us to go one generation further and estimate differences in education levels for fourth-generation Mexican Americans, or the children of the third generation of 30 to 44 year-old males in the 1940 Census. For this comparison, we do not observe the all eight great-grandparents but only the four great-grandparents on the father's side. Therefore, we compare the children of third-generation Mexican fathers to the children of fourth-generation native fathers. The only variable of interest for children still in the household is completed years of education, since most children had yet entered the labor market.

Table 4 shows that for children aged 12 to 17 years old, those with at least one paternal Mexican great-grandparent have 1.9 fewer years of education than white natives with four paternal American great-grandparents.[37] Given these differences in education level at childhood, it is likely that there were differences in income levels for adulthood, suggesting that income and education differences between Mexican Americans and longer-established natives persisted past the third generation into the fourth. However, this is unobserved since the 1940 Census is the last one to be publicly released. On the other hand, children of third-generation Mexican Americans also had 0.3 fewer years of education that native-born blacks, which may indicate that native-born blacks surpassed fourth-generation Mexican American when these children reached adulthood.

The large educational gap between Mexican Americans and longer-established whites may be due to lower levels of education for the parents of Mexican Americans, a variable we can easily observe in the 1940 Census. Indeed, after controlling for parental and household characteristics such as the father and mother's education level and the number of members in the family, the size of the education gap drops from 1.9 to 0.8 years.[38] Similarly for the comparison with black natives, the gap of 0.3 years disappears when controlling for parental

[37] We control for age in this regression to account for years in school.
[38] We additionally controlled for father's income in a separate specification, which yields the same results of about a 0.85 year gap between Mexican Americans and fourth-generation whites. We do not include it in the main specification since it drops a large number of self-employed fathers.

education levels. Therefore, lower years of education for the children of 3rd generation Mexican Americans is largely due to path dependence from lower level of parental outcomes.

Besides parental characteristics, location may explain the rest of the education gap for the children of 3rd-generation Mexican Americans: if Mexican Americans located in areas with lower quality schooling or worse access to schools, then their children may leave school earlier. In the next three columns, we narrow the comparison between children of Mexican Americans and children of longer-established whites from within state, to within county, to within the same census sheet. Narrowing the comparison to within the same census sheet lowers the gap between Mexican Americans and fourth-generation whites from 0.8 to 0.3 years, showing that Mexican American children received fewer years of schooling than their white neighbors. It is unclear what is driving this leftover gap in educational attainment since we control for parental characteristics and local neighbourhood characteristics; it may be that discrimination against Mexican Americans lowered their incentive to invest into more years of education.

If discrimination against Mexican Americans was the primary reason for lower levels of educational attainment, then one would expect Mexican Americans to have equal or higher levels of educational attainment compared with their black neighbors. However, in this comparison Mexican American children also had 0.3 fewer years of education. Therefore, discrimination may be an unconvincing explanation for lower levels of education, leaving the leftover gap between children of 3rd-generation Mexican Americans and black children a puzzle.

VII. Discussion and Conclusions

We use new data from full-count censuses prior to 1940 and estimate the size of skill gaps between Mexican migrants and others who were either European migrants or native-born. Mexican migrants held low-skilled jobs at arrival compared with both Europeans and the native born; the occupational-based earnings gap between Mexicans and natives was twice the size of the gap between Europeans and natives. In the decades after arrival, Europeans left behind Mexicans by improving on their original position. Mexicans, however, remained stuck at the lower levels of earnings they had at arrival, showing zero return to experience in the United States. Mexicans were more likely to enter farming and skilled jobs, while they lagged behind both native-born European Americans and first-generation Europeans in white-collar work. Yet Mexican Americans also held slightly higher skilled jobs relative to black natives at arrival.

The logical next step in this line of research is to more fully understand the causes of these persistent gaps.[39] Much of the failure to converge might be attributed to the discriminatory treatment Mexican Americans were subjected to by native whites and to their geographic isolation in the relatively poorer border areas of the United States. In future work, we hope to more precisely identify these channels of causation and the relative contributions of each of them to the size of the gap that we estimate here. Carruthers and Wanamaker (2016) attribute a significant portion of the black-white wage gap to the school quality as a result of the separate and unequal public school for African Americans in the Jim Crow South. Segregated schools for Mexicans and Mexican Americans in the Southwest could have a similar impact on the failure to converge that we find in this paper. Moreover, Collins and Wanamaker (2014) find that African Americans were able to advance and improve their position relative to whites by migrating North and taking advantage of opportunities in manufacturing during the Great Migration. Another margin of research to explore in helping to explain the Mexican-native gap is to understand why Mexicans and their descendants were reluctant to undertake this internal migration to other parts of the United States that might have rewarded them more in the labor market.

Whatever the reasons are, documenting the gap for Mexican immigrants over time and across generations at this point in time is an important first step to a greater understand of the migration history between the United States and Mexico. Despite the lack of the usual suspects to explain the lack of Mexican convergence today, Mexican migrants still lagged behind natives. This suggests that there exist other reasons for this failure to fully converge. Identifying those reasons will be important, not only to improving our knowledge of historical migration, but also to highlighting additional channels through which migrants find themselves disadvantaged compared to natives.

[39] Mackinnon and Parent (2012) argue that French Canadians assimilated slowly until World War II due to their proximity to Canada. Proximity to Mexico may also have slowed investments into United States-specific human capital.

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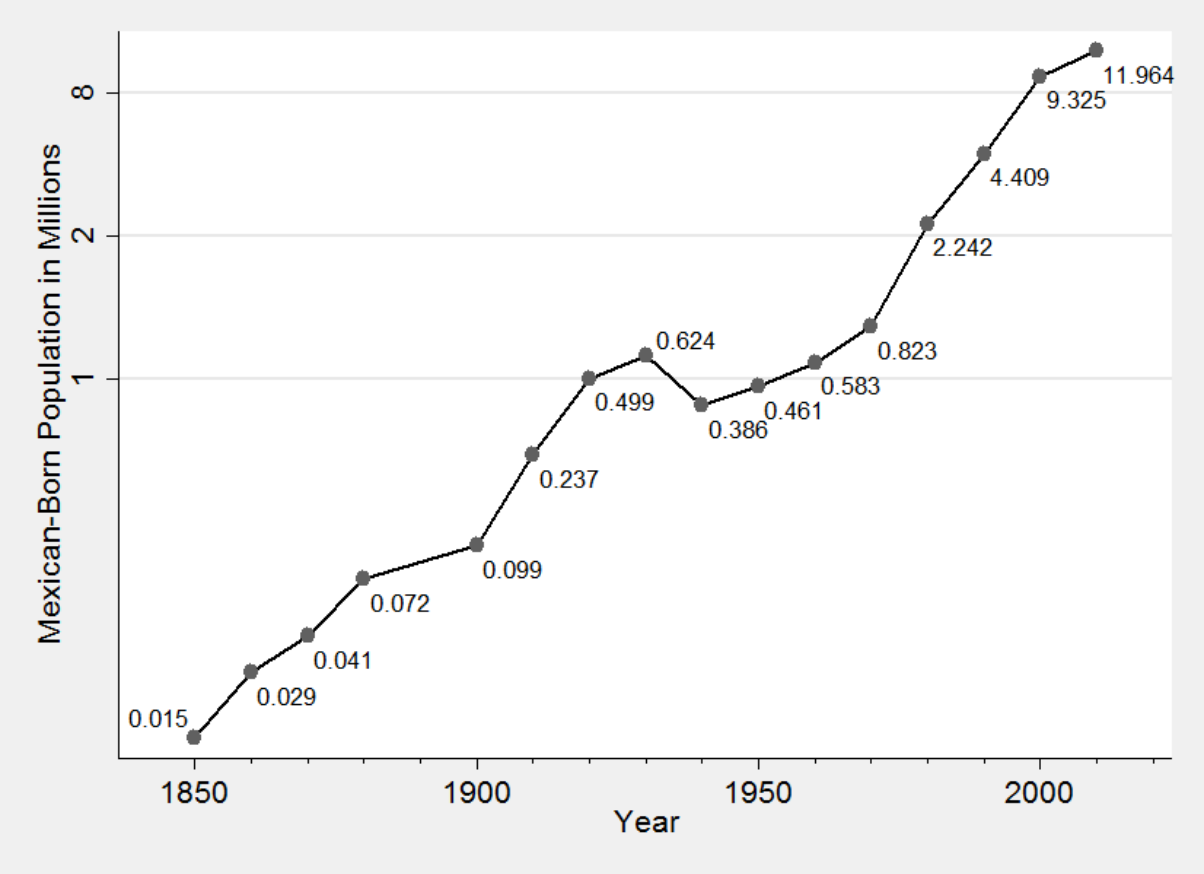
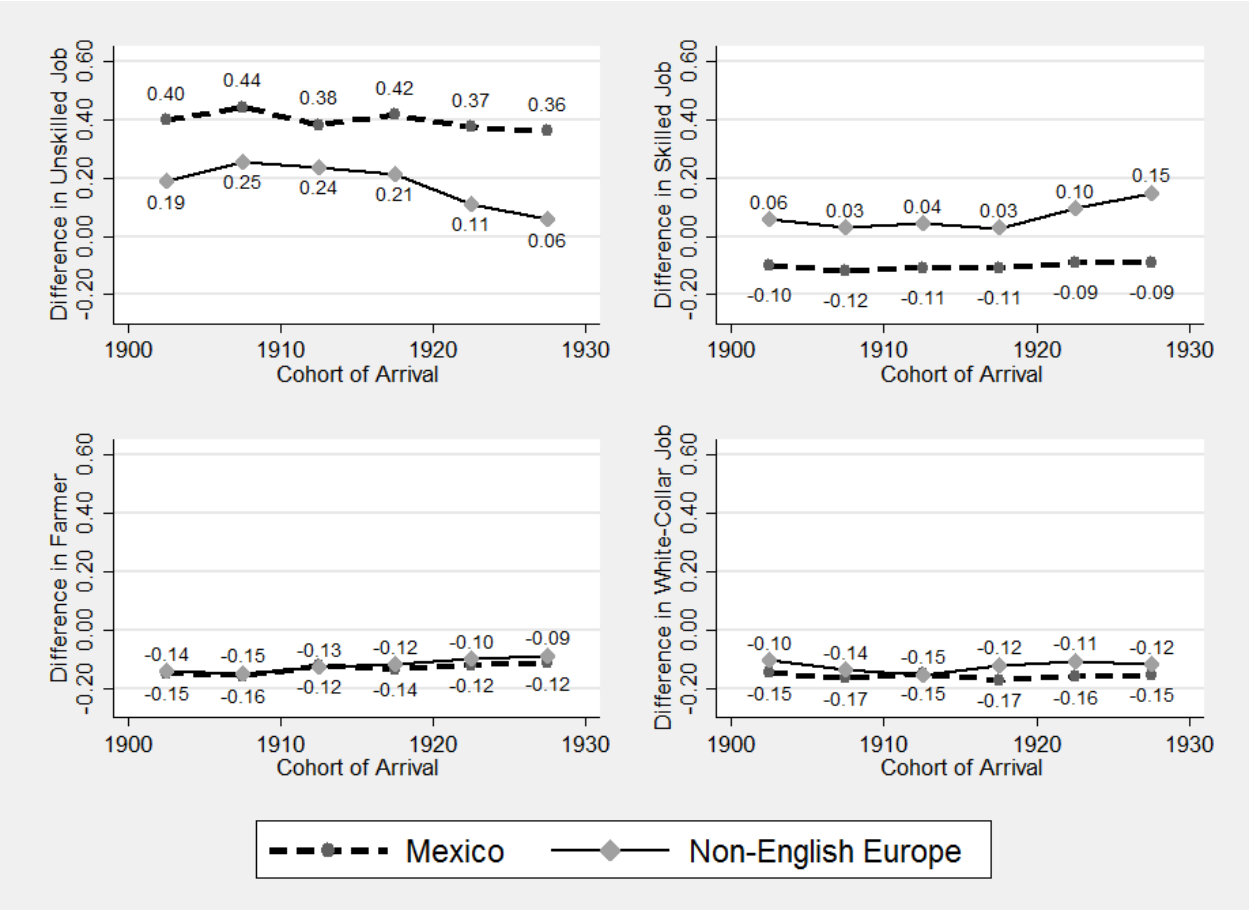
Figures and Tables

Figure 1. Stock of Mexican-Born Population in United States, 1850 to 2010



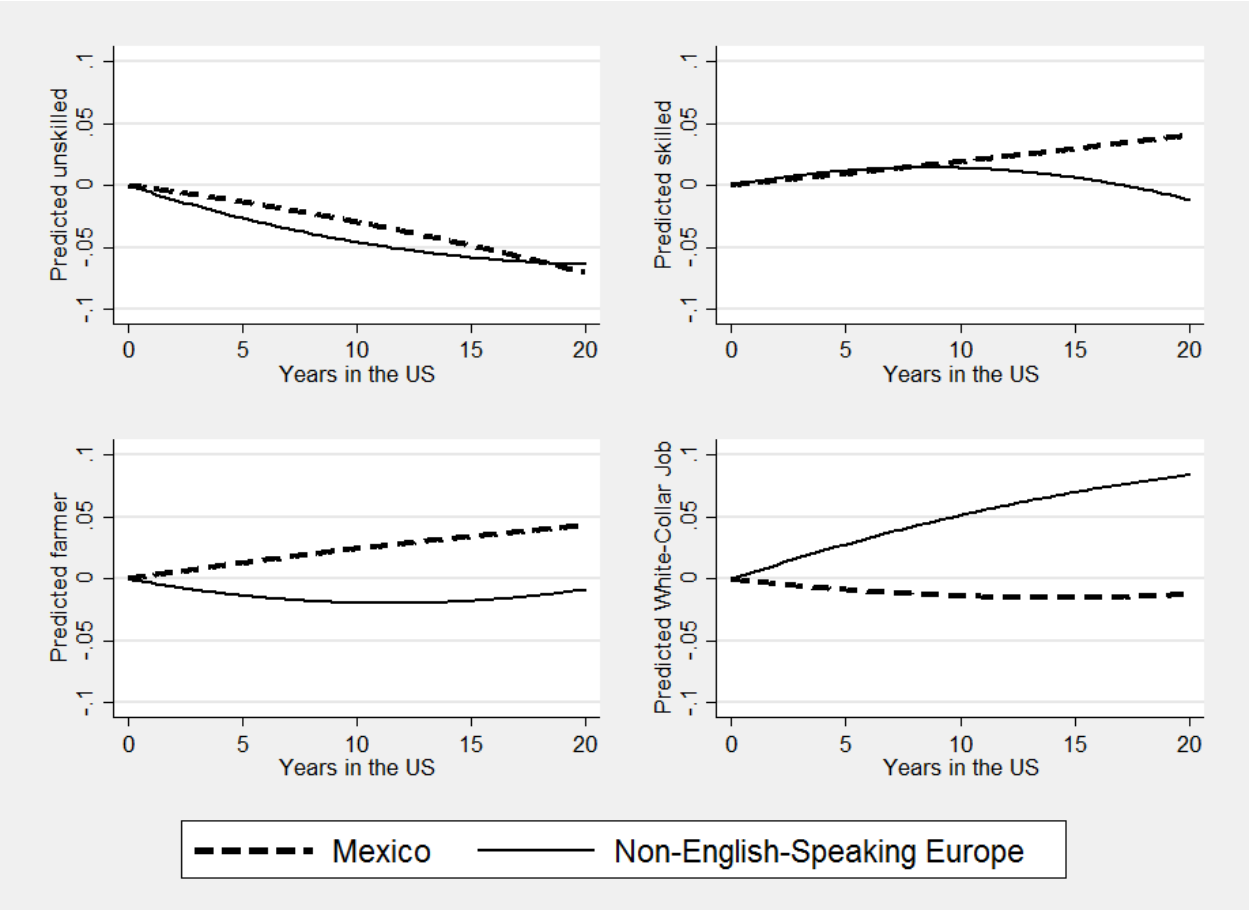
Notes: Data is from the 1850 to 2000 US Census samples and the 2010 ACS from IPUMS (Ruggles et al., 2015).

Figure 2. Occupations at arrival for Mexicans and Non-English Europeans



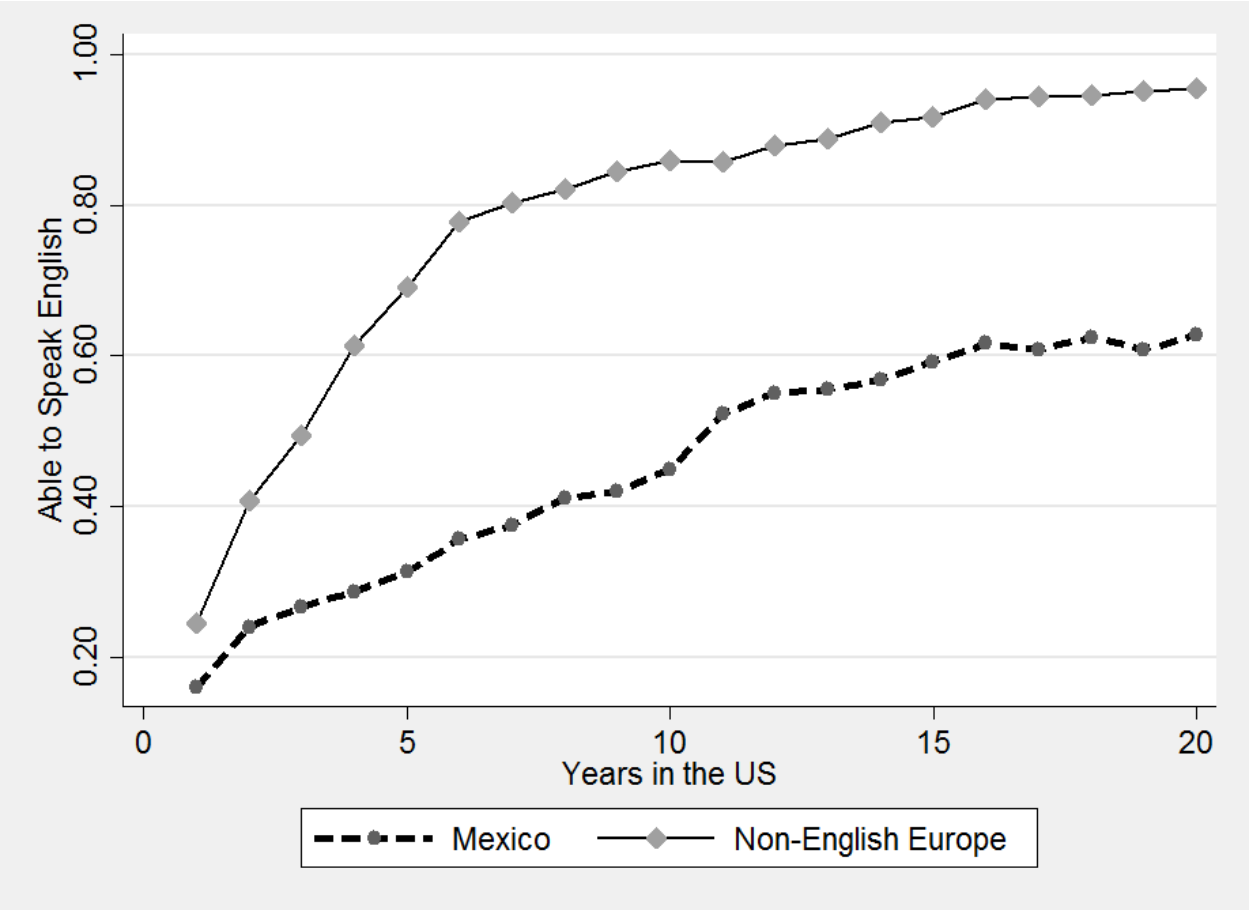
Notes: Data is from linked Census files. The figure plots the estimate arrival cohort effects for difference occupational categories. The difference is from all native born individuals in the entire United States. Non-English Europe is all Europeans not born in England, Scotland, Ireland or Wales.

Figure 3. Occupations after arrival for Mexican and Non-English Europeans



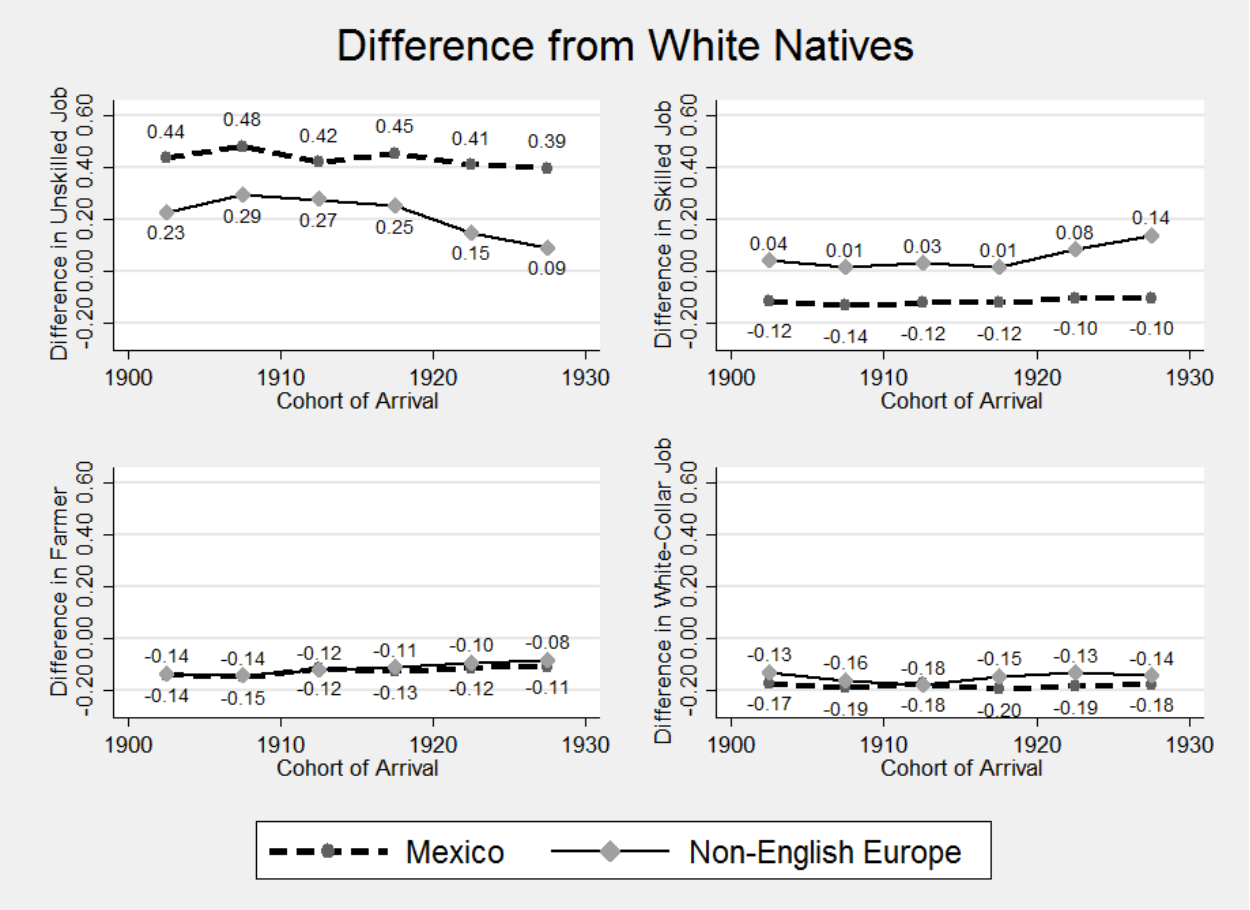
Notes: Data is from linked Census files. The figures show the predicted change in occupation category based on the coefficient on years after arrival a regression. Note that the intercept for each regression are shown in the cohort effects in Figure 2; further, note that general life-cycle effects are differenced out. Non-English Europe is all Europeans not born in England, Scotland, Ireland or Wales.

Figure 4. English Acquisition after Arrival for Mexican and Non-English European Migrants



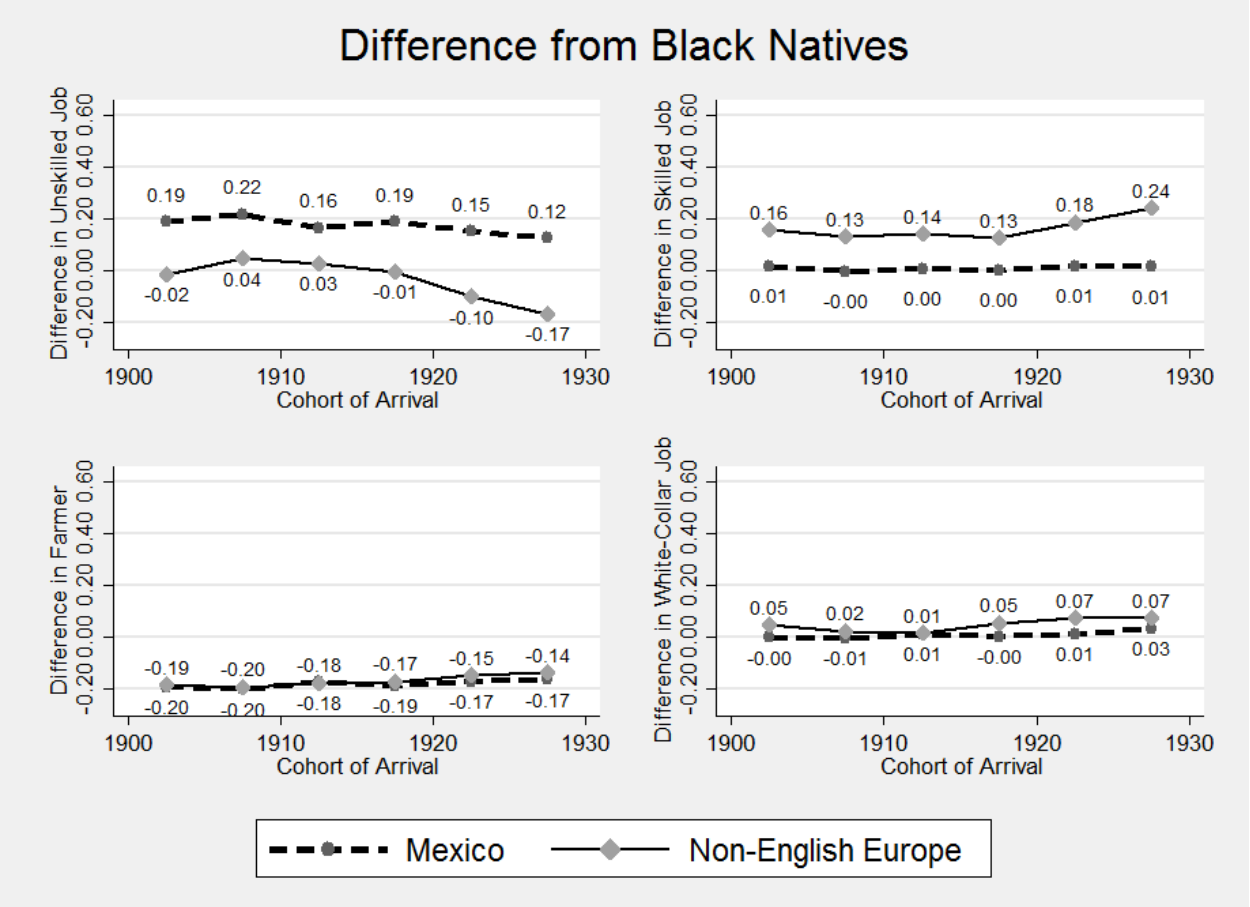
Notes: Data is from linked Census files. This figure plots the mean English proficiency by years after arrival. Non-English Europe is all Europeans not born in England, Scotland, Ireland or Wales.

Figure 5. Cohort Effects relative to White Natives



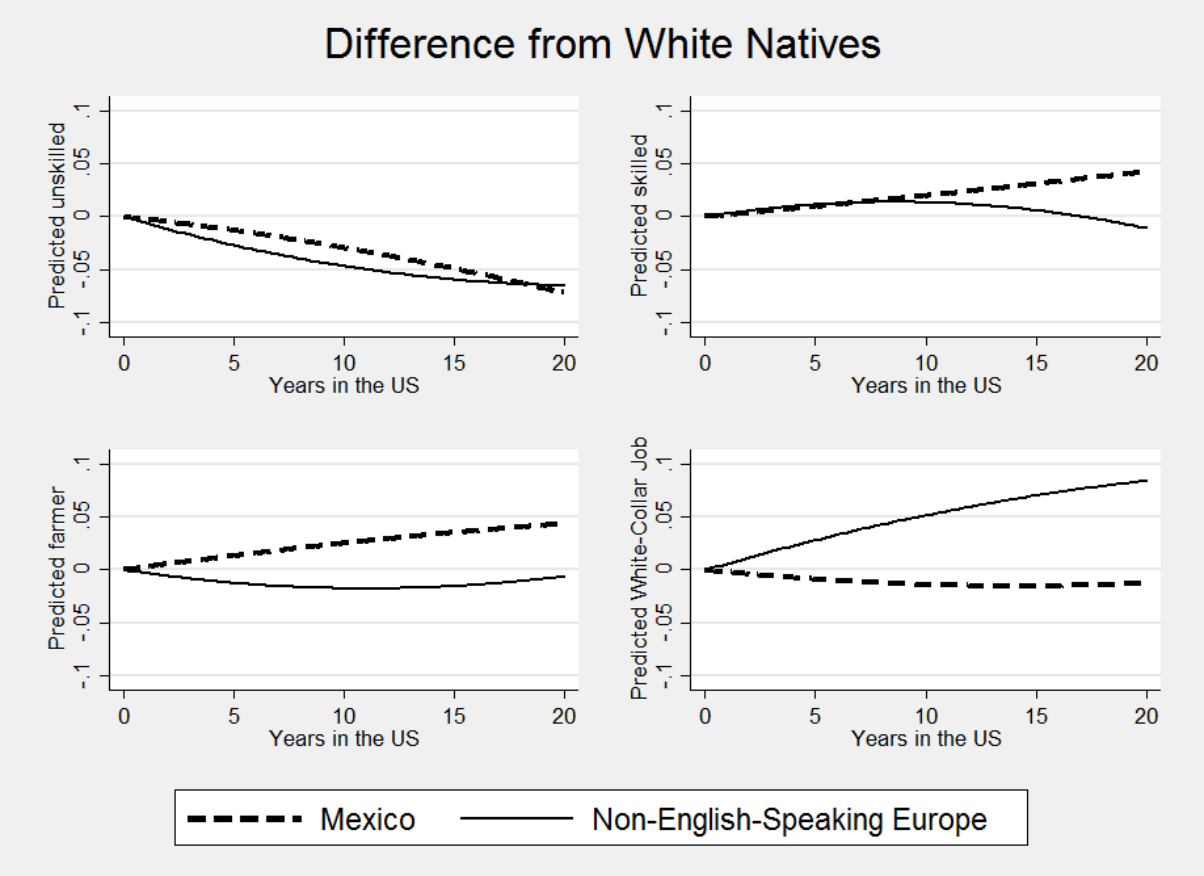
Notes: Data is from linked Census files. The figure plots the estimate arrival cohort effects for difference occupational categories. The difference is from white native born individuals in the entire United States. Non-English Europe is all Europeans not born in England, Scotland, Ireland or Wales.

Figure 6. Cohort Effects relative to Black Natives



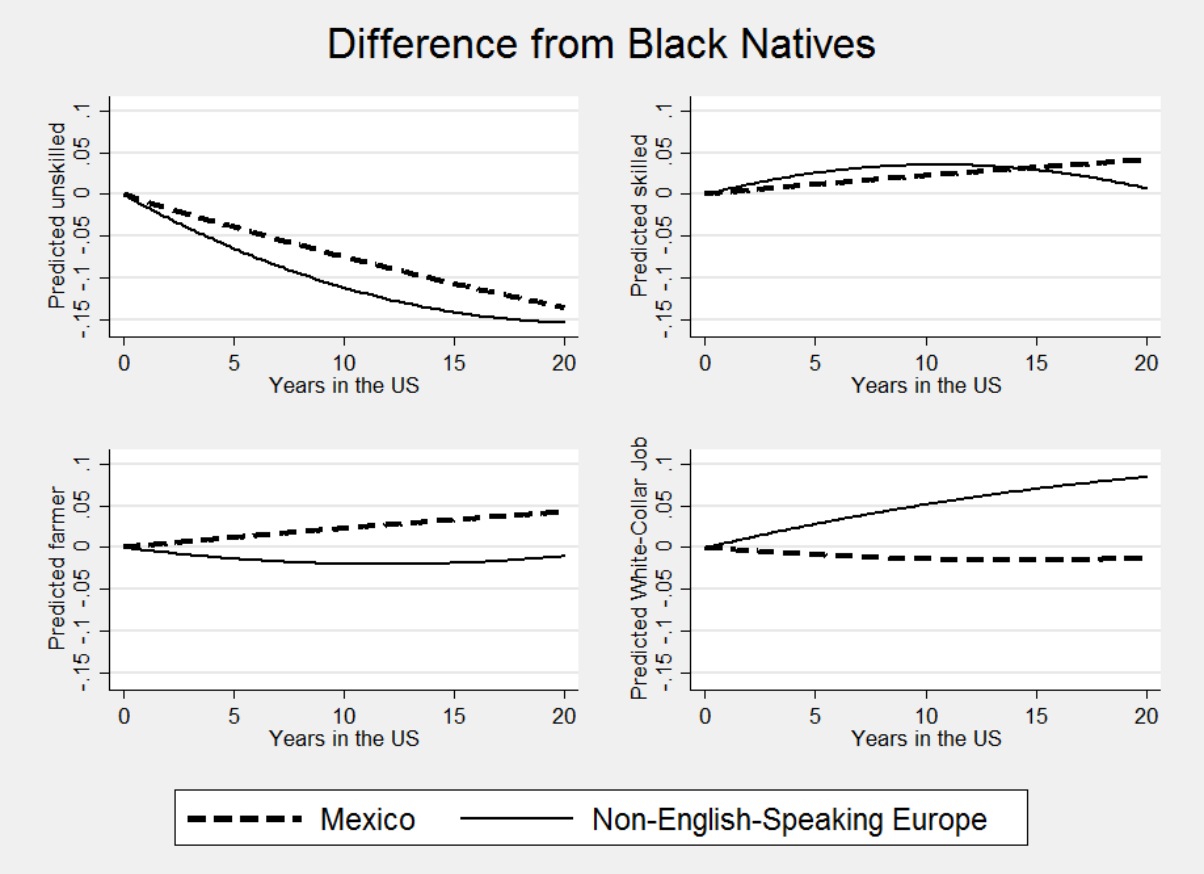
Notes: Data is from linked Census files. The figure plots the estimate arrival cohort effects for difference occupational categories. The difference is from black native born individuals in the entire United States. Non-English Europe is all Europeans not born in England, Scotland, Ireland or Wales.

Figure 7. Assimilation Profiles relative to White Natives



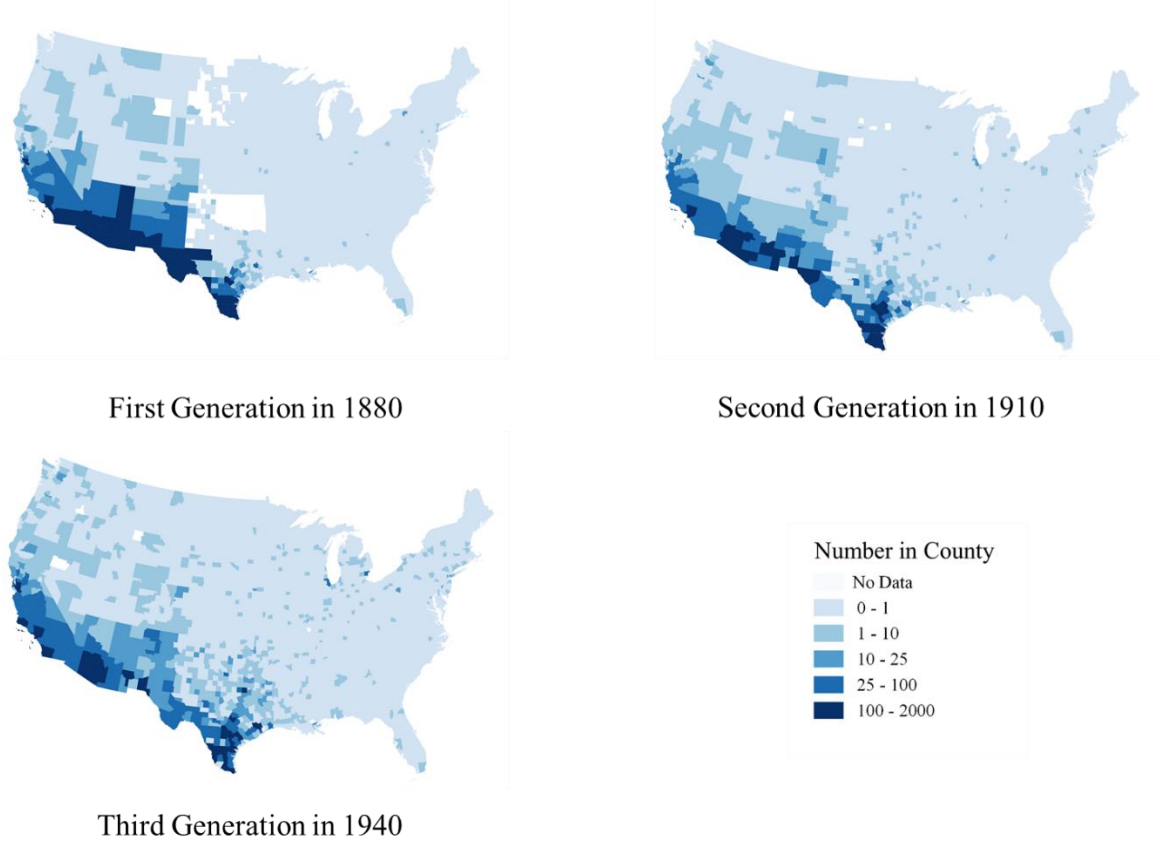
Notes: Data is from linked Census files. The figures show the predicted change in occupation category based on the coefficient on years after arrival a regression. Note that the intercept for each regression are shown in the cohort effects in Figure 5; further, note that general life-cycle effects are differenced out. Non-English Europe is all Europeans not born in England, Scotland, Ireland or Wales.

Figure 8. Assimilation Profile relative to Black Natives



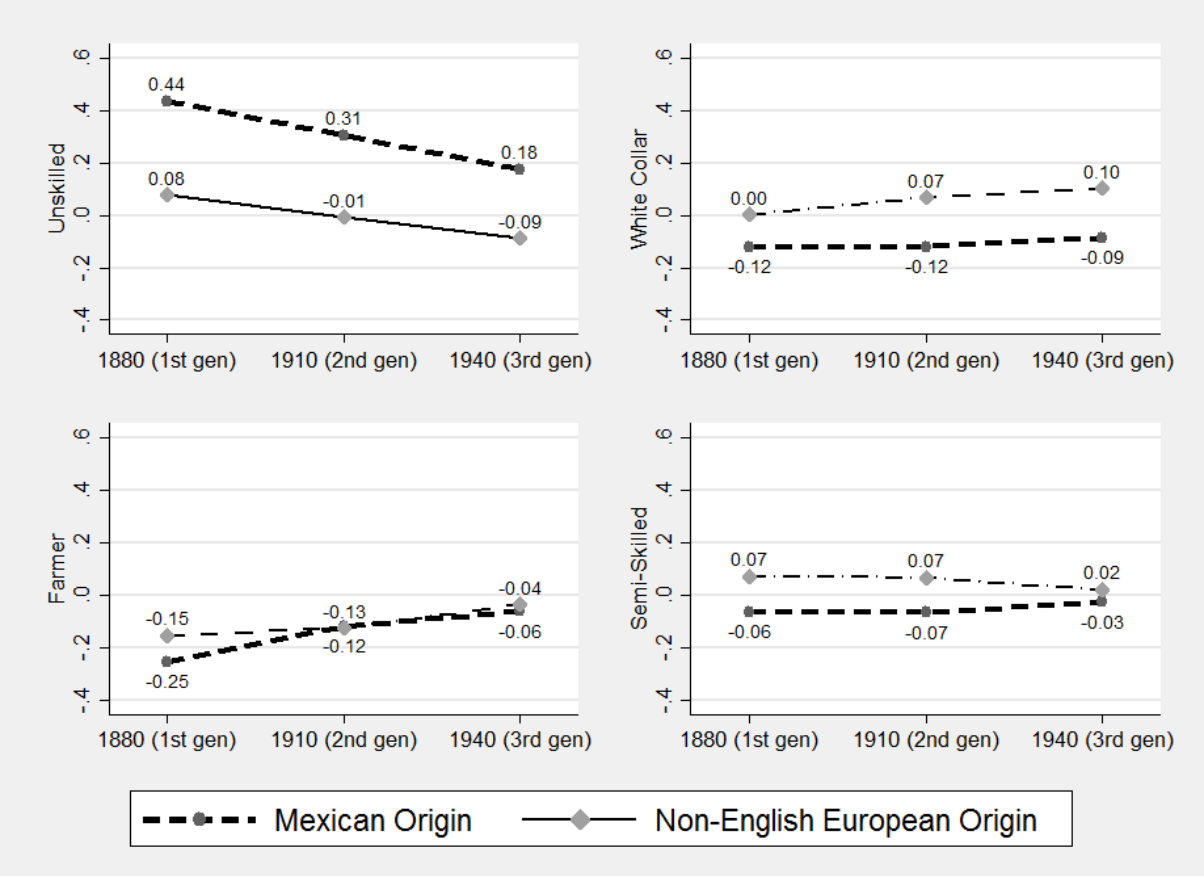
Notes: Data is from linked Census files. The figures show the predicted change in occupation category based on the coefficient on years after arrival a regression. Note that the intercept for each regression are shown in the cohort effects in Figure 6; further, note that general life-cycle effects are differenced out. Non-English Europe is all Europeans not born in England, Scotland, Ireland or Wales.

Figure 9. Location of Mexican Americans between 1880 and 1940



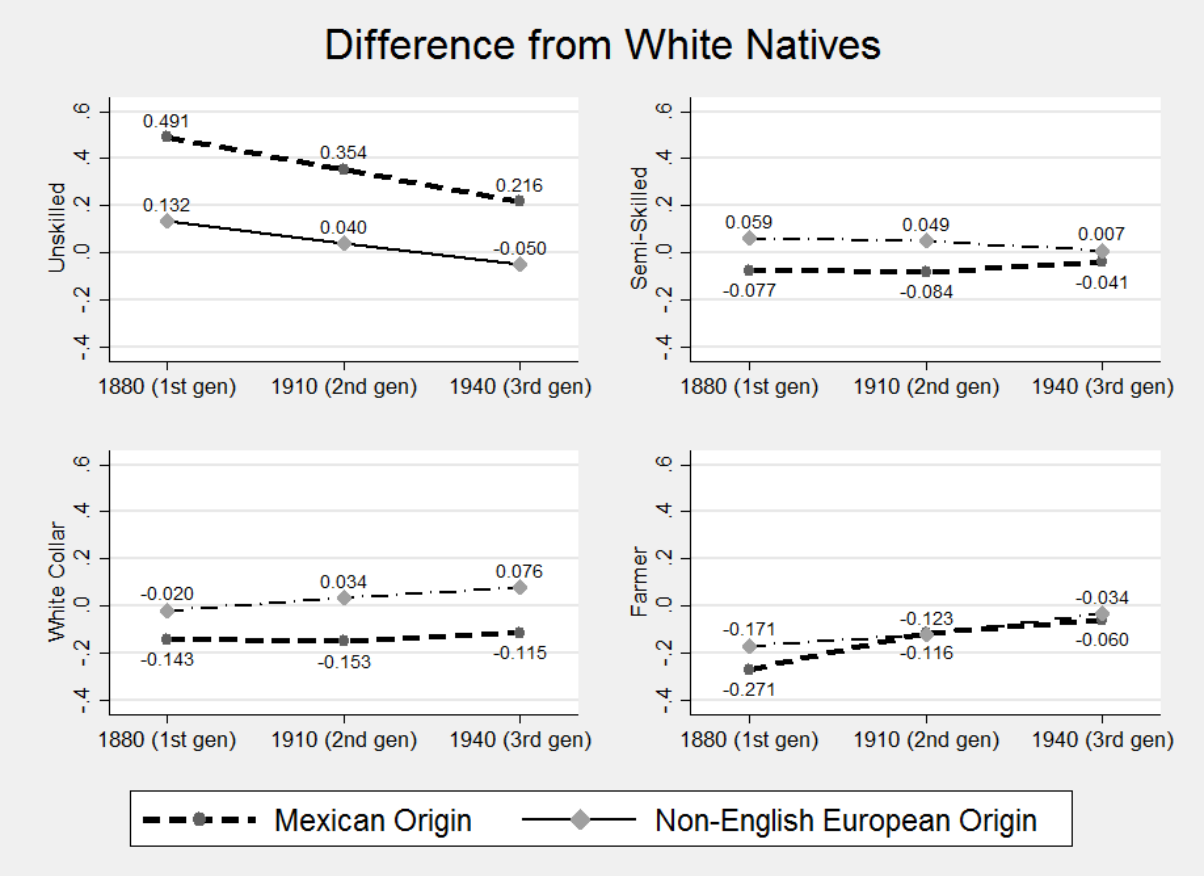
Notes: Data is from the 1880, 1910 and 1940 US Census. Sample is 30 to 44 year-old males who are born in Mexico for 1880, are US-born and have at least one Mexican-born parent in 1910, and are US-born and have at least one first-generation Mexican-born grandparent in 1940.

Figure 10. Occupational Upgrading Across Generations for Mexicans and Natives, 1880 to 1940



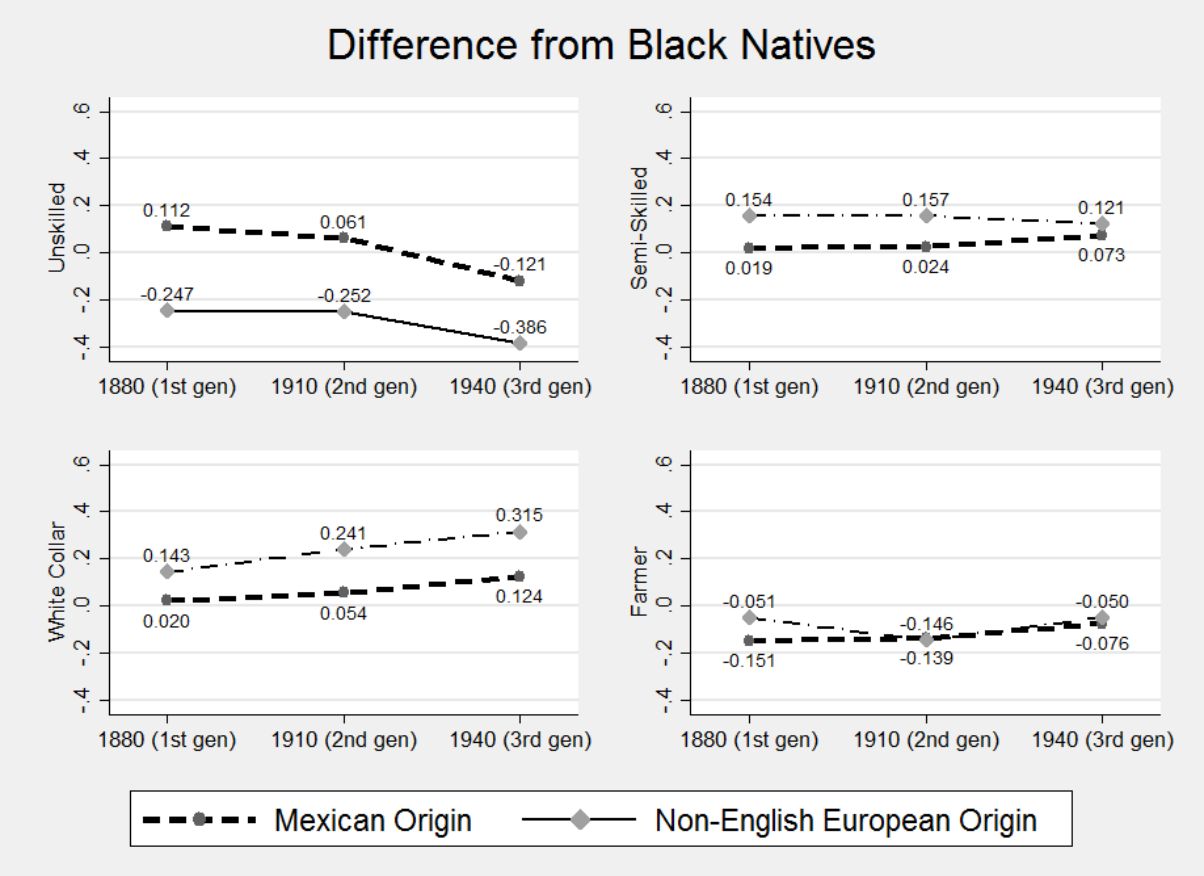
Notes: Data is 30-44 year-old males from the 1880, 1910 and 1940 Census. The 1880 Census compares first-generation Mexicans to native-born Americans. The 1910 Census compares second-generation Mexicans (US-born to at least one Mexican-born parent) to native-born Americans with native-born parents. The 1940 Census compares third-generation Mexicans (US-born to US-born parents with at least one Mexican-born grandparent) to fourth-plus generation Americans (US-born with US-born parents and US-born grandparents).

Figure 11. Occupational Upgrading Across Generations for Mexicans and White Natives, 1880 to 1940



Notes: Data is 30-44 year-old males from the 1880, 1910 and 1940 Census. The 1880 Census compares first-generation Mexicans to native-born white Americans. The 1910 Census compares second-generation Mexicans (US-born to at least one Mexican-born parent) to native-born white Americans with native-born parents. The 1940 Census compares third-generation Mexicans (US-born to US-born parents with at least one Mexican-born grandparent) to fourth-plus generation white Americans (US-born with US-born parents and US-born grandparents).

Figure 12. Occupational Upgrading Across Generations for Mexicans and Black Natives, 1880 to 1940



Notes: Data is 30-44 year-old males from the 1880, 1910 and 1940 Census. The 1880 Census compares first-generation Mexicans to native-born black Americans. The 1910 Census compares second-generation Mexicans (US-born to at least one Mexican-born parent) to native-born Americans with black native-born parents. The 1940 Census compares third-generation Mexicans (US-born to US-born parents with at least one Mexican-born grandparent) to fourth-plus generation black Americans (US-born with US-born parents and US-born grandparents).

Table 1. Descriptive Statistics of Samples for Assimilation in One Generation

	I Mexico	II Non-English-Speaking Europe	III White Natives	IV Black Natives
Literate*	0.671	0.857	0.979	0.783
	(0.470)	(0.350)	(0.143)	(0.413)
Can Speak English*	0.438	0.815	0.990	0.989
	(0.496)	(0.388)	(0.101)	(0.106)
White Collar	0.0754	0.171	0.275	0.0391
	(0.264)	(0.376)	(0.446)	(0.194)
Farmer	0.0479	0.0406	0.148	0.206
	(0.214)	(0.197)	(0.355)	(0.405)
Unskilled	0.795	0.557	0.403	0.705
	(0.404)	(0.497)	(0.491)	(0.456)
Skilled	0.0819	0.232	0.174	0.0500
	(0.274)	(0.422)	(0.379)	(0.218)
Age	30.69	32.17	31.57	31.24
	(8.151)	(7.710)	(9.164)	(9.419)
Age at Arrival	20.08	20.68		
	(7.913)	(6.378)		
Location:				
Border State	0.823	0.0516	0.0978	0.0833
	(0.381)	(0.221)	(0.297)	(0.276)
Northeast	0.0159	0.548	0.262	0.0890
	(0.125)	(0.498)	(0.440)	(0.285)
Midwest	0.101	0.322	0.352	0.108
	(0.302)	(0.467)	(0.478)	(0.311)
South (excl. Texas)	0.0138	0.0313	0.236	0.717
	(0.116)	(0.174)	(0.425)	(0.451)
Observations	81,413	1,536,144	1,616,234	212,347

Notes: Data on Mexico and Non-English-Speaking Europe is from linked Census files. Data for white and black natives is from 1910 to 1940 Census samples. *Literacy and English fluency is not available in the 1940 Census.

Table 2. Mexicans Upgraded across Censuses at a Slower Rate than Europeans

	Mexicans		Non-English Europeans		Difference
	N (%) in T=1	% Skilled, WC or Farmer in T=2	N (%) in T=1	% Skilled, WC or Farmer in T=2	
Job in First Census (T=1):					
Laborer	18,490	0.213	198,515	0.362	-0.149
	(41.4)		(25.0)		
Farm Laborer	7,803	0.214	21,645	0.506	-0.292
	(17.5)		(2.7)		
Miner	2,452	0.195	42,641	0.302	-0.107
	(5.5)		(5.4)		
Other Unskilled	6,120	0.254	209,941	0.446	-0.192
	(13.7)		(26.5)		
Farmer	2,004	0.274	24,978	0.659	-0.385
	(4.5)		(3.1)		
White-Collar	3,495	0.378	108,751	0.666	-0.288
	(7.8)		(13.7)		
Skilled	4,298	0.340	186,672	0.634	-0.294
	(9.6)		(23.5)		

Notes: Data is from the linked Census files.

Table 3. Explaining the Income Gap between Mexican Americans, Whites and Blacks

	I	II	III	IV	V
Panel A. Compare to Fourth-Generation Whites					
3rd-Gen Mexican American	-0.570	-0.171	-0.189	-0.248	-0.108
	(0.0116)	(0.0104)	(0.0104)	(0.0102)	(0.0241)
Age	Y	Y	Y	Y	Y
Education	N	Y	Y	Y	Y
Geography	None	None	State	County	Census Page
Observations	1,222,222	1,222,222	1,222,222	1,222,222	1,222,222
R-squared	0.008	0.215	0.241	0.327	0.872
Panel B. Compare to Fourth-Generation Blacks					
3rd-Gen Mexican American	0.157	0.157	0.245	0.274	0.174
	(0.0112)	(0.0106)	(0.0115)	(0.0138)	(0.0641)
Age	Y	Y	Y	Y	Y
Education	N	Y	Y	Y	Y
Geography	None	None	State	County	Census Page
Observations	172,837	172,837	172,837	172,837	172,837
R-squared	0.007	0.116	0.213	0.309	0.876

Notes: Data is from the 1940 Census linked sample. The dependent variable is the log income, as reported in the 1940 Census for those who are wage workers. Third generation Mexican Americans are those with at least one first-generation Mexican grandparent. Fourth-generation Whites and Blacks are those with all four grandparents American born.

Table 4. Years of Education Differences across Children of Third Generation, 12-17 year olds

	I	II	III	IV	V
Panel A. Compare to Children of Fourth-Generation Whites					
4th-gen Mex. American	-1.900	-0.822	-0.836	-0.716	-0.318
	(0.0270)	(0.0243)	(0.0246)	(0.0267)	(0.0495)
Father's Education		0.102	0.0927	0.0894	0.0689
		(0.000750)	(0.000753)	(0.000756)	(0.00137)
Mother's Education		0.150	0.142	0.137	0.105
		(0.000829)	(0.000833)	(0.000837)	(0.00154)
Family Size		-0.100	-0.096	-0.091	-0.083
		(0.000881)	(0.000879)	(0.000884)	(0.00175)
Age	Y	Y	Y	Y	Y
Geography	None	None	State	County	Census Page
Observations	764,994	754,453	754,453	754,453	754,453
R-squared	0.398	0.520	0.529	0.540	0.829
Panel B. Compare to Children of Fourth-Generation Blacks					
4^{th}-gen Mex. American	-0.338	0.0518	-0.327	-0.248	-0.312
	(0.0365)	(0.0315)	(0.0378)	(0.0538)	(0.144)
Father's Education		0.179	0.138	0.122	0.0875
		(0.00248)	(0.00246)	(0.00245)	(0.00577)
Mother's Education		0.242	0.207	0.188	0.133
		(0.00260)	(0.00255)	(0.00255)	(0.00610)
Family Size		-0.096	-0.087	-0.071	-0.055
		(0.00228)	(0.00221)	(0.00222)	(0.00567)
Age	Y	Y	Y	Y	Y
Geography	None	None	State	County	Census Page
Observations	102,024	100,442	100,442	100,442	100,442
R-squared	0.180	0.399	0.444	0.487	0.852

Notes: Data is from the 1940 Census linked sample. Children of third-generation Mexican Americans (i.e., 4^{th}-gen Mex. American) are those with at least one Mexican-born paternal great grandparent. Children of fourth-generation whites and blacks are those with four American-born paternal great grandparents. The dependent variable is the years of education.

Online Appendix

Appendix A. Further Linking Details

The primary datasets we use in for analyzing occupational upgrading in the decades after arrival are from Ward's (2016) study on English acquisition rates. However, we make two additions to this original sample: first, we clean Mexican immigrant names to account for common misspellings in Spanish names. Second, we additionally link the 1930 to 1940 census in order to retrieve a sample of the 1920 to 1929 cohort of arrivals; Ward (2016) does not link the 1930 to 1940 Censuses because the 1940 Census does not include English fluency. We describe both of these additions in more detail below; otherwise, refer to Appendix B in Ward (2016) for further details.

Cleaning Mexican names.

We encountered several issues for linking Mexican names compared with names for European immigrants. First, we created a list of the most common names appear in the full-count census data, and create standardized versions of these names for those that appeared more than 25 times. Variants of names were cleaned that could have been mispelled by enumerators; some examples of these are Alehandro and Alexandro were corrected to Alejandro; Anders, Andress, Andrez, Andres, and Andras were corrected to Andres, and Romon, Raman and Ramone were corrected to Ramon. This leads to a list of 462 names which we use to correct first names prior to linking..

Second, several observations that were recoded as "male" also received a feminine version of a first name. Examples of this include Alexandra, Emilia, and Cecilia. While some of these observations may be female, we find it more likely that a transcribor would mistake a name ending with an "o" as ending with an "a" , rather than transcriping a "F" in the sex column as an "M". We convert 75 different feminine names to the masculine version.

Finally, we create a list of anglicized versions of the first name in case Mexicans changed their first name from a Spanish to American version (Biavaschi et al, forthcoming). This includes such changes as "Timiteo" to Timothy, "Jose" to Joseph, and "Felipe" to "Phillip". There are 192 Mexican names we standardize to an American version.

Most name changes were likely near arrival rather than years after arrival when we first observe the majority of dataset in the Census (Carneiro et al., 2015). Nevertheless, in addition to the linked dataset we create, we test the robustness of the dataset by converting all Mexican names to their anglicized version and relinking the dataset based on anglicized names. The linking rates for the anglicized versions similar to the base sample; further, all results are robust to the using either the dataset based on anglicized names or non-anglicized names.

Linking the 1930 to 1940 Censuses.

We link the 1930 Census to the 1940 Census to track the assimilation outcomes for 1920 to 1929 arrivals. We have to link these censuses in a different way than the method used by Ward (2016) because we do not have year of arrival in both the 1930 and 1940 censuses. Therefore, we link across censuses because on first name, last name, year of birth and country of birth; note that while this loses a piece of information, it is the same variables that Abramitzky, Boustan and Eriksson (2014) use in their assimilation study of immigrants. Further, Ward (2016) shows in a robustness check that his results for the return to English skills are unchanged whether one uses year of arrival or not.

The process for linking the 1930 to 1940 census is as follows. First, we make sample restrictions to match the earlier linked samples between 1910 and 1920 and 1920 and 1930: we drop females, English-speaking immigrants, the native born, and those under the age of 10 and over the age 40. Then we clean the names as describe above, paying special attention to common misspellings for Mexican names.

Then we link the 1930 to 1940 Census in the following steps:

1. Drop immigrants in the 1930 Census who have the same first name, last name, year of birth and country of birth. Do the same for the 1940 Census
2. Standardize first name and last names by NYSIIS algorithm. This is to account for common variants in spellings for names.
3. Find each pairwise combination between 1930 and 1940 that match on NYSIIS first and last name, year of birth and country of birth.
4. Calculate the Jaro-Winkler distance between the first name string and last name string.
5. Expand the window for year of birth to find all matches within up to a three year birth.
6. For each individual calculate a match score, which is the sum of Jaro-Winkler distance for the first name, last name and difference for year of birth

7. Keep the minimum match score for each individual in the 1930 Census. Subsequently, if one individual in 1940 is matched to multiple in 1930, then keep the minimum match score. Finally, keep only those who arrived between 1920 and 1929 according to the 1930 Census.

The linking rates for the Mexican samples are shown in Table A1. The linking rates for Mexicans range from 11 to 16 percent, depending on the samples that are linked. These rates are lower than Ward's (2016) linking rates for all non-English-speaking countries of 17 to 22 percent. However, a low linking rate for Mexicans is consistent with common names among the Mexican immigrant population and a sizable return flow. Further, if underenumeration was more common for Mexicans than other immigrants, then one would expect the linking rate to be low.

Table A1. Linking Rates for Mexican Immigrants for One-Generation Sample

I	II	III	IV	V
Start Year	Set to link	End Year	Linked Number	Linking Rate
1910	49,574	1920	5,673	0.114
1920	149,103	1930	23,718	0.159
1930	123,684	1940	19,846	0.160

Notes: The sample are those linked from the census in Column I to the census in Column III. The linked number is not the same in the final sample because we keep only those who have observable occupations, English ability and literacy rates. This drops approximately 2 to 5 percent of the linked sample.

Table A2. Representativeness of the Panel Data Compared to Cross Section in 1920 and 1930.

		Panel Diff. from Cross			Panel Diff. from Cross	
	1920 Cross	Unweighted	Weighted	1930 Cross	Unweighted	Weighted
Can Speak English	0.464	-0.0186***	2.52e-09	0.583	0.0233***	-0.000934
	(0.499)	(0.00715)	(0.00756)	(0.493)	(0.00358)	(0.00365)
Literate	0.626	0.0148**	8.67e-10	0.739	0.0363***	-0.000696
	(0.484)	(0.00690)	(0.00734)	(0.439)	(0.00308)	(0.00336)
Age	33.86	1.276***	0.143	33.14	0.0754	0.199***
	(8.484)	(0.108)	(0.139)	(8.305)	(0.0591)	(0.0600)
Arrival Age	18.63	2.374***	1.145***	17.78	0.577***	0.699***
	(8.767)	(0.114)	(0.146)	(8.565)	(0.0616)	(0.0624)
White Collar	0.0578	0.00257	0.00358	0.0693	0.0155***	0.0120***
	(0.233)	(0.00343)	(0.00369)	(0.254)	(0.00202)	(0.00196)
Unskilled	0.727	-0.0107*	-0.0126*	0.753	-0.0189***	-0.0140***
	(0.445)	(0.00649)	(0.00686)	(0.431)	(0.00324)	(0.00322)
Skilled	0.0681	0.0189***	0.0186***	0.0762	0.0169***	0.0133***
	(0.252)	(0.00401)	(0.00423)	(0.265)	(0.00211)	(0.00205)
Farmer	0.0945	-0.00268	-0.00570	0.0693	-0.0112***	-0.00919***
	(0.293)	(0.00418)	(0.00421)	(0.254)	(0.00175)	(0.00180)
Observations	36,234	Panel: 5,581		106,933	Panel: 22,574	

Notes: Data is for 1900 to 1909 arrivals in 1920, and 1910 to 1919 arrivals in 1930. The cross section and panel should contain the same individuals, or those who have stayed at least 11 years. The difference in the linked sample from the cross section are shown next to the cross section descriptive statistics. The weighted sample weights to match the English fluency, literacy and age distribution of the cross section.