Law-Abiding Immigrants: The Incarceration Gap Between Immigrants and the US-born, 1870–2020*

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Abstract:

We provide the first nationally representative long-run series (1870–2020) of incarceration rates for immigrants and the US-born. As a group, immigrants have had lower incarceration rates than the US-born for 150 years. Moreover, relative to the US-born, immigrants' incarceration rates have declined since 1960: immigrants today are 60% less likely to be incarcerated (30% relative to US-born whites). This relative decline occurred among immigrants from all regions and cannot be explained by changes in immigrants' observable characteristics or immigration policy. Instead, the decline is part of a broader divergence of outcomes between less-educated immigrants and their US-born counterparts.

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The tendency to associate immigration and crime has been pervasive throughout US history. For example, in 1891, Senator Henry Cabot Lodge advocated closing the border, warning that Italian immigrants were "members of the Mafia, a secret society… using murder as a means of maintaining its discipline" (Lodge 1891). Indeed, over the past 150 years, Congressional speeches about immigration were twice as likely to mention words related to crime (per speech) than were speeches on other topics (Card et al. 2022).

Contrary to this anti-immigrant rhetoric, we document that, as a group, immigrant men have had a *lower* incarceration rate than US-born men for the last 150 years of American history.[1] We combine newly assembled full-count Census data (1870–1940) with Census/ACS samples (1950–2020) to construct the *first nationally representative* series of incarceration rates for immigrants and the US-born between 1870 and the present day. From 1870 to 1950, immigrants' incarceration rate was only slightly lower than that of US-born men. However, starting in 1960, immigrants have become *significantly less* likely to be incarcerated than the US-born, even though as a group immigrants now are relatively younger, more likely to be non-white, have lower incomes, and are less educated – characteristics often associated with involvement in the criminal justice system.[2] Today, immigrants are 60% less likely to be incarcerated than all US-born men, and 30% less likely to be incarcerated relative to white US-born men. The similar incarceration rates between immigrants and the US-born in the past and the lower incarceration rates of immigrants today are broadly consistent with prior studies documenting immigrant-US-born incarceration gaps for specific states and time periods (Moehling and Piehl 2009, 2014; Butcher and Piehl 1998b, 2007).

With access to large samples, including the full-population Census before 1950, we are also able to provide the first investigation of incarceration rates by country of origin spanning 1870 to 2020. We find a substantial decline in incarceration rates relative to the US-born among immigrants from *all major sending regions*. European immigrants historically had slightly lower incarceration rates to US-born men, but recently experience far lower incarceration rates. Chinese immigrants had similar incarceration rates to the US-born before 1960, but today have significantly lower

[1] We focus on men because men constitute the vast majority of the incarcerated population both today and in the past (Freeman 1999). Our takeaways are unchanged if we include women (Figure A10).

[2] On average, immigrants were older than US-born male adults from 1870–1970 but have been relatively younger in the past 50 years. The share of immigrants that are Black, which used to be close to zero, has also grown since 1950; roughly 10% of immigrants are Black today.

incarceration rates. Mexican and Central American immigrants had particularly high incarceration rates in the past but have had lower incarceration rates than the US-born since 1960. From 2005 on, Mexican and Central American immigrants have been more likely to be incarcerated than *white* US-born men, although we note that a large portion of the increase in Mexican and Central American incarceration after 2005 is driven by detentions in federal immigration facilities, often for immigration-related offenses; when we drop areas home to the largest Immigration and Customs Enforcement (ICE) facilities, the gap relative to US-born white men moderates or disappears in most years.

Although our data do not enable us to precisely pinpoint why there has been a sharp relative decline in the immigrant incarceration rate since 1960, we are able to rule out three ex-ante plausible explanations. First, the relative decline in immigrant incarceration is not driven by rising rates of incarceration of US-born Black Americans; the decline is also apparent when comparing immigrants to US-born *white* men only. Second, the decline is not driven by changes in immigrants' observable characteristics, namely, their countries of origin, age, race, marital status, state of residence, or educational attainment. If anything, immigrants' lower educational attainment in recent decades would predict that they should have higher incarceration rates than they do. Third, the relative decline is not mechanically driven by immigrant offenders being more likely to be deported in recent years (and thus not being present in the incarceration data): the relative decline in incarceration is present even among immigrants who are US citizens and thus cannot be deported. Moreover, the timing of the decline is also inconsistent with this explanation; whereas the relative decline in immigrant incarceration emerges in the 1960s, the sharp rise in deportations took place around 2000.

We conclude the paper by showing that lower-educated immigrants and US-born men (the group that accounts for the vast majority of incarcerated individuals) *not only* diverged in their incarceration propensities in recent decades, but also diverged at a similar moment along other dimensions, including their labor force participation and likelihood of marriage. One potential explanation for this broad pattern of divergence is that less-educated immigrants might have remained relatively shielded from structural changes in the economy – such as globalization and skill-biased technological change – that negatively affected less-educated US-born men in recent decades. Immigrants are concentrated in manual tasks and service occupations (rather than routine

occupations), which did not experience large wage or employment declines in recent decades (Autor et al. 2006; Peri and Sparber 2009). Furthermore, immigrants may be more resilient to shocks, given that they are a self-selected group of individuals possessing traits such as a greater willingness to move long distances (Cadena and Kovak 2016), less risk aversion (Jaeger et al. 2010), higher adaptability and cognitive ability (Bütikofer and Peri 2021), and higher levels of entrepreneurship (Azoulay et al. 2022).

Related literature. Our work is most closely related to a set of papers that document immigrant-US-born incarceration gaps for specific states and time periods (summarized in Figure A1). Moehling and Piehl (2009) studies historical flows into prisons using state prison records from 1904, 1910, 1923, and 1930. Moehling and Piehl (2014) studies historical incarceration rates in eight states by locating individuals residing in state correctional facilities in full-count Census samples between 1900 and 1930. Consistent with our series, these papers find that immigrants' incarceration rate was similar, if not slightly lower, than that of the US-born during the Age of Mass Migration.[3] Butcher and Piehl (1998b, 2007) use 1980–2000 Census subsamples to compare immigrants' incarceration propensities to those of US-born men.[4] These studies find that recent immigrants have been less likely to be incarcerated than US-born men and that this difference widened between 1980 and 2000.[5]

Relative to these papers, we provide the first nationally representative, century-and-a-half-long series on the incarceration gap between immigrants and the US-born.[6] Our long-run perspective enables us to document that immigrants not only have lower incarceration propensities than the

[3] We used our methodology to compute incarceration rates in the eight states in Moehling and Piehl (2014) and find higher levels, although similar trends, of incarceration rates for immigrants and US-born men, presumably because our data include federal prisons and local jails.

[4] Using 2012–2018 Texas arrest records, Light et al. (2020) finds that unauthorized and legal immigrants are less likely to be arrested than US-born citizens. Landgrave and Nowrasteh (2017, 2018, 2019) show that immigrants have lower incarceration rates than the US-born in the 2014–2016 ACS. Related work in criminology and sociology confirms that immigrants today are less crime-prone than their US-born counterparts (e.g., Bersani 2014, Bucerius 2011, Sampson et al. 2005, and Kubrin and Ousey 2023 and cites therein).

[5] Figure A1 plots the incarceration rates of immigrants and US-born men from Moehling and Piehl (2014) and Butcher and Piehl (2007). The figure makes clear that despite the great progress made by these earlier studies, there were still significant gaps in our knowledge of immigrant-US-born incarceration gaps (the pre-1900 period, nationally representative coverage for 1900–1930, the 1930–1970 period, and the post-2000 period).

[6] A nationally representative series is key for studying the immigrant-US-born incarceration gap, as the gap can differ substantially across states. For example, in 1920 and 1930, 15 and 9 states had positive incarceration gaps (immigrants were *more* likely to be incarcerated than the US-born), respectively, whereas 13 and 24 states had negative gaps.

US-born today, but that they have experienced similar or lower incarceration rates than the US-born *throughout American history*. Importantly, we also document *when* the immigrant-US-born incarceration gap began to widen (circa 1960) and we rule out candidate explanations (i.e., rising deportations) for why such divergence has taken place. Finally, unlike prior work focusing on specific states and periods, our large samples allow us to create a consistent long-term series, disaggregate the series by country-of-origin group, and document that the relative decline in immigrant incarceration applies to immigrants from all regions.

This paper is also related to a large literature for the modern period studying how changes in the number of immigrants affect local crime rates (Adelman et al. 2017, Butcher and Piehl 1998a, Chalfin 2014, and Spenkuch 2014 in the US; Akbulut-Yuksel et al. 2022, Bell et al. 2013a, Bianchi et al. 2012, Gehrsitz and Ungerer 2022, and Piopiunik and Ruhose 2017 in Europe, among many others). A number of papers, primarily those based on European data, find that recent waves of immigrants *increase* crime rates. Others, including those based on US data, find null effects.[7] We contribute to this literature by documenting that immigrants *themselves* have been less likely to be incarcerated than the US-born for the last 150 years. If immigrant arrivals have no effect on crime rates (despite immigrants themselves being less prone to crime), one possibility is that the presence of immigrants increases the criminal propensities of other groups (e.g., by increasing population growth or racial diversity in local areas).

Finally, our study contributes to the literature studying long-term changes in immigrants' outcomes in the US (Abramitzky et al. 2020, 2021). We contribute to this literature by providing a past-present comparison on an as-yet unexplored dimension of immigrants' performance: incarceration rates.

1. Data and Methods

Sources. Ideally, to compare the criminality of immigrants and the US-born, we would want to measure whether an individual committed a crime. However, such data are not available because

[7] We refer the reader to Bell and Machin (2013b), Buonanno et al. (2022), Fasani et al. (2019) and Orrenius and Zavodny (2019) for reviews of the immigration-crime literature.

many crimes are not reported and many offenders are not arrested. As a result, two common proxies for crime are arrests and incarceration. We rely on incarceration as our proxy.

The advantage of using incarceration is that it can be measured in the Census, enabling us to build a nationally representative series on incarceration *by birthplace* starting in 1870.[8] For the 1870–1940 period, we use the full-count Census (Ruggles et al. 2021) to observe the universe of prisoners in the US every ten years (the exception is 1890, for which individual-level records did not survive).[9] We start in 1870, as this is the first Census to include the full population, including those formerly enslaved. Incarceration is a relatively rare occurrence (particularly in this earlier period), so the full-count Census allows us to more accurately measure incarceration rates for all immigrants as well as for immigrant subgroups. The 1940 Census is the last Census for which full-count data are currently available in digitized form. Hence, for the 1950–1990 period, we use the largest available sample in each decade (Ruggles et al. 2022).[10] For the most recent years, we use data from the ACS (annual versions or the 2008–2012 and 2015–2019 five-year samples for 2010 and 2020, respectively). We include details on these samples in Online Appendix B.

Measuring Incarceration and Sample Selection. Prior work (e.g., Butcher and Piehl 1998b, 2007) has typically relied on the group quarters type variable coded by IPUMS – indicating whether an individual lives in a "correctional institution" – to classify individuals as incarcerated. For the 1870–1940 full-count data, we improve on this classification using the original strings of the "group quarters," "occupation," and "relationship to household head" variables (e.g., using the

[8] Arrest data typically do not include information on birthplace. Moreover, these data are collected at the local level, making it impossible to build a long-run, nationally representative series. Finally, arrest data include minor offenses, which may be more subject to the bias of law enforcement officials (see Lang and Spitzer 2020); because incarceration typically relies on obtaining a criminal conviction, it is a better proxy for serious criminal offending. We discuss potential issues with using incarceration to proxy for criminality in Section 3.2.

[9] Figure A2 shows an example record of incarcerated individuals in the 1930 Census.

[10] For 1960, 1980, and 1990, we use the 5% samples. For 1950 we use the 1% sample and for 1970 we pool three 1% samples. When considering immigrant subgroups, we do not include the 1950 Census given its smaller size. Given that data availability requires switching from full-count data to sub-samples for 1950–1970 when incarceration was still relatively rare, we focus on trends in the immigrant-US-born incarceration gap in this period, rather than the exact magnitude of the gap. Nevertheless, we validate the incarceration rates against auxiliary sources: between 1950 and 1980, the incarceration rate using the Census falls between 200-300 per 100,000 residents, which is close to measures from the Bureau of Justice Statistics (Kearney et al. 2014). Finally, we do not include the 2000 Census in our main analysis due to potential mismeasurement of outcomes for immigrants (e.g., the difference in incarceration rates between immigrants and US-born men in 2000 is significantly larger than in adjacent data sources). Including the 2000 Census would only reinforce our takeaways (Figure A3).

fact that someone's occupation or relation is listed as "prisoner").[11] This refinement addresses potential misclassification of prisoners; for instance, some individuals whose occupation is listed as "prisoner" are not classified as living in a correctional institution (see Eriksson 2019, 2020 for more discussion).[12] Online Appendix B includes step-by-step instructions on how to implement these refinements. Nevertheless, our takeaways are similar if we use IPUMS' group quarters type variable (Figure A8).

For 1950 onward, we rely on the group quarters type variable to classify individuals as incarcerated. Starting in 1990, IPUMS data report whether individuals are institutionalized, but not the type of institution in which they reside (for instance, we do not know if someone is in a prison or a nursing facility). To address this issue, we focus on men ages 18–40 for whom institutionalization is a very close proxy of incarceration throughout the paper.[13]

To summarize, our baseline sample focuses on men ages 18–40 and compares immigrants (those born outside of the US) to all US-born men. Our main takeaways are nevertheless similar if we compare immigrants to US-born *white* men (Figure A4) or if we focus on other age groups (Figure A9).[14] Table A1 shows the sample sizes and the share incarcerated in each of our samples, by nativity status and disaggregated by immigrants' country-of-origin group.

2. The Immigrant-US-Born Incarceration Gap, 1870–2020

a. Main Results

Figure 1 plots the incarceration rates of immigrants and US-born men from 1870 through 2020. Panel (a) shows that immigrants as a group had similar incarceration rates to the US-born in 1870, slightly lower incarceration rates from 1880 to 1950, and have been *significantly less* likely to be

[11] These string variables are not available for later Censuses, preventing us from implementing these adjustments post-1940.
[12] As described by IPUMS, in the 1870–1930 and the 1960–1970 samples, non-inmates living in institutions are assigned an institutional group quarter type.
[13] Among those institutionalized in 2000 and 2019, 90% of men ages 18–64 and 96% of individuals ages 18–44, respectively, were incarcerated. For 2000, we calculate the number of men aged 18–64 who are in a correctional institution as a share of the institutionalized population (2000 Census Summary File 1 API). For 2019, we calculate the share of individuals aged 18–44 in a correctional institution as a share of the institutionalized population (2019 ACS Table S2603).
[14] We do not restrict the sample to non-Hispanic white men, as Hispanic ethnicity cannot be measured consistently over time.

incarcerated since 1960. Before 1960, the immigrant-US-born incarceration gap was relatively small. The gap then began to widen in 1960, as immigrants' incarceration rate dipped to around 300 per 100,000, whereas the incarceration rate of the US-born jumped to around 900. After 1980, incarceration rates rose dramatically for both groups, but the gap between them remained large so that immigrants are between 50–60% less likely to be incarcerated today. Although the magnitudes of the gaps are smaller, Figure A4 shows that the overall trend in the incarceration gap is similar when we compare immigrants to US-born white men only, in which case immigrants are 15–30% less likely to be incarcerated today.

The remaining panels of Figure 1 compare the incarceration rates of US-born men to those of immigrants from different country-of-origin groups. We split immigrants into five groups with large enough numbers to be followed both historically and today: immigrants from Northern and Western Europe (considered to be the "old immigrant stock" historically), Southern and Eastern Europe (the "new" immigrants historically), China, Mexico and Central America, and the "rest of the world" (those not included in the previous four groups).[15] Figure A5 displays the share of immigrants in each of these groups over time.

Figure 1 shows that the relative decline in immigrants' incarceration rates starting in 1960 has occurred among immigrants from all country-of-origin groups. Immigrants from groups with historically similar incarceration rates (the "old" and "new" Europeans, the Chinese, and those from the "rest of the world") have become significantly less likely to be incarcerated. Immigrants from Mexico and Central America, who featured higher incarceration rates than the US-born before 1960, have fully reversed the gap.[16] Figure A4 shows broadly similar patterns when comparing immigrants to US-born whites. In that case, all immigrant groups, except Mexicans and Central Americans, are less likely to be incarcerated today than US-born white men.

[15] Before 1950, immigrants from the "rest of the world" constituted 10–13% of all immigrants and came primarily from Canada, Japan, and the Caribbean. In the modern period, this group constitutes 40–45% of immigrants and come from the Caribbean, from other countries in South America, Asia, Africa, and the Middle East.

[16] One potential reason for the particularly high incarceration rates of Mexican and Central American immigrants in the past is that, historically, a large proportion of these migrants were seasonal workers. If migrants who were incarcerated could not return home, but those who were not incarcerated did so at high rates, the incarceration rate for this group might be artificially high.

In Figures A6 and A7, we plot differences in immigrant incarceration relative to the US-born separately by country-of-origin for immigrants hailing from the twenty largest sending countries for the past and today. These figures reinforce that immigrants from almost all countries were slightly less likely to be incarcerated historically and that incarceration gaps are wider across the board today.

Online Appendix A shows that the decline in immigrants' relative incarceration is robust to alternative measures of incarceration in the historical period (Figure A8) and alternative sample definitions (Figures A9, A10, and A11).[17] Figure A12 illustrates the importance of using *full-count* data in the historical period: incarceration gaps can be noisy or even the wrong sign for immigrant subgroups when using Census sub-samples.

b. Accounting for Changes in Immigrant Characteristics

A potential explanation for the decline in immigrants' relative incarceration rates is that their observable characteristics (e.g., their age distribution, educational attainment, or racial composition) might have changed in ways that make them less likely to be incarcerated than the US-born.

We begin by documenting changes in the characteristics of incarcerated and non-incarcerated individuals by nativity status and time period (Table A3). Compared to the 1940–1970 period, immigrants have become relatively less educated than the US-born: whereas the proportion of men without a high-school degree has declined by nearly 80% among non-incarcerated US-born men (from 45 to 10%), the same proportion only declined by half among non-incarcerated immigrants (52 to 25%). Given that high school dropouts are over-represented in the incarcerated population, such a change would tend to *increase* immigrants' relative incarceration rates.

We next directly compare the incarceration propensities of immigrants to observationally similar US-born men. Specifically, we use regressions to estimate the immigrant-US-born incarceration

[17] Figure A13 compares our Census-based incarceration measure (a stock) to prison admissions data (a flow) from Missouri for 1870–1920. The two data sources tend to agree on the direction of the immigrant-US-born incarceration gap. Figure A14 further documents that immigrants' lower rate of admission to prison in Missouri is present for both violent and property crimes.

gap and we quantify how this gap changes once we add observable characteristics to the regression. We estimate (separately for each Census year):

$$(1) \quad \text{Incarcerated}_i = \alpha + \beta \text{Immigrant}_i + X_i + \epsilon_i$$

where Incarcerated_i denotes if individual i was incarcerated in that Census year, and Immigrant_i is equal to one for foreign-born individuals. For ease of interpretation, the outcome variable is multiplied by 100 (so β captures percentage-point differences in incarceration rates). X_i reflects a set of individual-level fixed effects for age (one per age), race (white, Black, other), marital status (currently, previously, or never married), state of residence, and education (an indicator denoting literacy before 1940 and three educational categories from 1940 onward: less than high school, high school completion, and any college or more). We report robust standard errors.

Panel (a) in Figure 2 shows that adjusting for age, marital status, state of residence, and race leaves the incarceration gaps mostly unchanged. However, accounting for differences in education significantly widens the gap in recent decades, so that immigrants are even *less* likely to be incarcerated relative to US-born men (a fact noted by Butcher and Piehl 2007 for the 1980–2000 period). Figure A15 shows similar patterns when comparing immigrants only to US-born white men.

Panels (b)-(f) display analogous estimates for the five previously defined immigrant groups.[18] For all groups except for Mexicans and Central Americans, accounting for individual-level characteristics tends to shrink the immigrant-US-born incarceration gap in recent decades (although immigrants remain less likely to be incarcerated). This reduction is driven by accounting for educational differences, as immigrants from groups other than Mexico and Central America are on average more educated than the US-born. By contrast, adjusting for educational differences *amplifies* the incarceration gap between Mexicans and Central Americans (a group with relatively low levels of education) and the US-born. Once we compare this group to US-born men with similar levels of education, they are even *less* likely to be incarcerated in recent decades. Figure

[18] We include race fixed effects to assess the extent to which the changing racial composition of immigrants can account for the relative decline in incarceration. Including race fixed effects becomes redundant when looking at subgroups because there are limited changes in the racial composition of immigrants *within* country-of-origin groups.

A16 shows that the gap is driven by large differences in incarceration among high school dropouts. Of course, immigrants and US-born men who are high school dropouts may be quite different in terms of unobservable traits; however, insofar as criminal behavior is a function of labor market opportunities (Becker 1968), then this figure indicates that Mexican and Central American immigrants are significantly less likely to be incarcerated than US-born men with comparable labor market prospects.[19]

Figure A18 shows that the widening in the immigrant-US-born gap is also not driven by changes in immigrants' country-of-origin mix. This figure, which allows each immigrant group's incarceration rate to evolve over time but holds constant their 1940 share of the immigrant population, shows that the gap would be even *larger* today had the country-of-origin mix not shifted away from Europe toward a more diverse set of sending countries. Finally, the decline is also not driven by increases in the share of immigrants that are recent arrivals who may not have had sufficient time to be incarcerated. Appendix Figure A19 restricts the immigrant sample based on time since arrival to the US; the gap is present even among immigrants who have been in the country for at least five or ten years.

We conclude that changes in migrants' observable characteristics cannot explain the decline in immigrants' relative incarceration rates. If anything, once we account for these characteristics, the difference between immigrants and the US-born becomes even larger.

3. Possible Explanations for the Relative Decline in Immigrants' Incarceration

a. Changes in Immigration Policies: Deportations and Detentions

The number of immigrant deportations from the US began rising in the 1990s and reached record-high numbers around 2010 (Figure A20). Increased deportations may have affected immigrants' incarceration rates in two ways. First, surges in deportations increase the expected cost of committing a crime for non-citizens (and thus might lower their rates of criminal activity): these migrants can expect to serve a period of incarceration in the US *and* then may face deportation after serving their sentence (the so-called "double penalty"). Second, if immigrants who commit

[19] Figure A17 plots the income gap by educational group, showing that low-educated immigrants tend to have similar or lower incomes than low-educated US-born men.

crimes are deported without serving their sentence, then we might find that immigrants are less likely to be incarcerated – because immigrant offenders are removed from the data via deportation – even if they committed as many or more crimes than the US-born. We rule out these two possibilities in turn.

First, if the relative decline in immigrants' incarceration rates was solely driven by an increased risk of deportation, we would not expect to see the decline for immigrants who hold US citizenship and thus cannot be deported. However, Figure 3 shows that if anything, the relative decline is *more pronounced* when we focus on immigrants who are US citizens.

Second, the relative decline in immigrants' incarceration rates is unlikely to be mechanically driven by deportations. First, immigrants who have been convicted of a crime are typically deported *after* serving their sentence and immigrants may not have access to benefits that can shorten incarceration spells for citizens (e.g., participating in diversion programs; Watson and Thompson 2022).[20] Furthermore, the relative decline in immigrants' incarceration rates emerged by 1960, before the rise in mass deportations in the 2000s. Finally, more than 90% of individuals who are deported today are Mexican and Central American (Watson and Thompson 2022). Yet, the immigrant-US-born incarceration gap has widened for immigrants from all regions.

In addition to the recent rise in deportations, there has also been a rise in immigrant detentions for immigration-related violations. This surge in detentions, however, would bias us *against* finding a decline in immigrants' incarceration: if immigrants are held in detention facilities for immigration violations (e.g., overstaying their visa), they would likely be counted as "incarcerated" by our metric and hence inflate immigrants' (and especially Mexican and Central American immigrants') incarceration rates.

[20] Immigration law states that "the Attorney General may not remove an alien who is sentenced to imprisonment until the alien is released from imprisonment" (8 U.S.C. sec. 1231[a][4][A]). However, this law may not be strictly enforced, and some non-citizen immigrant offenders might be deported before the end of their sentence. To assess this possibility, we use Department of Homeland Security data on the number of deported individuals who had a previous criminal conviction (i.e., individuals who could have plausibly remained incarcerated had they not been deported). These data are not restricted to men ages 18–40, so we are likely overestimating the number of deportations in our target population. Yet, even under the extreme assumption that half of these individuals would have remained in prison rather than being deported, immigrants' incarceration rates would *still* be lower than those of US-born men.

Indeed, Figure A21 shows that if we exclude from the sample individuals residing in areas containing large ICE facilities, then the incarceration gap between Mexican and Central American immigrants and US-born men becomes even larger. Excluding areas with *any* ICE facilities (~100 out of 1,000+ total areas) eliminates Mexicans and Central Americans' higher incarceration rates relative to US-born *white* men in thirteen out of the fourteen most recent years.[21] By contrast, excluding these areas does not change the gap in 1970–1990, *prior* to the large increase in immigrant detention and deportation. These patterns suggest that immigrant detentions are overstating the degree to which immigrants, especially those from Mexico and Central America, engage in serious criminal behavior.

b. Changing Relationship Between Incarceration and Criminality

Another potential explanation for the patterns that we document is that, for any given level of underlying criminal activity, the probability of incarceration may differ for immigrants relative to the US-born. In particular, we might observe a widening incarceration gap if immigrants are (increasingly) *less* likely than the US-born to be incarcerated for a given offense. We argue that such an explanation is unlikely to account for our findings.

First, incarceration rates would understate immigrants' true levels of criminality if aspects of the criminal justice system are biased *in favor* of immigrants. This possibility is unlikely to be true, as prior work shows that noncitizens tend to receive longer prison sentences than citizens for comparable crimes (Light et al. 2023), and that the modern criminal justice system is biased against Hispanics (Goncalves and Mello 2021, Tuttle 2023). Thus, unless the criminal justice system has become substantially *less* biased toward immigrants, and now favors immigrants over the US-born (including US-born white men, since we also see a decline when they are the main reference point), it is unlikely that such biases can explain the relative decline in immigrants' incarceration.

Second, incarceration rates might understate immigrants' criminality if unauthorized immigrants are less likely to report crimes due to fear of deportation (Comino et al. 2020, Jácome 2022). Yet, we see the relative decline among immigrants from all sending regions (with significantly different

[21] See Online Appendix B for details on excluded facilities.

shares of unauthorized populations), among citizen migrants (who cannot be deported), and decades prior to the rise in deportations.

4. The Widening of the Incarceration Gap is Part of a Trend of Growing Differences between Immigrants and the US-born

Numerous studies have shown that less-educated men – the group that accounts for most of the recent increase in incarceration; panel (a) of Figure 4 – have experienced a deterioration in outcomes, including their employment, family formation, incarceration, and health (Abraham and Kearney 2018, Binder and Bound 2019, Coile and Duggan 2019, Case and Deaton 2020). This deterioration has been attributed to declines in labor demand from globalization (e.g., Autor et al. 2013) and skill-biased technological change (e.g., Acemoglu and Autor 2011), among other forces.

We conclude the paper by showing that, beyond incarceration, this broader deterioration in outcomes has been significantly more muted among less-educated *immigrant* men. The remaining panels of Figure 4 confirm that low-educated immigrants and US-born men, particularly high school dropouts, have diverged along several dimensions since the 1960s. Panels (b) and (c) show that there has been a divergence in the degree of labor force attachment: among men without a high school degree, immigrants were employed at similar rates than their US-born counterparts in the past but are 30 percentage points more likely to be employed today. Figure A22 shows this same divergence when comparing immigrants to white US-born men only.[22]

Panels (d) and (e) show that low-educated immigrants and US-born men have also diverged with respect to family formation rates. Again, we find that low-educated immigrants and US-born men were comparable prior to 1960 and then began to diverge, with low-educated immigrants now being significantly more likely to be married and living with children. This divergence has been mostly driven by the US-born having a lower probability of marriage and living with children, rather than by increases among immigrants, suggesting that the pattern is not driven by family reunification rules in the immigration system.

[22] The figures in this section start in 1940 because this is the first Census that records education. Figures A23 and A24 show analogous figures for all men and for low-educated women.

Finally, panel (f) uses data from the General Social Survey to show that there has been a divergence in self-reported health status. By 1980, the proportion of US-born men without a high school degree who reported having "excellent" or "good" health (as opposed to "fair" or "poor") was about 63%, 8 percentage points below the corresponding proportion among immigrants without a high school degree. Today, the gap is much larger (closer to 20 percentage points).

Of course, the outcomes in this subsection are correlated with each other and with criminality and incarceration, so the direction of causality is not obvious. On the one hand, worse employment prospects (Gould et al. 2002, Britto et al. 2022), lower marriage rates (Dustmann and Ladersø 2021, Massenkoff and Rose 2022), and lower parenthood rates (Sampson et al. 2006) may all contribute to higher incarceration. On the other hand, higher incarceration rates among low-educated men may have negatively impacted their labor market outcomes (Agan and Starr 2018, Dobbie et al. 2018) and their family formation (Charles and Luoh 2010). Regardless of the direction of causality, these patterns highlight that incarceration is part of a broader divergence of outcomes between less-educated immigrants and their US-born counterparts.

Why have less-educated immigrants remained relatively insulated from the forces that negatively affected low-educated US-born men? Our data do not allow us to pinpoint precise reasons, but we offer two possible explanations. First, lower-educated immigrants have specialized in manual, non-routine occupations, which are often located at the bottom of the wage distribution (Peri and Sparber 2009). Hence, immigrants were relatively shielded from the "hollowing out" of the middle of the wage distribution (Autor et al. 2006, 2008).[23] Second, immigrants are a self-selected group of individuals that likely differs from their US-born counterparts in characteristics such as their risk aversion (Jaeger et al. 2010) or their adaptability and cognitive ability (Bütikofer and Peri 2021). Immigrants have revealed that they are willing to travel long distances for opportunity, a trait which is consistent with immigrants' higher rates of entrepreneurship across the firm-size

[23] In contrast, Figure A25 shows that immigrants were equally likely to be concentrated in the declining manufacturing sector.

distribution (Azoulay et al. 2022).[24,25] Such characteristics may have helped immigrants to weather the negative shocks that affected less-educated US-born men.[26]

5. Conclusion

We construct the first nationally representative series of immigrant-US-born incarceration gaps from 1870 until present day. We find that, as a group, immigrant men have had a *lower* incarceration rate than US-born men for the last 150 years of American history. The differences in incarceration have become more pronounced starting in 1960, with recent waves of immigrants being 50–60% less likely to be incarcerated than US-born men (30% when compared to US-born white men). This relative decline in incarceration has occurred among immigrants from all major countries of origin, and it cannot be explained by changes in immigrants' observable characteristics or in immigration policies. Moreover, we show that the divergence in outcomes between less-educated immigrants and US-born men occurred along dimensions beyond incarceration, including labor force participation and family formation rates.

Although this paper rules out several potential explanations for the decline in immigrants' relative incarceration rates that took place since the 1960s, future work might delve deeper into why immigrants' outcomes differ so significantly from those of their US-born counterparts. The fact that less-educated immigrants and the US-born have diverged along multiple dimensions – ranging from labor market outcomes, to incarceration, to health – suggests that the relative decline in immigrants' incarceration might reflect deeper structural forces disproportionately affecting low-educated US-born men (and not their immigrant counterparts) in the past half century.

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[24] Prior work (Amior 2020, Basso and Peri 2020, Cadena and Kovak 2016) shows that immigrants have greater migration responsiveness to economic conditions. Nevertheless, we note that differences in location cannot explain the gaps between lower-educated immigrants and their US-born counterparts. Figures A26 and A27 show that labor market and family formation gaps are stable after accounting for granular geographic (county or PUMA) fixed effects.

[25] Additional figures consider and rule out other reasons for immigrants being relatively less affected by these forces. Figure A28 shows that low-educated *citizen* immigrants also have higher employment and labor force participation rates than US-born men, making it unlikely that differences in the availability of social insurance can explain the widening of the gap. We also do not find any evidence that differences in the likelihood of committing drug-related offenses can explain the immigrant-US-born incarceration gap (Figure A29).

[26] A potential explanation for these patterns is that the group of less-educated US-born men might have become smaller in size and increasingly negatively selected over time, but that such a process did not occur to the same degree among immigrants (Novosad et al 2022). Note, however, that this explanation cannot account for the fact that the incarceration rate of immigrants *as a whole* declined relative to that of the US-born.

References

Abraham, K. G., & Kearney, M. S. (2020). Explaining the decline in the US employment-to-population ratio: A review of the evidence. *Journal of Economic Literature, 58*(3), 585-643.

Abramitzky, R., Boustan, L., & Eriksson, K. (2020). Do Immigrants Assimilate More Slowly Today Than in the Past? *American Economic Review: Insights*, 2(1), 125–141.

Abramitzky, R., Boustan, L., Jácome, E., & Pérez, S. (2021). Intergenerational Mobility of Immigrants in the United States over Two Centuries. *American Economic Review*, 111(2), 580–608.

Acemoglu, D., & Autor, D. (2011). Skills, tasks and technologies: Implications for employment and earnings. In *Handbook of Labor Economics* (Vol. 4, pp. 1043-1171). Elsevier.

Adelman, R., Williams, L., Markle, G., Weiss, S., & Jaret, C. (2017). Urban crime rates and the changing face of immigration: Evidence across four decades, *Journal of Ethnicity in Criminal Justice*, 15:1, 52-77, DOI: 10.1080/15377938.2016.1261057

Agan, A., & Starr, S. (2018). Ban the Box, Criminal Records, and Racial Discrimination: A Field Experiment. *The Quarterly Journal of Economics*, 133(1), 191–235.

Akbulut-Yuksel, M., Mocan, N.H., Tumen, S., & Turan, B. (2022). *The Crime Effect of Refugees* (No. w30070). National Bureau of Economic Research.

Amior, M. (2020). The contribution of immigration to local labor market adjustment. Working Paper.

Autor, D. H., Dorn, D., & Hanson, G. H. (2013). The geography of trade and technology shocks in the United States. *American Economic Review*, 103(3), 220-225.

Autor, D. H., Katz, L. F., & Kearney, M. S. (2006). The polarization of the US labor market. *American Economic Review*, 96(2), 189-194.

Autor, D. H., Katz, L. F., & Kearney, M. S. (2008). Trends in US wage inequality: Revising the revisionists. *The Review of Economics and Statistics*, 90(2), 300-323.

Azoulay, P., Jones, B. F., Kim, J. D., & Miranda, J. (2022). Immigration and entrepreneurship in the United States. *American Economic Review: Insights*, 4(1), 71-88.

Basso, G., & Peri, G. (2020). Internal Mobility: The Greater Responsiveness of Foreign-Born to Economic Conditions. *Journal of Economic Perspectives*, 34(3), 77–98.

Becker, G. S. (1968). Crime and Punishment: An Economic Approach. *Journal of Political Economy*, 76(2), 169–217.

Bell, B., Fasani, F., & Machin, S. (2013a). Crime and Immigration: Evidence from Large Immigrant Waves. *The Review of Economics and Statistics*, 95(4), 1278–1290.

Bell, B., & Machin, S. (2013b). Crime and immigration: What do we know. *Lessons from the Economics of Crime: What Reduces Offending*, 149-174.

Bersani, B. E. (2014). An examination of first and second generation immigrant offending trajectories. *Justice Quarterly*, 31(2), 315-343.

Bianchi, M., Buonanno, P., & Pinotti, P. (2012). Do Immigrants Cause Crime? *Journal of the European Economic Association*, 10(6), 1318–1347.

Binder, A. J., & Bound, J. (2019). The Declining Labor Market Prospects of Less-Educated Men. *Journal of Economic Perspectives*, 33(2), 163–190. https://doi.org/10.1257/jep.33.2.163

Britto, D. G., Pinotti, P., & Sampaio, B. (2022). The effect of job loss and unemployment insurance on crime in Brazil. *Econometrica*, 90(4), 1393-1423.

Bucerius, S. M. (2011). Immigrants and crime. *The Oxford Handbook of Crime and Criminal Justice*, 385-419.

Buonanno, P., Vanin, P., & Vargas, J. (2022). A Modern Guide to the Economics of Crime. In *A Modern Guide to the Economics of Crime*. Edward Elgar Publishing.

Butcher, K. F., & Piehl, A. M. (1998a). Cross-city evidence on the relationship between immigration and crime. *Journal of Policy Analysis and Management*, 17(3), 457-493.

Butcher, K. F., & Piehl, A. M. (1998b). Recent Immigrants: Unexpected Implications for Crime and Incarceration. *ILR Review*, 51(4), 654–679.

Butcher, K. F., & Piehl, A. M. (2007). *Why are Immigrants' Incarceration Rates so Low? Evidence on Selective Immigration, Deterrence, and Deportation* (No. w13229). National Bureau of Economic Research.

Bütikofer, A., & Peri, G. (2021). How cognitive ability and personality traits affect geographic mobility. *Journal of Labor Economics*, *39*(2), 559-595.

Cadena, B. C., & Kovak, B. K. (2016). Immigrants Equilibrate Local Labor Markets: Evidence from the Great Recession. *American Economic Journal: Applied Economics*, 8(1), 257–290.

Card, D., Chang, S., Becker, C., Mendelsohn, J., Voigt, R., Boustan, L., Abramitzky, R., & Jurafsky, D. (2022). Computational analysis of 140 years of US political speeches reveals more positive but increasingly polarized framing of immigration. *Proceedings of the National Academy of Sciences*, 119(31), e2120510119.

Case, A., & Deaton, A. (2020). Deaths of Despair and the Future of Capitalism. In *Deaths of Despair and the Future of Capitalism*. Princeton University Press.

Chalfin, A. (2014). What is the Contribution of Mexican Immigration to U.S. Crime Rates? Evidence from Rainfall Shocks in Mexico. *American Law and Economics Review*, 16(1), 220–268.

Charles, K. K., & Luoh, M. C. (2010). Male incarceration, the marriage market, and female outcomes. *The Review of Economics and Statistics*, *92*(3), 614-627.

Coile, C. C., & Duggan, M. G. (2019). When labor's lost: Health, family life, incarceration, and education in a time of declining economic opportunity for low-skilled men. *Journal of Economic Perspectives*, 33(2), 191-210.

Comino, S., Mastrobuoni, G., & Nicolò, A. (2020). Silence of the innocents: Undocumented immigrants' underreporting of crime and their victimization. *Journal of Policy Analysis and Management*, 39(4), 1214-1245.

Dobbie, W., Goldin, J., & Yang, C. S. (2018). The Effects of Pretrial Detention on Conviction, Future Crime, and Employment: Evidence from Randomly Assigned Judges. *American Economic Review*, 108(2), 201–240.

Dustmann, C., & Landersø, R. (2021). Child's gender, young fathers' crime, and spillover effects in criminal behavior. *Journal of Political Economy*, 129(12), 3261-3301.

Eriksson, K. (2019). Moving North and into jail? The great migration and black incarceration. *Journal of Economic Behavior & Organization*, 159, 526–538.

Eriksson, K. (2020). Education and Incarceration in the Jim Crow South Evidence from Rosenwald Schools. *Journal of Human Resources*, 55(1), 43–75.

Fasani, F., Mastrobuoni, G., Owens, E. G., & Pinotti, P. (2019). Does Immigration Increase Crime?: Migration Policy and the Creation of the Criminal Immigrant. Cambridge University Press.

Freeman, R. B. (1999). Chapter 52 The Economics of Crime. In *Handbook of Labor Economics* (Vol. 3, pp. 3529–3571). Elsevier.

Gehrsitz, M. and Ungerer, M. (2022), Jobs, Crime and Votes: A Short-run Evaluation of the Refugee Crisis in Germany. *Economica*, 89: 592-626. https://doi.org/10.1111/ecca.12420

Goncalves, F., & Mello, S. (2021). A Few Bad Apples? Racial Bias in Policing. *American Economic Review*, 111(5), 1406–1441.

Gould, E. D., Weinberg, B. A., & Mustard, D. B. (2002). Crime rates and local labor market opportunities in the United States: 1979–1997. *Review of Economics and Statistics*, 84(1), 45-61.

Jácome, E. (2022). The Effect of Immigration Enforcement on Crime Reporting: Evidence from Dallas. *Journal of Urban Economics*, *128*, 103395.

Jaeger, D. A., Dohmen, T., Falk, A., Huffman, D., Sunde, U., & Bonin, H. (2010). Direct evidence on risk attitudes and migration. *The Review of Economics and Statistics*, *92*(3), 684-689.

Kearney, M. S., Harris, B. H., Jácome, E., & Parker, L. (2014). Ten economic facts about crime and incarceration in the United States.

Kubrin, C. E., & Ousey, G. C. (2023). *Immigration and Crime: Taking Stock*. Springer Nature.

Landgrave, M., & Nowrasteh, A. (2017). Criminal Immigrants: Their Numbers, Demographics, and Countries of Origin. *Cato Institute Immigration Research and Policy Brief*, (1).

Landgrave, M., & Nowrasteh, A. (2018). Incarcerated Immigrants in 2016: Their Numbers, Demographics, and Countries of Origin. *Cato Institute Immigration Research and Policy Brief*, (7).

Landgrave, M., & Nowrasteh, A. (2019). Criminal Immigrants in 2017: Their Numbers, Demographics, and Countries of Origin. *Cato Institute Immigration Research and Policy Brief*, (11).

Lang, K., & Kahn-Lang Spitzer, A. (2020). Race Discrimination: An Economic Perspective. *Journal of Economic Perspectives*, 34(2), 68–89.

Light, M. T., He, J., & Robey, J. P. (2020). Comparing crime rates between undocumented immigrants, legal immigrants, and native-born US citizens in Texas. *Proceedings of the National Academy of Sciences*, 117(51), 32340–32347.

Light, M. T., Robey, J., & Kim, J. (2023). "Noncitizen Justice: The Criminal Case Processing of non-U.S. Citizens in Texas and California." *American Journal of Sociology*.

Lodge, H. C. (1891). Lynch Law and Unrestricted Immigration. *The North American Review*, 152(414), 602-612.

Massenkoff, M. N., & Rose, E. K. (2022). *Family formation and crime* (No. w30385). National Bureau of Economic Research.

Moehling, C. M., & Piehl, A. M. (2014). Immigrant assimilation into US prisons, 1900–1930. *Journal of Population Economics*, 27(1), 173–200.

Moehling, C., & Piehl, A. M. (2009). Immigration, Crime, and Incarceration in Early Twentieth-Century America. *Demography*, 46(4), 739–763.

Novosad, P., Rafkin, C., & Asher, S. (2022). Mortality change among less educated Americans. *American Economic Journal: Applied Economics*, *14*(4), 1-34.

Orrenius, P., & Zavodny, M. (2019). Do Immigrants Threaten US Public Safety? *Journal on Migration and Human Security*, *7*(3), 52–61.

Peri, G., & Sparber, C. (2009). Task Specialization, Immigration, and Wages. *American Economic Journal: Applied Economics*, *1*(3), 135-169.

Piopiunik, M., & Ruhose, J. (2017). Immigration, regional conditions, and crime: Evidence from an allocation policy in Germany. *European Economic Review*, 92, 258-282.

Ruggles, S., Fitch, C., Goeken, R., Hacker, J., Nelson, M., Roberts, E., Schouweiler, M., and Sobek, M. (2021) IPUMS Ancestry Full Count Data: Version 3.0 [dataset]. Minneapolis, MN: IPUMS.

Ruggles, S., Flood, S., Goeken, R., Schouweiler, M., and Sobek, M. (2022). IPUMS USA: Version 12.0 [dataset]. Minneapolis, MN: IPUMS.

Sampson, R. J., Laub, J. H., & Wimer, C. (2006). Does marriage reduce crime? A counterfactual approach to within-individual causal effects. *Criminology*, 44(3), 465-508.

Sampson, R. J., Morenoff, J. D., & Raudenbush, S. (2005). Social anatomy of racial and ethnic disparities in violence. *American Journal of Public Health*, *95*(2), 224-232.

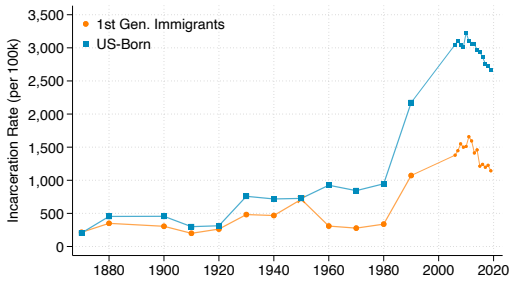
Spenkuch, J. L. (2014). Understanding the impact of immigration on crime. *American law and economics review*, *16*(1), 177-219.

Tuttle, C. (2023). Racial Disparities in Federal Sentencing: Evidence from Drug Mandatory Minimums. Working Paper.

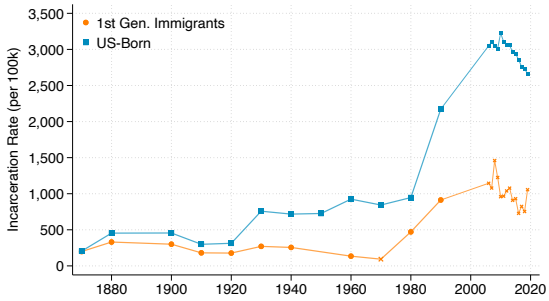
Watson, T., & Thompson, K. (2022). The Border Within: The Economics of Immigration in an Age of Fear. University of Chicago Press.

Figure 1: Incarceration Rates of Immigrants and US-born Men, 1870-2019

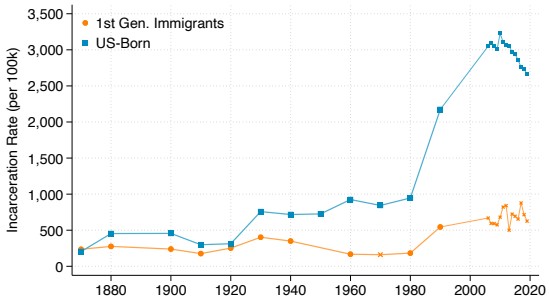
(a) All Immigrants



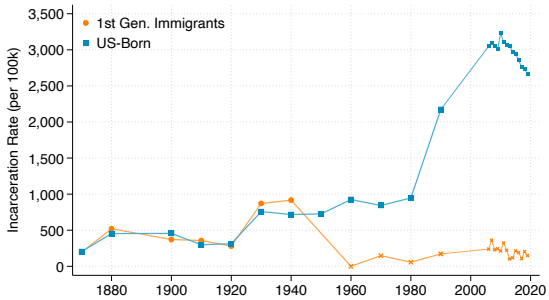
(b) "Old" Europeans



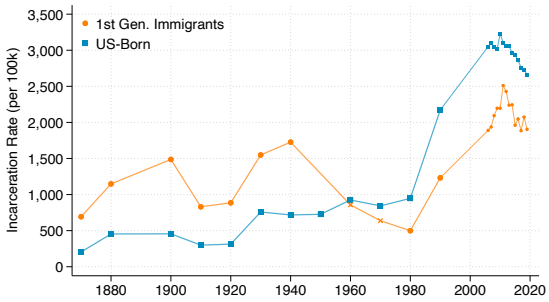
(c) "New" Europeans



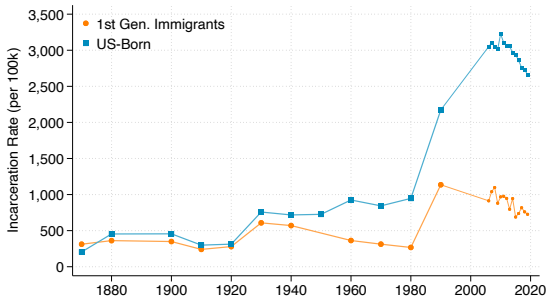
(d) Chinese



(e) Mexican and Central Americans



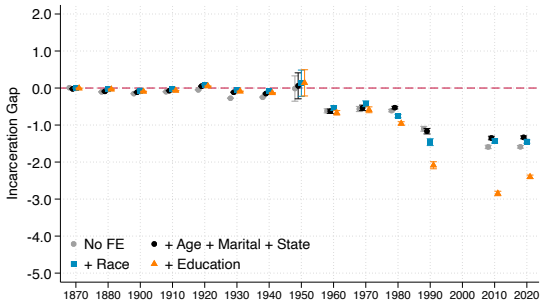
(f) Rest of the world



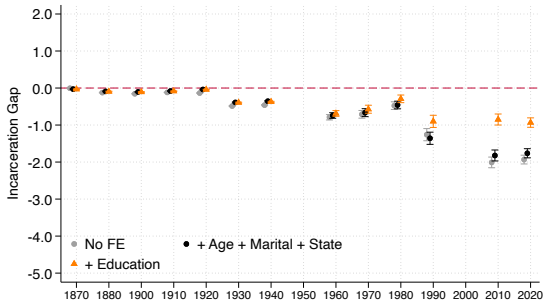
Notes: Each panel plots incarceration rates for immigrants and US-born men between 1870 and 2019. Data are restricted to males ages 18-40. Data spanning 1870 to 1940 are from the full-count decennial Censuses. Data spanning 1950 to 1990 are from the largest available sub-samples from the corresponding decennial Censuses. Data from 2005 onward are from the annual American Community Surveys (ACS). Cross markers indicate that fewer than 10,000 immigrants were used to calculate the corresponding incarceration rate. Panel (a) compares US-born men to all immigrants. Panels (b)-(f) compare US-born men to immigrants from a particular country-of-origin group. "Old Europeans" are immigrants from countries in the North and West of Europe. "New Europeans" are immigrants from countries in Eastern and Southern Europe. The "Rest of the world" category includes immigrants from countries not included in panels (b)-(f). For more details, see Online Appendix B.

Figure 2: Difference in Incarceration Rates of Immigrants and US-born Men, Adjusting for Individual-Level Characteristics, 1870-2019

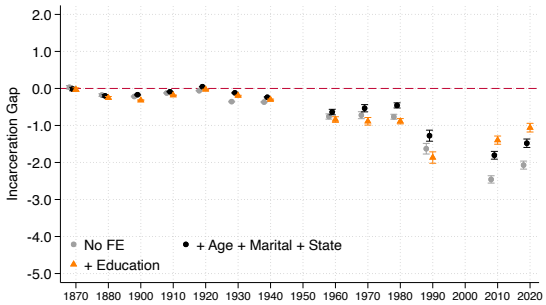
(a) All Immigrants



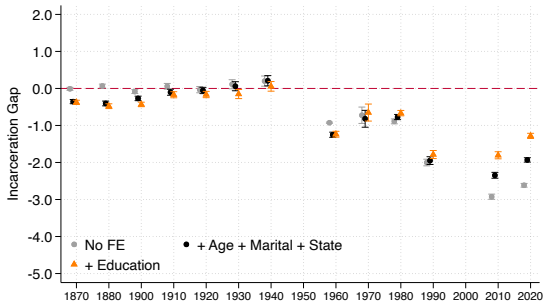
(b) "Old" Europeans



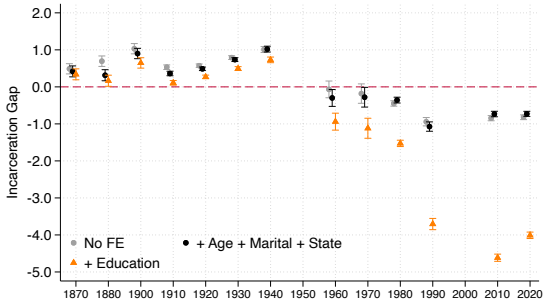
(c) "New" Europeans



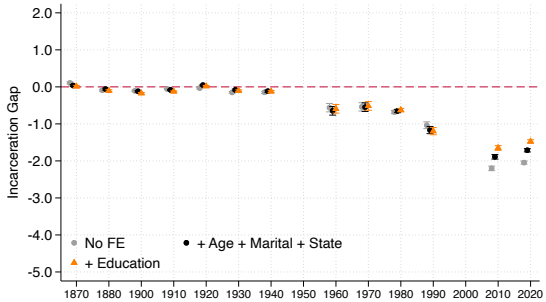
(d) Chinese



(e) Mexican and Central Americans

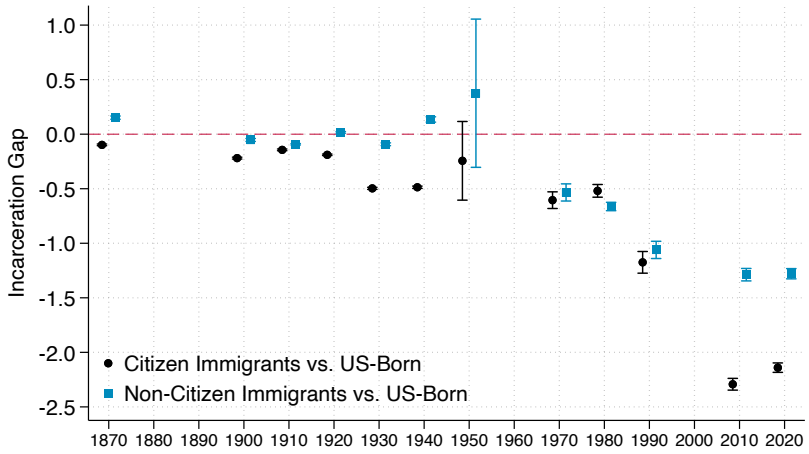


(f) Rest of the world



Notes: Each panel plots the estimated values of β using equation (1) for each Census year. The first series includes no individual-level control variables, and each subsequent series sequentially adds control variables. The second series includes individual age fixed effects, marital status (currently, previously, and never married) fixed effects, and state-of-residence fixed effects. In panel (a), the third series includes race fixed effects. The final series in each panel adds education fixed effects. Education refers to an indicator denoting literacy before 1940 and educational attainment from 1940 onward (HS dropout, HS graduate, any college). Panel (a) compares US-born men to all immigrants. Panels (b)-(f) compare US-born men to immigrants from a particular country-of-origin group. See Figure 1 and Online Appendix B for data sources and definitions of each country-of-origin group. All estimates report robust standard errors.

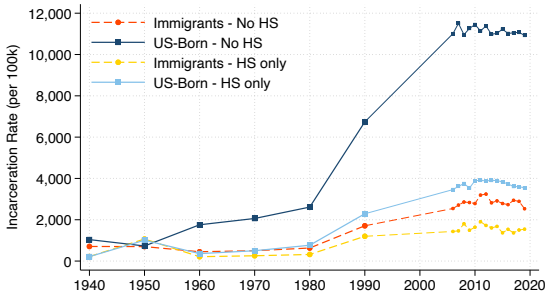
Figure 3: Differences in Incarceration Rates of Citizen and Non-Citizen Immigrants, 1870-2019



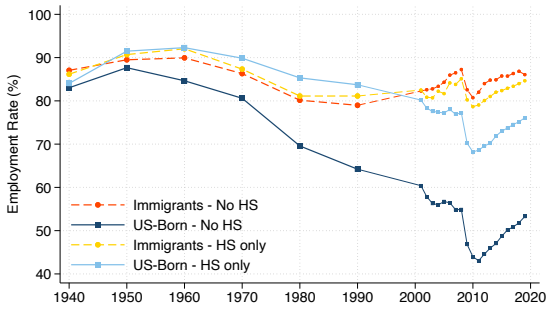
Notes: Each series plots the estimated values of β using equation (1) and varying the sample of immigrants. The first series restricts the sample of immigrants to those that are US citizens. The second series restricts the sample of immigrants to those that are non-citizens. Data are restricted to males ages 18-40. In 1870, 1900, and 1910, data are restricted to males ages 21-40 because citizenship was not defined for individuals under 21 in these Censuses. Data from 1880 and 1960 are omitted because the Census did not include a citizenship question in those years. See Figure 1 and Online Appendix B for more details on data sources. All estimates report robust standard errors.

Figure 4: Incarceration, Labor Market, Family Formation, and Health Outcomes of Immigrants and US-born Men Without Any College Education, 1940-2019

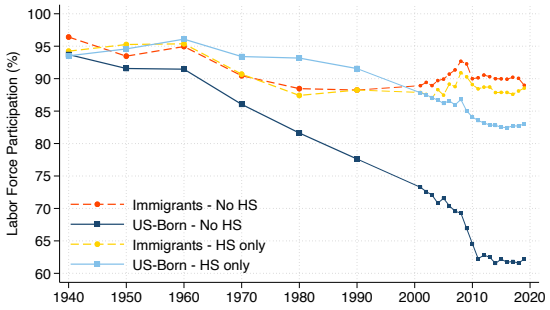
(a) Incarceration Rate (per 100,000)



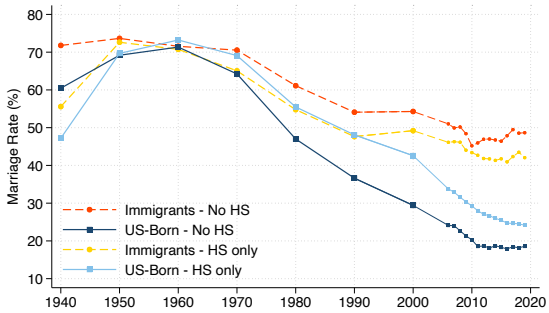
(b) Employment Rate (%)



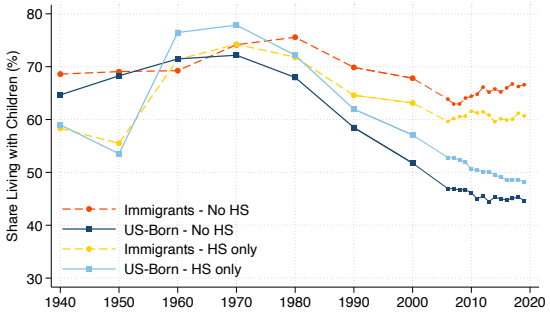
(c) Labor Force Participation Rate (%)



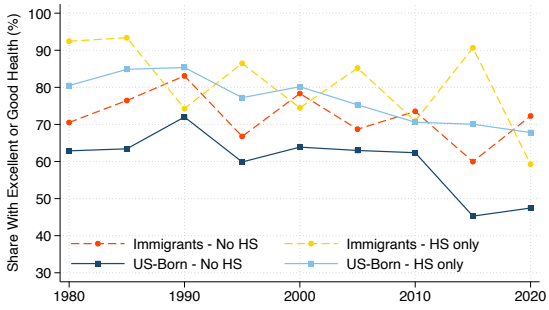
(d) Marriage Rate (%)



(e) Share Living with Children (%)



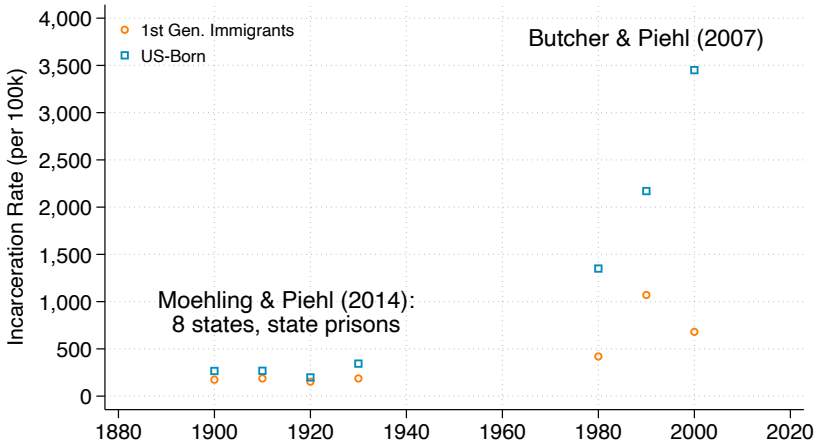
(f) Share with Excellent or Good Health (%)



Notes: This figure plots the outcomes of immigrant and US-born men by educational attainment between 1940 and 2019. "No HS" refers to individuals with 11 or fewer years of schooling. "HS Only" refers to individuals with exactly 12 years of schooling. Panels (a)-(d) are restricted to males ages 18-40. Panels (e) and (f) are restricted to males ages 30-50 and 18-65, respectively. Panels (b)-(e) restrict the sample to non-institutionalized individuals. For panels (a)-(e), data spanning 1950 to 1990 are from the largest available sub-sample from the decennial Census, and data from 2000 onward are from the annual American Community Survey (ACS). Panel (f) uses data from the 1977–2020 General Social Survey (GSS) and plots the share of individuals who report being in excellent or good health. Each data point in this final panel reflects information from various survey waves around that year. For more details, see Online Appendix B.

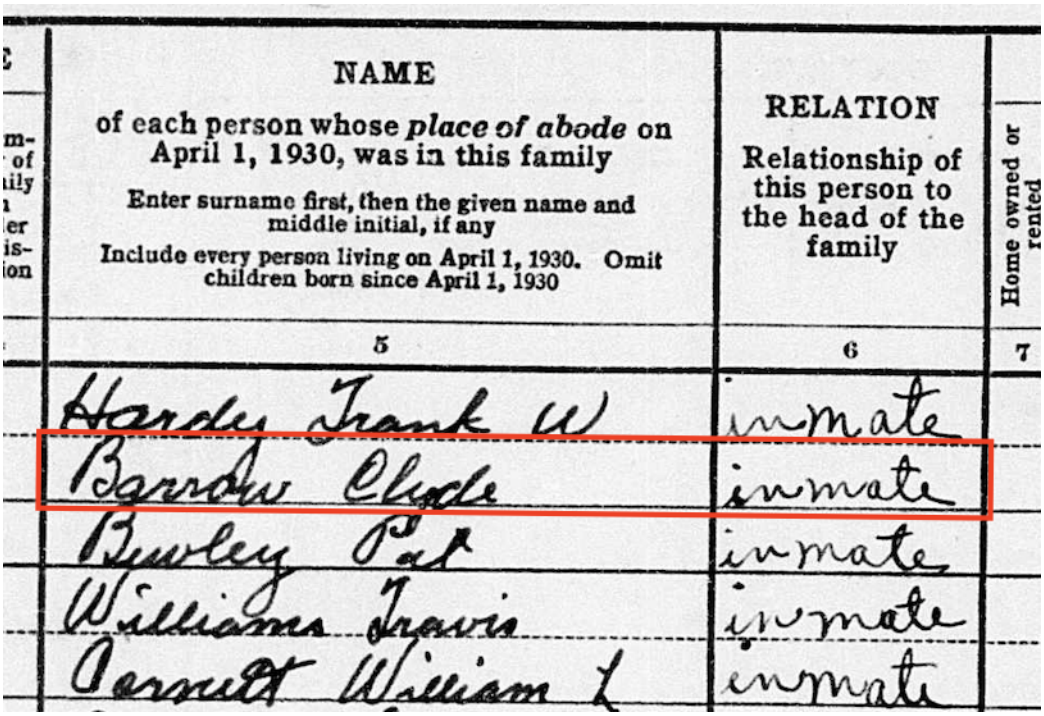
Online Appendix A: Appendix Figures and Tables

Figure A1: Existing Evidence on Immigrant and US-born Incarceration Rates



Notes: This figure plots historical incarceration rates of immigrants and US-born individuals from Moehling and Piehl (2014) as well as modern incarceration rates from Butcher and Piehl (2007). The historical incarceration rates are based on US-born and immigrant individuals ages 18-44 who were incarcerated in state correctional facilities in eight states: Massachusetts, Connecticut, New York, New Jersey, Pennsylvania, Illinois, Michigan, and California. The modern incarceration rates correspond to institutionalization rates among all US-born and immigrant men ages 18-40 from sub-samples of the decennial Censuses.

Figure A2: Example Record of Incarcerated Individuals in 1930 Census

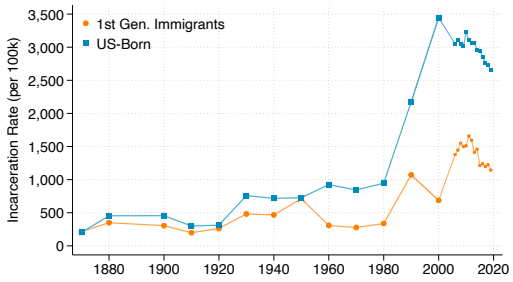


NAME of each person whose *place of abode* on April 1, 1930, was in this family Enter surname first, then the given name and middle initial, if any Include every person living on April 1, 1930. Omit children born since April 1, 1930	RELATION Relationship of this person to the head of the family	Home owned or rented
5	6	7
Hardey Frank W	inmate	
Barrow Clyde	inmate	
Bewley Pat	inmate	
Williams Travis	inmate	
Pennett William L	inmate	

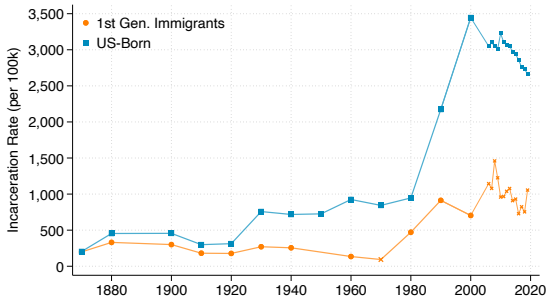
Notes: This figure shows an example record of incarcerated individuals in the 1930 population Census.

Figure A3: Incarceration Rates of Immigrants and US-born Men for 1870-2019, Including 2000

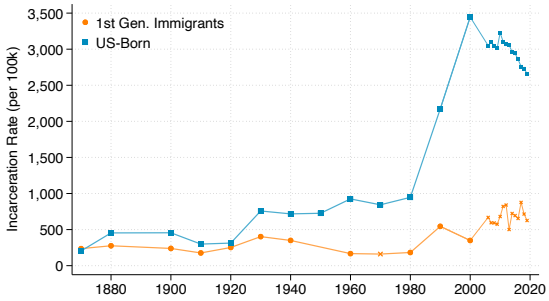
(a) All Immigrants



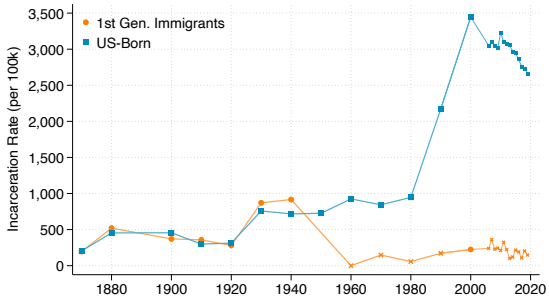
(b) "Old" Europeans



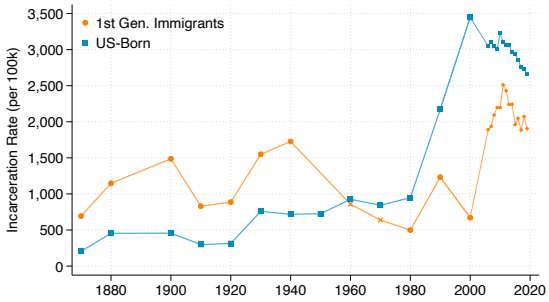
(c) "New" Europeans



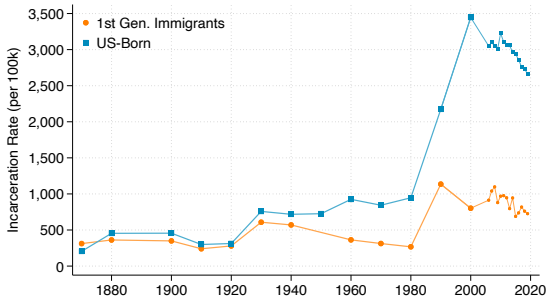
(d) Chinese



(e) Mexican and Central Americans



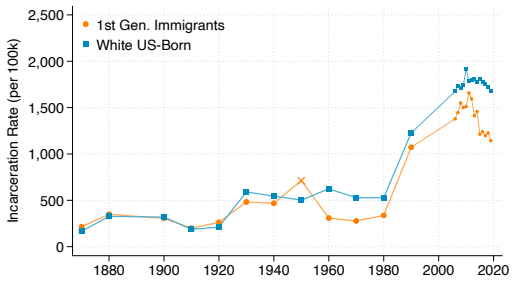
(f) Rest of the world



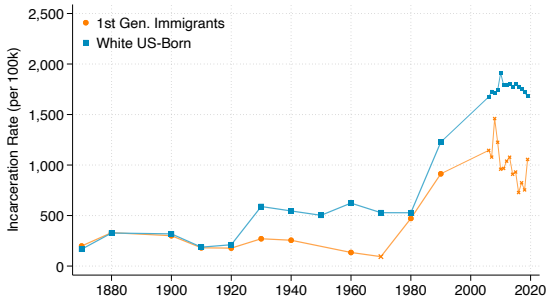
Notes: Each of the panels in this figure plots incarceration rates for immigrants and US-born between 1870 and 2019 as in Figure 1, but including the corresponding points for the 2000 Census. For more details, see the note to Figure 1 and Online Appendix B.

Figure A4: Incarceration Rates of Immigrants and White US-born Men, 1870-2019

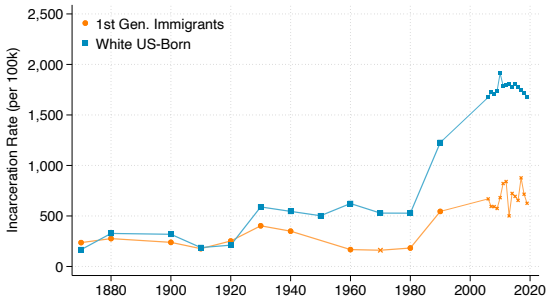
(a) All Immigrants



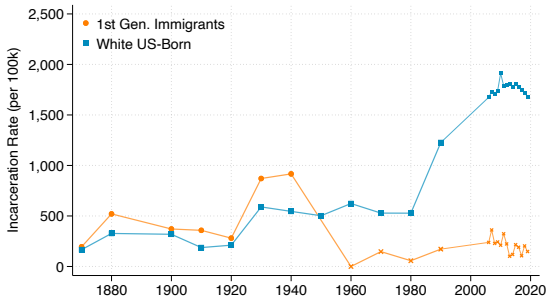
(b) "Old" Europeans



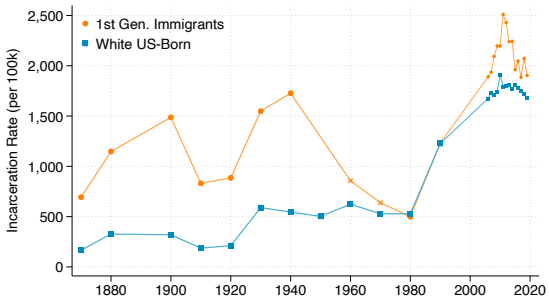
(c) "New" Europeans



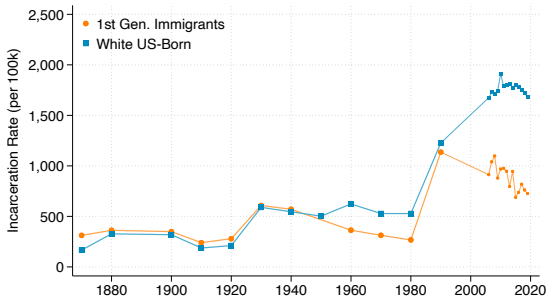
(d) Chinese



(e) Mexican and Central Americans



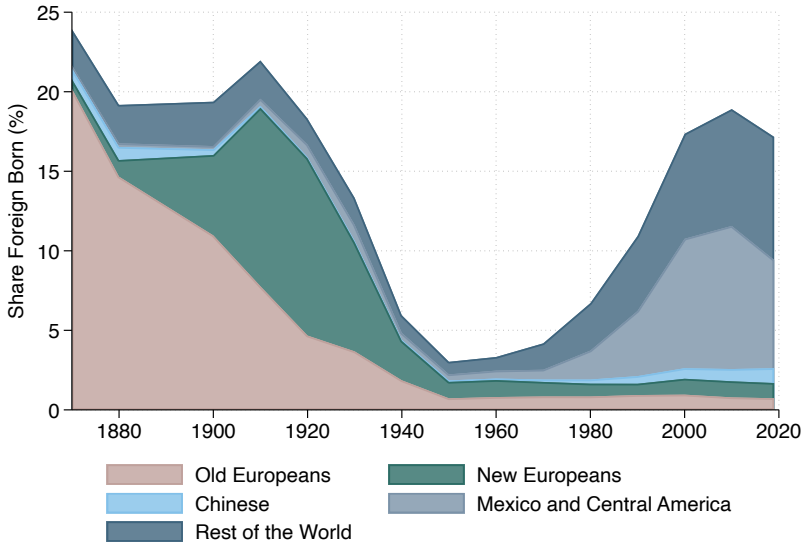
(f) Rest of the world



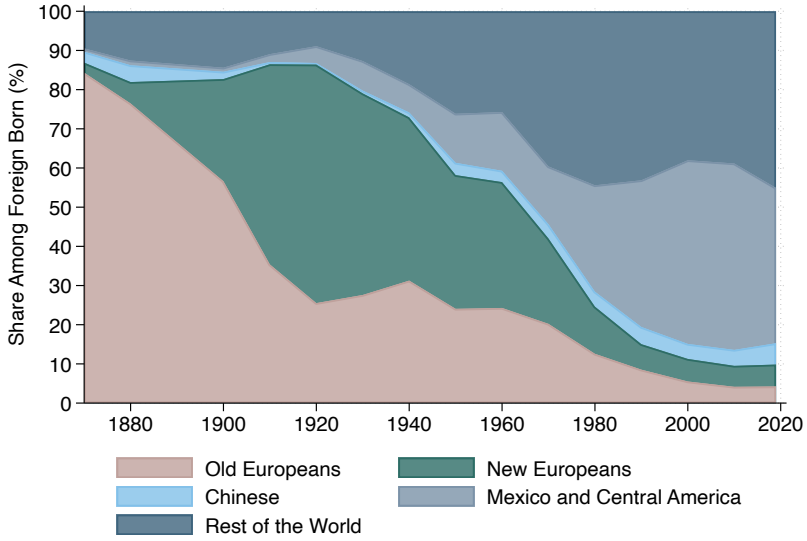
Notes: Each of the panels in this figure plots incarceration rates for immigrants (regardless of their race) and white US-born men between 1870 and 2019. For more details, see the note to Figure 1 and Online Appendix B.

Figure A5: Immigrant Composition in the US, 1870-2019

(a) Within the US Population

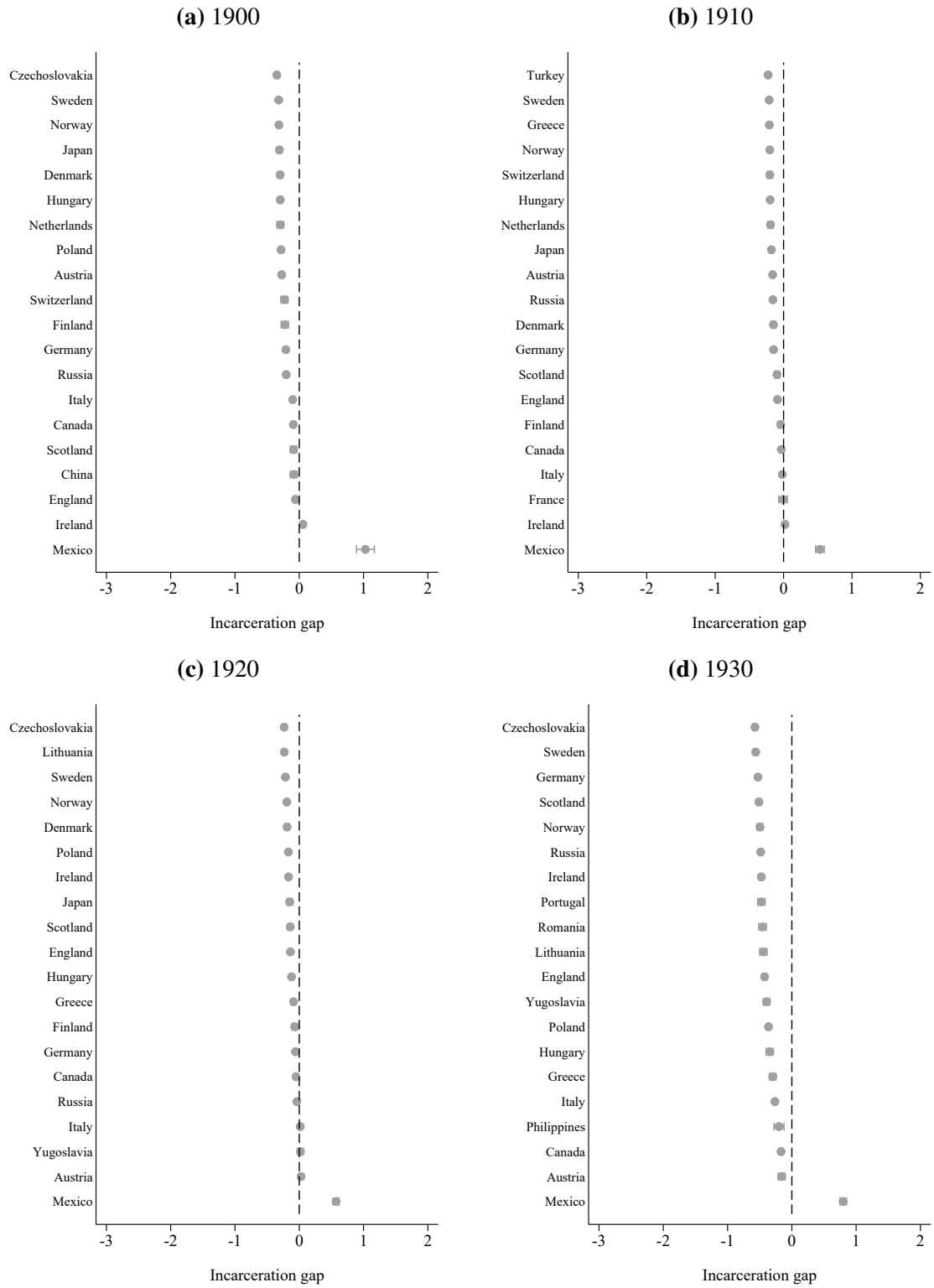


(b) Within the Immigrant Population



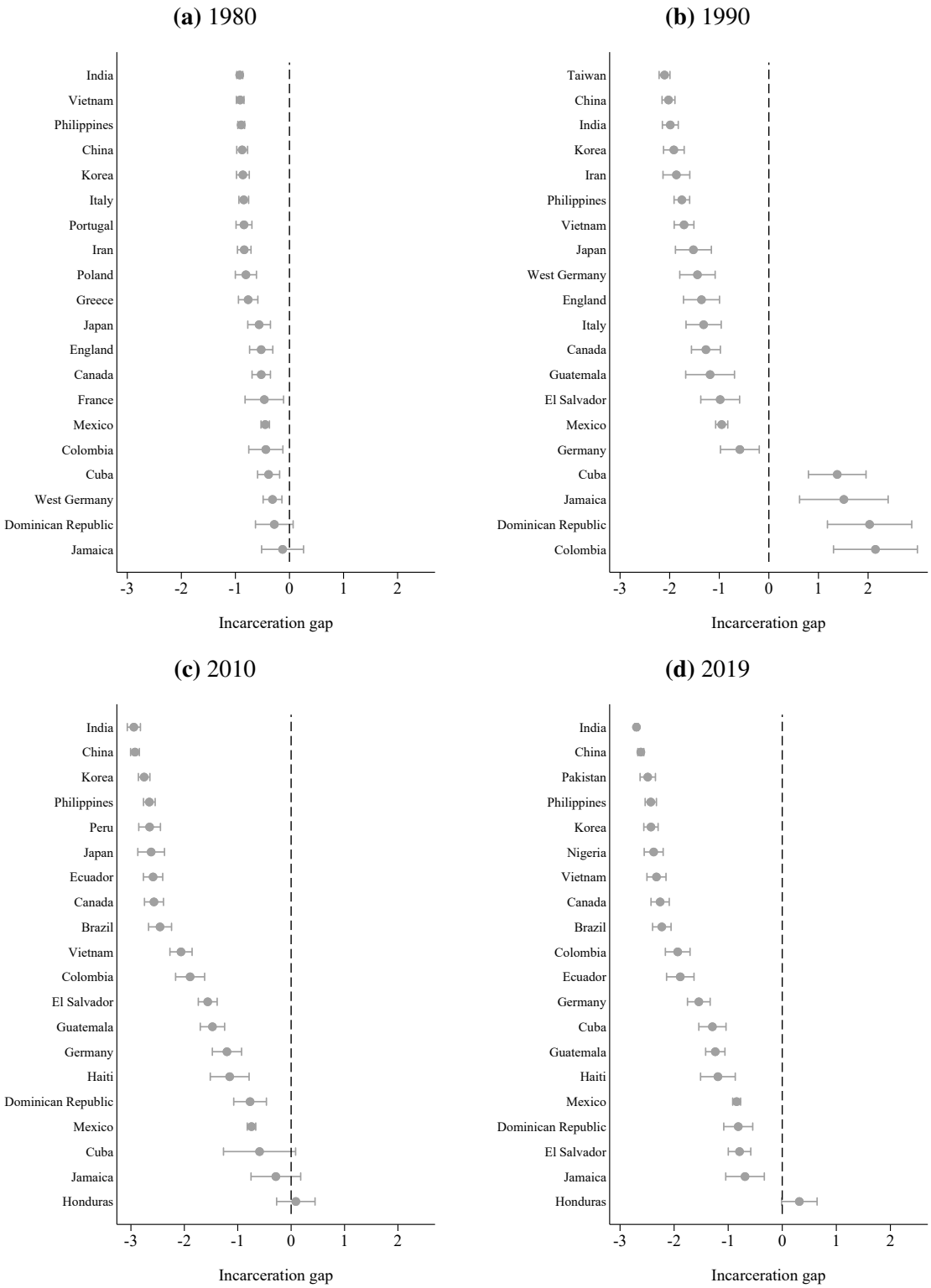
Notes: Panel (a) illustrates the share of men ages 18-40 that are foreign-born between 1870 and 2019. Panel (b) shows the composition of each immigrant group among foreign-born individuals. Each color depicts immigrants from a specific country-of-origin group, showing that immigrants today are more likely to come from Mexico and Central America as well as from the "rest of the world" group. For more details on the definition of each country-of-origin group, see Online Appendix B.

Figure A6: Incarceration Gap of Immigrants and US-born Men by Country of Origin, 1900-1930



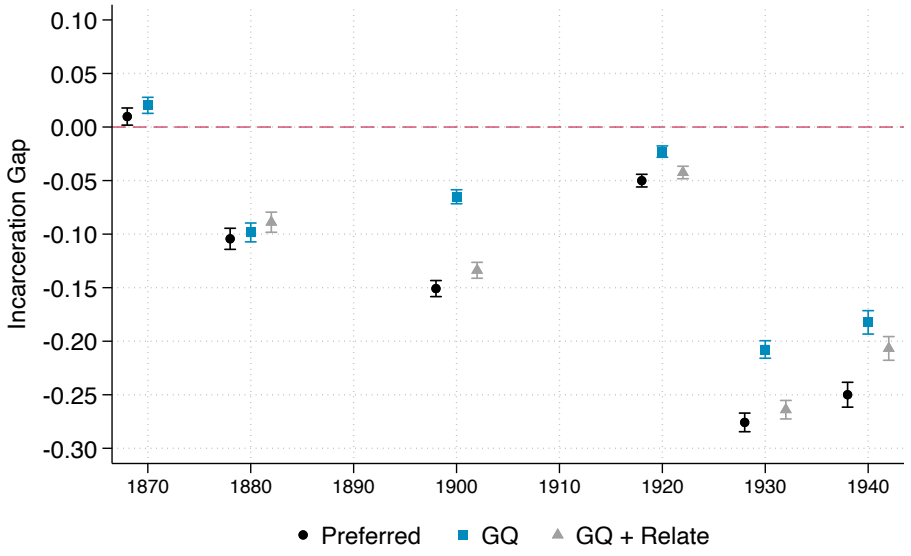
Notes: This figure plots the difference in incarceration propensities between US-born men and immigrants from each of the 20 sending countries with the largest populations in the US that year (each estimate is the value of β using equation (1) without any individual-level characteristics). All estimates report robust standard errors.

Figure A7: Incarceration Gap of Immigrants and US-born Men by Country of Origin, 1980-2019



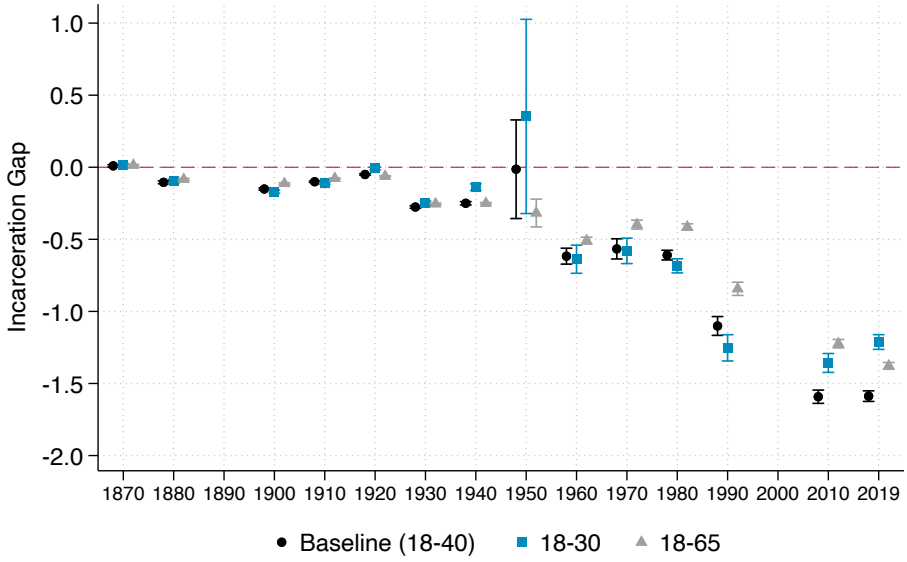
Notes: This figure plots the difference in incarceration propensities between US-born men and immigrants from each of the 20 sending countries with the largest populations in the US that year (each estimate is the value of β using equation (1) without any individual-level characteristics). All estimates report robust standard errors.

Figure A8: Incarceration Gap between Immigrants and US-born Men Using Alternative Incarceration Measures, 1870-1940



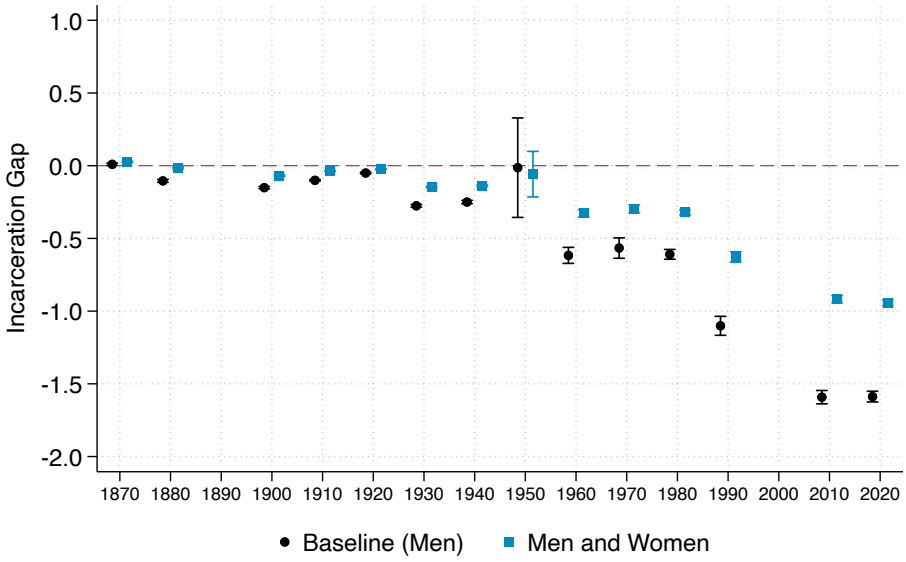
Notes: This figure plots the estimated values of β using equation (1) and varying the definition of incarceration in the 1870-1940 full-count decennial Censuses. The first series utilizes the baseline measure of incarceration. The second series uses the IPUMS group quarters variable only to classify an individual as incarcerated. The third series uses the group quarters variable and the variable denoting an individual's relationship to the household head to classify an individual as incarcerated. The 1910 Census does not identify group quarter types, so we omit this year in the comparison. The 1870 Census does not include a question on relationship to household head. For more details on these measures, see Online Appendix B. All estimates report robust standard errors.

Figure A9: Incarceration Gap between Immigrants and US-born Men, Varying the Age of the Sample



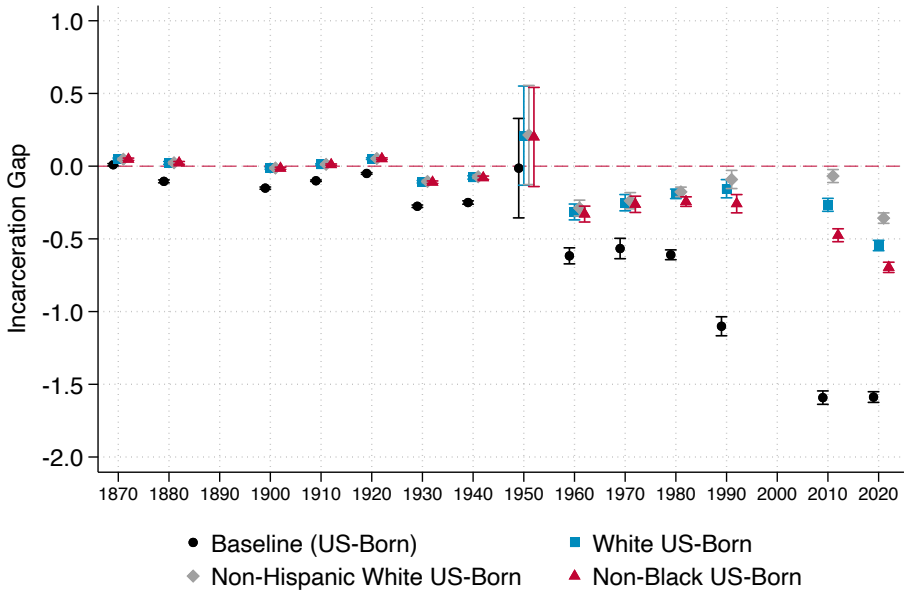
Notes: This figure plots the estimated values of β using equation (1) and varying the age of the individuals in the sample. The first series reproduces the baseline estimates using men ages 18-40. The second and third series consider men ages 18-30 and 18-65, respectively. All estimates report robust standard errors.

Figure A10: Incarceration Gap between Immigrants and US-born Individuals, Including Women



Notes: This figure plots the estimated values of β using equation (1) for individuals ages 18-40. The first series reproduces the baseline estimates restricting the sample to men. The second series expands the sample to include women. All estimates report robust standard errors.

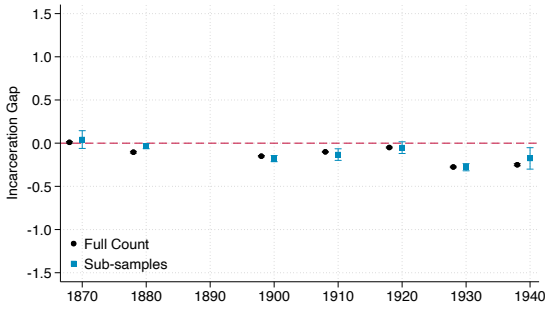
Figure A11: Incarceration Gap between Immigrants and US-born Men, Using Alternative Groups of US-born Individuals



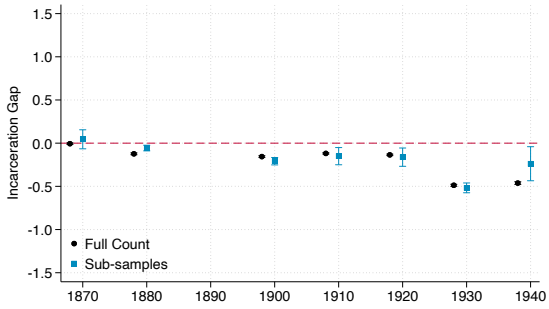
Notes: This figure plots the estimated values of β using equation (1) and varying the sample of US-born men. The first series reproduces the baseline estimate considering all US-born men. The second series only considers white US-born men. The third series considers non-Hispanic white US-born men. Hispanic individuals are identified using the "Hispan" variable provided by IPUMS. Before 1980, individuals were classified as Hispanic based on their country of birth, parental country of birth, Spanish surname, or relationship to someone identified as Hispanic through these characteristics. The fourth series considers US-born men whose race is not classified as Black. All estimates report robust standard errors.

Figure A12: Incarceration Gap between Immigrants and US-born Men, Comparing Full Count Census with Sub-samples, 1870-1940

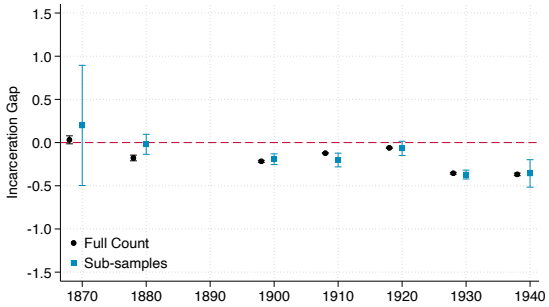
(a) All Immigrants



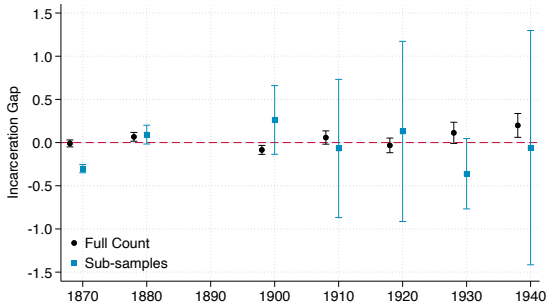
(b) "Old" Europeans



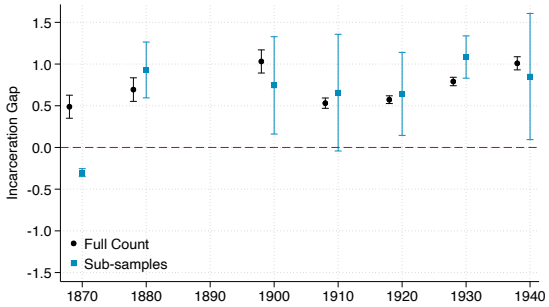
(c) "New" Europeans



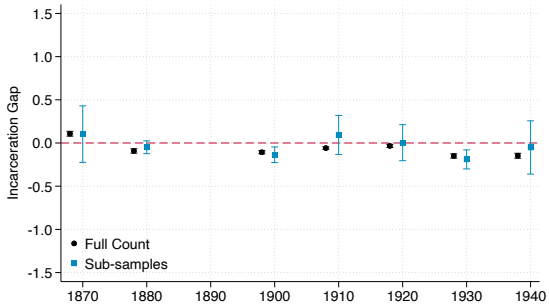
(d) Chinese



(e) Mexican and Central Americans

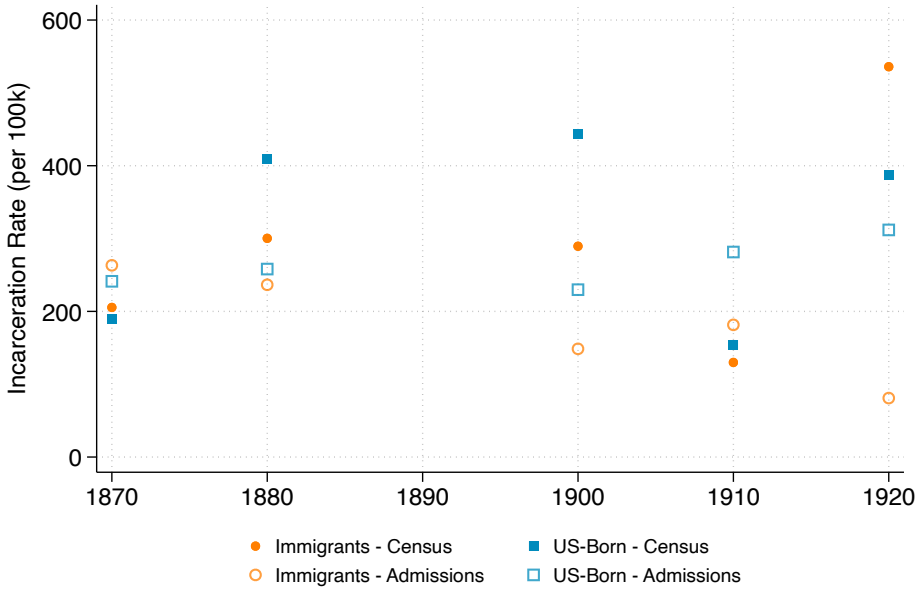


(f) Rest of world



Notes: This figure plots the estimated values of β using equation (1) for 1870-1940. The first series reproduces the baseline estimates using the full-count Censuses. The second series utilizes the largest available sub-sample from each decennial Census. Panel (a) compares US-born men to all immigrants. Panels (b)-(f) compare US-born men to immigrants from a particular country-of-origin group. For more details, see the note to Figure 1 and Online Appendix B. All estimates report robust standard errors.

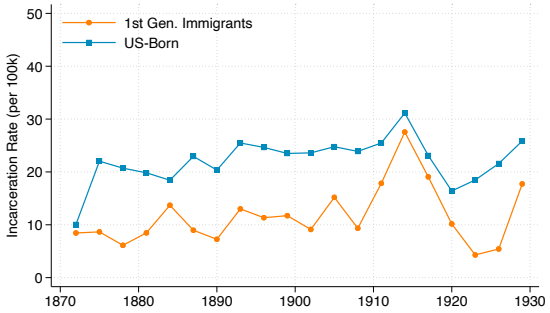
Figure A13: Comparison of Census-based Incarceration Rates in Missouri to Prison Admissions Rates from the Missouri State Penitentiary



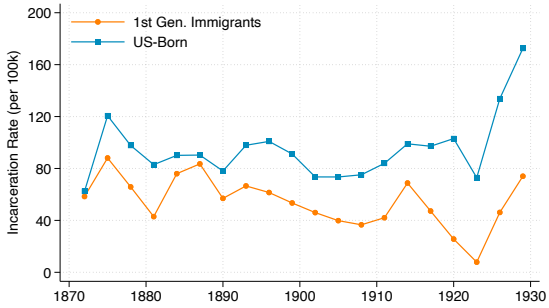
Notes: This figure compares the incarceration rates of immigrants and US-born men residing in Missouri (based on Census data) with prison admissions rates by nativity based on prison admission records from the Missouri State Penitentiary. The data on prison admissions come from digitized administrative records of the Missouri State Penitentiary, which covers the universe of prison inmates in Missouri. Population counts, used to calculate rates, come from the full-count Census.

Figure A14: Prison Admissions Rates of Immigrants and US-born Individuals in Missouri by Type of Crime, 1872–1929

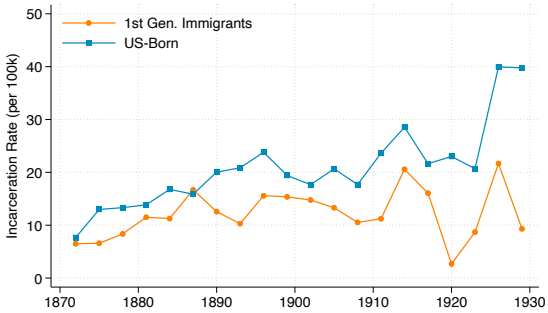
(a) Violent Crimes



(b) Property Crimes



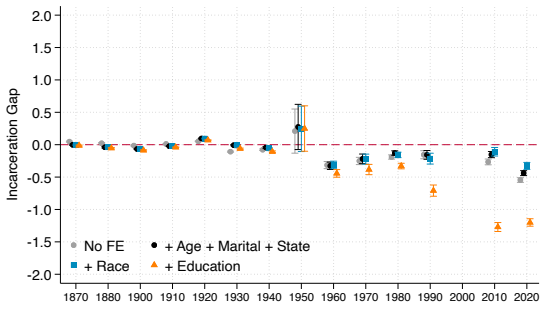
(c) Other Crimes



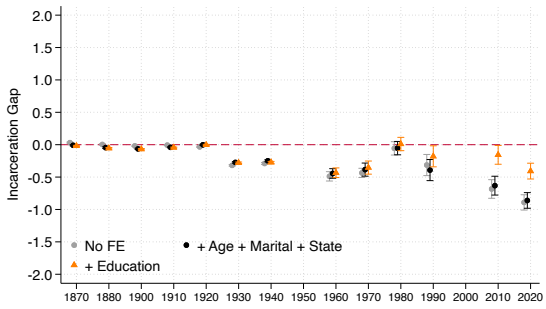
Notes: This figure plots prison admissions rates of immigrants and US-born individuals between 1872 and 1929 separately by crime type. Data are based on prison admission records from digitized administrative records of the Missouri State Penitentiary, which covers the universe of prison inmates in Missouri. Panels (a), (b), and (c) consider admissions for violent, property, and other crimes, respectively. Population counts, used to calculate rates, come from the full-count Census and are interpolated between Census years.

Figure A15: Difference in Incarceration Rates of Immigrants and White US-born Men, Adjusting for Individual-Level Characteristics, 1870-2019

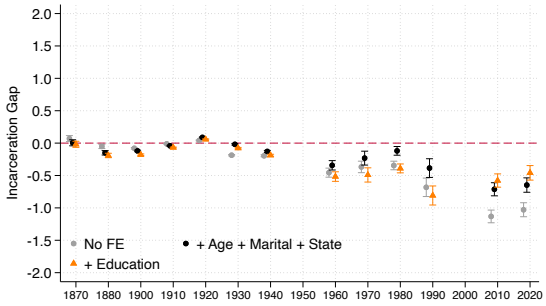
(a) All Immigrants



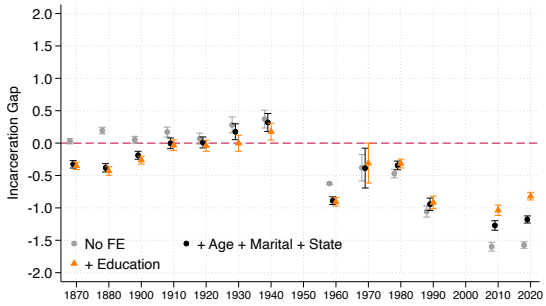
(b) "Old" Europeans



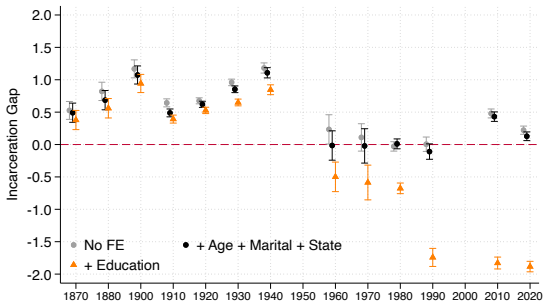
(c) "New" Europeans



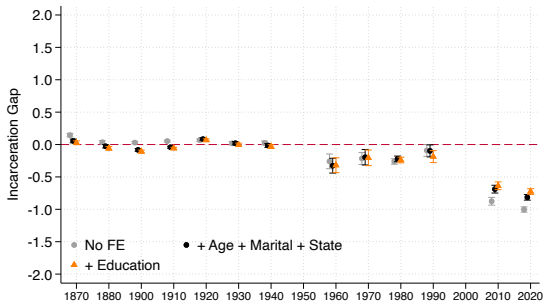
(d) Chinese



(e) Mexican and Central Americans



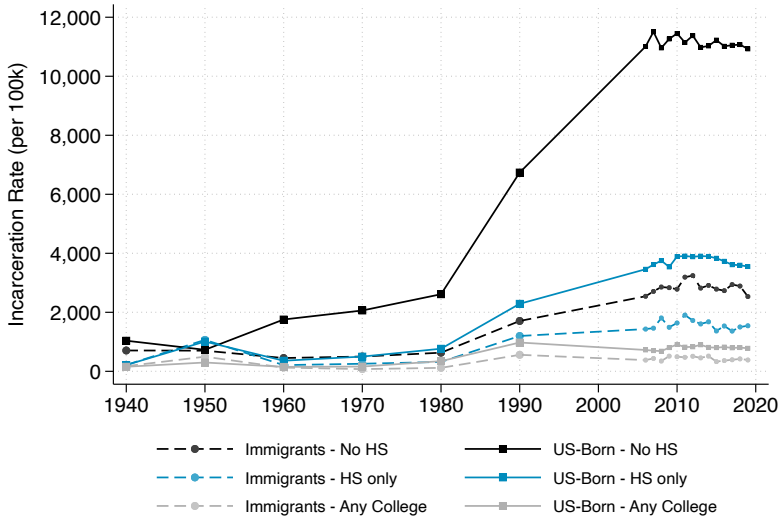
(f) Rest



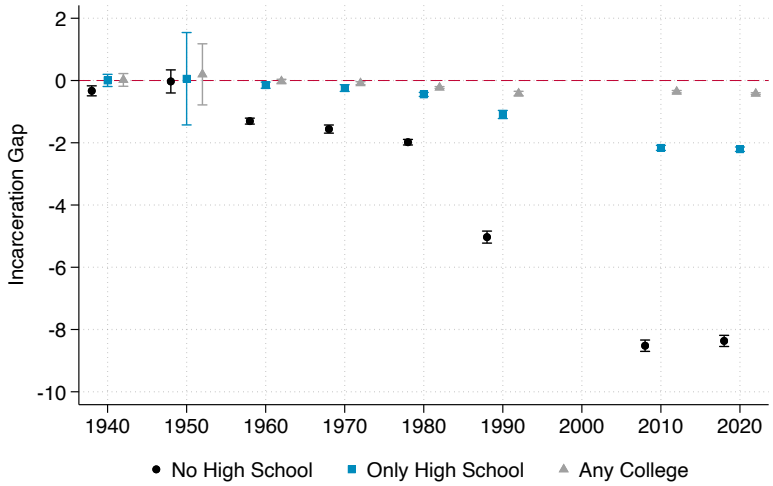
Notes: This figure is analogous to Figure 2 but restricts the sample of US-born men to white US-born men. For more details, see the note to Figure 2 and Online Appendix B. All estimates report robust standard errors.

Figure A16: Incarceration Gap Between Immigrants and US-born Men, by Educational Attainment, 1940-2019

(a) Incarceration Rates

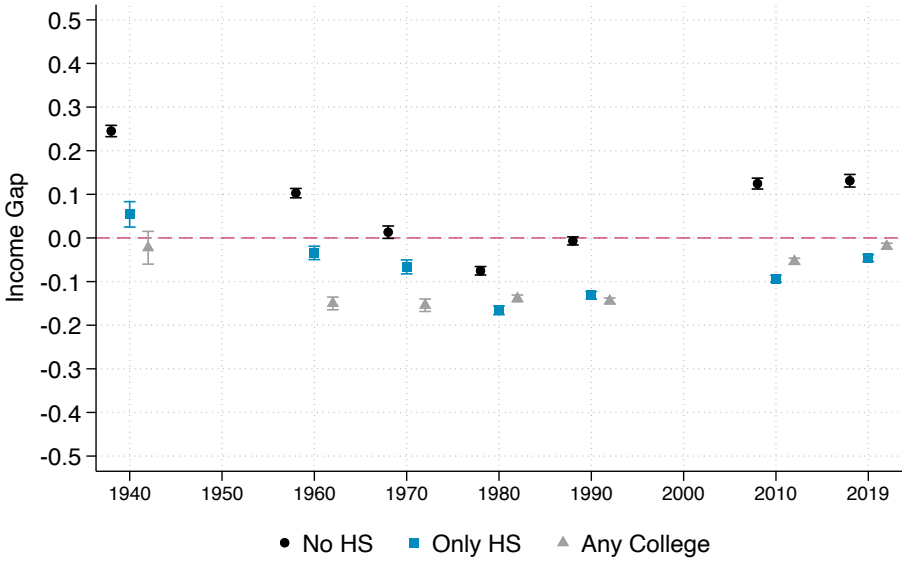


(b) Differences in Incarceration



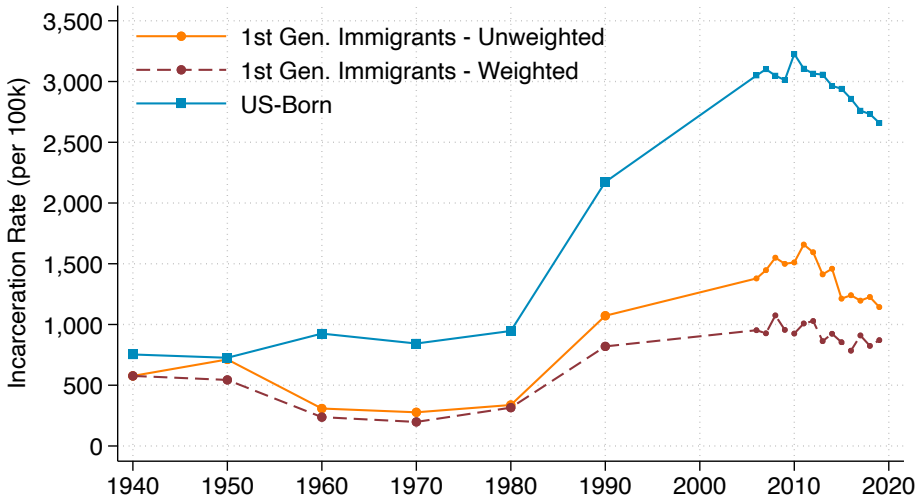
Notes: Panel (a) plots incarceration rates for immigrants and US-born men between 1940 and 2019 separately by educational attainment. Panel (b) plots the estimated values of β using equation (1) separately by individuals' educational attainment. "No High School" refers to individuals with 11 or fewer years of schooling. "High School" refers to individuals with exactly 12 years of schooling. "Any College" refers to individuals with one or more years of college. In panel (b), all estimates report robust standard errors.

Figure A17: Differences in Logged Income Between Immigrants and US-born Men, by Educational Attainment, 1940-2019



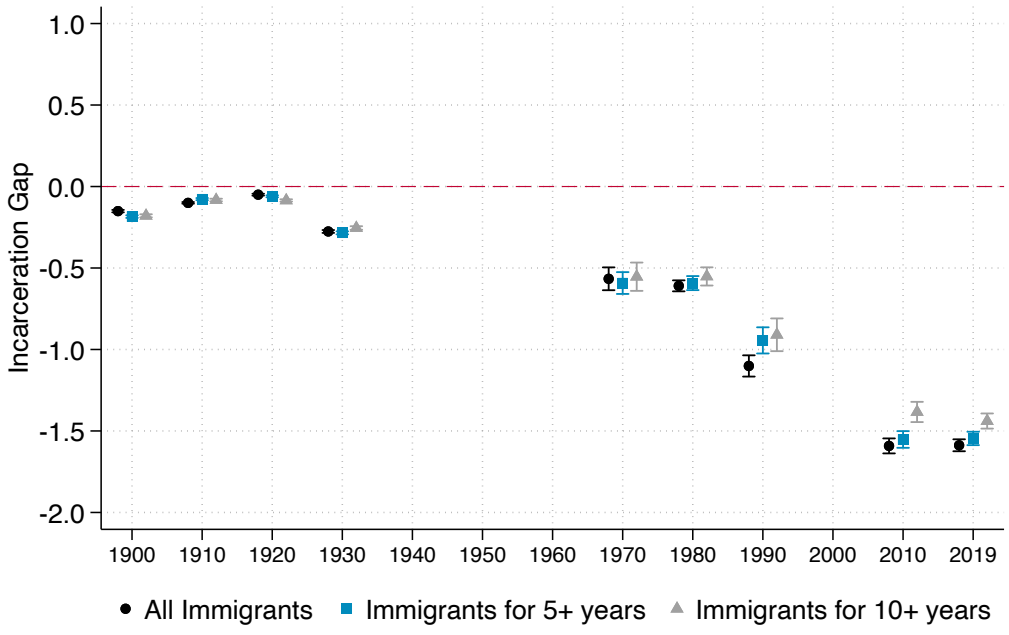
Notes: The figure plots the estimated values of β from equation (1) using logged income as the outcome variable and separately by individuals' educational attainment. The sample is restricted to men ages 18-40 who are in the labor force and have positive income. "No High School" refers to individuals with 11 or fewer years of schooling. "High School" refers to individuals with exactly 12 years of schooling. "Any College" refers to individuals with one or more years of college. All estimates report robust standard errors.

Figure A18: Incarceration Rate of Immigrants and US-born Men, Fixing the Immigrant Country-of-Origin Composition at 1940 Levels



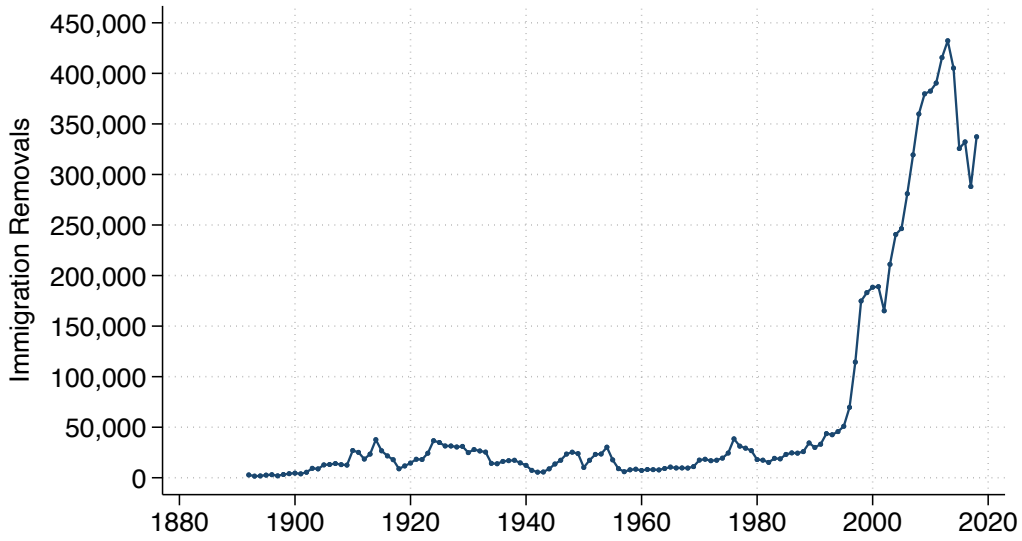
Notes: The first (orange) and third (blue) series plot the raw incarceration rates of immigrant men and US-born men, analogous to those in Figure 1. The second series (dashed red) holds fixed the immigrant composition in 1940 using the five country-of-origin groups ("old" Europeans, "new" Europeans, Chinese immigrants, Mexican and Central American immigrants, and immigrants from the "rest of the world") and calculates the counterfactual incarceration rate after 1940 if each group's incarceration had evolved naturally but their proportion in 1940 (as a share of all immigrants) remained fixed. This figure makes clear that if the immigrant composition had not changed since 1940, the immigrant incarceration rate would be lower than it actually is, and the immigrant-US-born incarceration gap would thus be even larger today.

Figure A19: Incarceration Gap between Immigrants and US-born Men, Excluding Recent Immigrants



Notes: This figure plots the estimated values of β from equation (1) and varying the sample of immigrants. The first series reproduces the baseline estimate including all immigrants regardless of time since arrival. The second and third series exclude individuals who arrived to the US within five and ten years, respectively. Estimates for 1940–1960 are omitted because the Census did not include a question about time since arrival to the United States in these years. All estimates report robust standard errors.

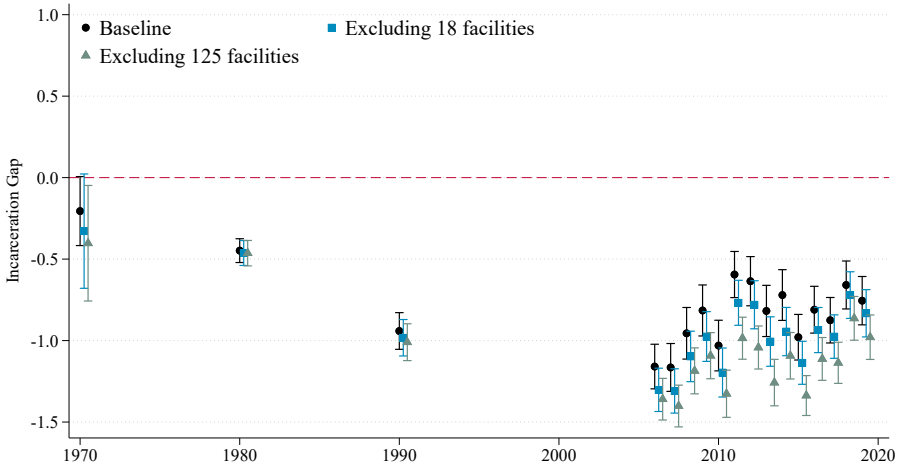
Figure A20: Number of Removals, 1892-2018



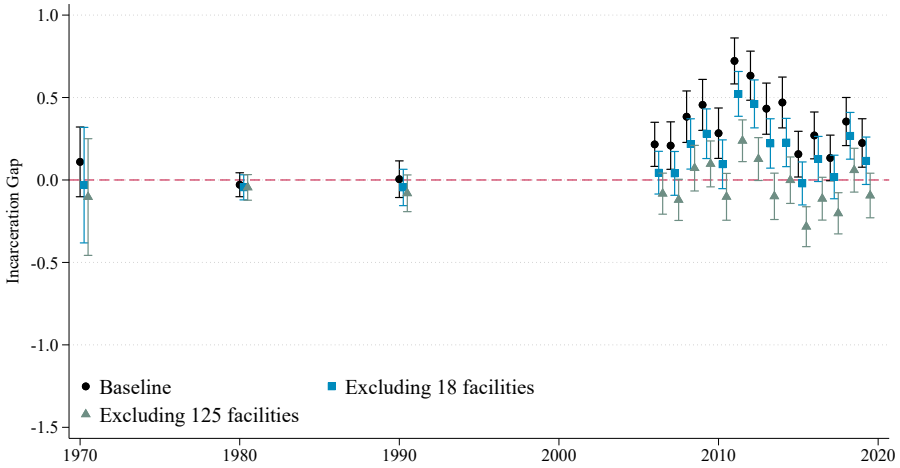
Notes: This figure plots the annual number of removals of inadmissible or deportable individuals between 1892 and 2018 using data from the 2018 Yearbook of Immigration Statistics of the Department of Homeland Security.

Figure A21: Incarceration Gap between Mexican and Central American Immigrants and US-born Men, Excluding Areas with ICE Facilities

(a) Relative to All US-born



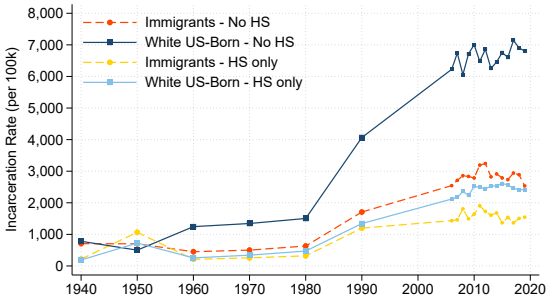
(b) Relative to White US-born



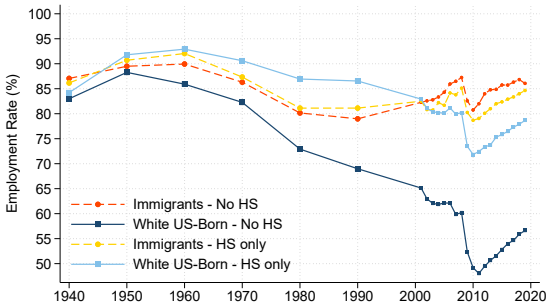
Notes: This figure plots the estimated values of β from equation (1) for Mexican and Central American immigrants and US-born men ages 18-40. Panel (a) compares these immigrants to all US-born men. Panel (b) restricts the comparison to white US-born men. The first series in each panel uses the baseline sample. The second series excludes the areas that included the 18 Immigration and Customs Enforcement (ICE) contract detention facilities and service processing centers as of 2022 (14-17 areas depending on the year). The third series excludes the areas that included the 125 ICE contract detention facilities, service processing centers, facilities under intergovernmental service agreements, and US Marshall's administered facilities as of 2022 (63-110 areas depending on the year). For more details on the areas excluded from the sample, see Online Appendix B. All estimates report robust standard errors.

Figure A22: Incarceration, Labor Market, Family Formation, and Health Outcomes of Immigrants and White US-born Men Without Any College Education, 1940-2019

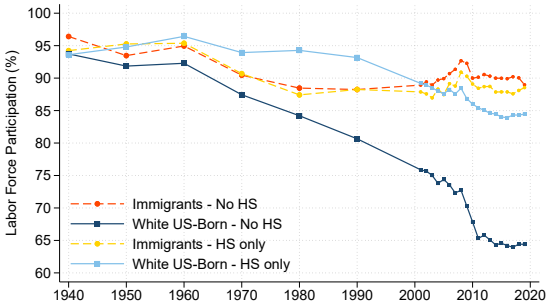
(a) Incarceration Rate (per 100,000)



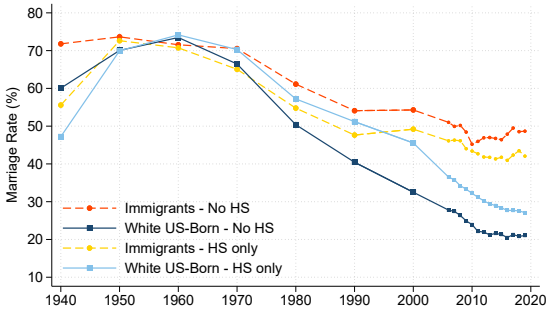
(b) Employment Rate (%)



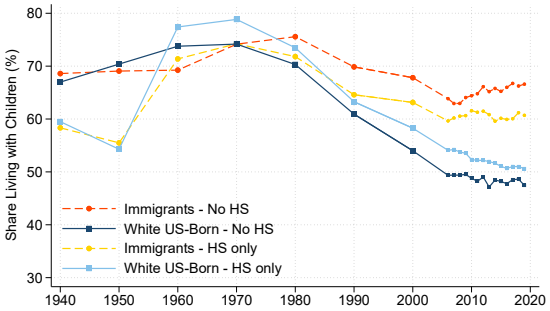
(c) Labor Force Participation Rate (%)



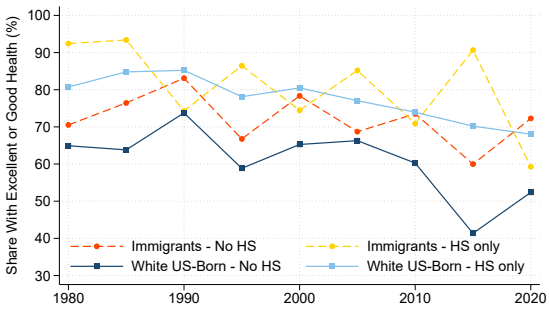
(d) Marriage Rate (%)



(e) Share Living with Children (%)



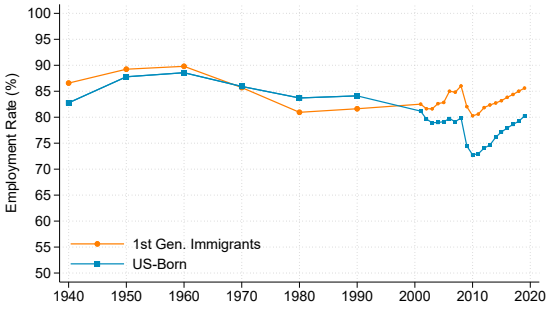
(f) Share with Excellent or Good Health (%)



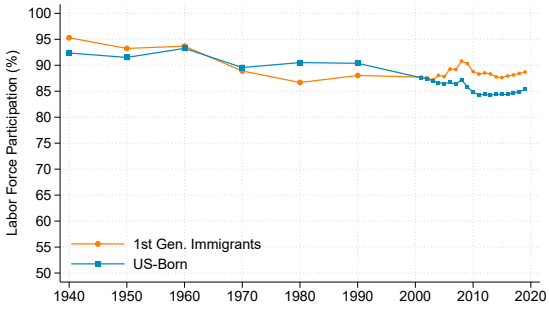
Notes: This figure is analogous to Figure 4 but restricts the sample of US-born men to white US-born men. For more details, see the note to Figure 4 and Online Appendix B.

Figure A23: Labor Market, Family Formation, and Health Outcomes of Immigrants and All US-born Men (Regardless of Educational Attainment), 1940-2019

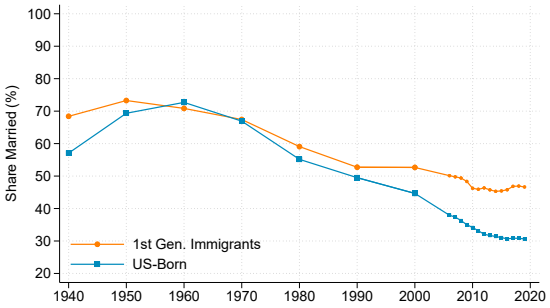
(a) Employment Rate (%)



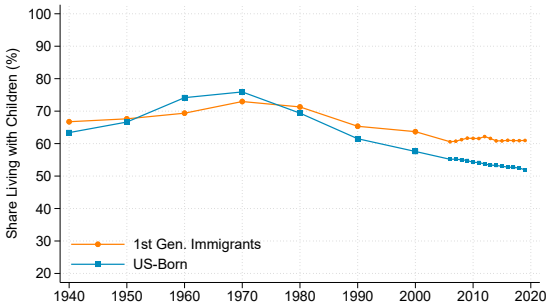
(b) Labor Force Participation Rate (%)



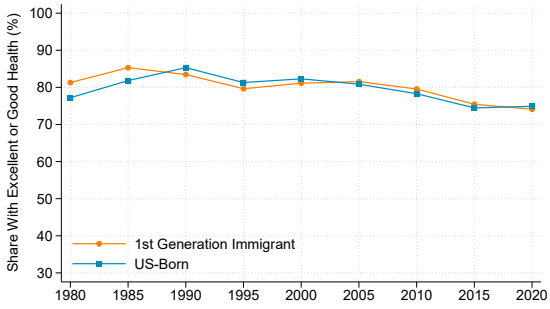
(c) Marriage Rate (%)



(d) Share Living with Children (%)



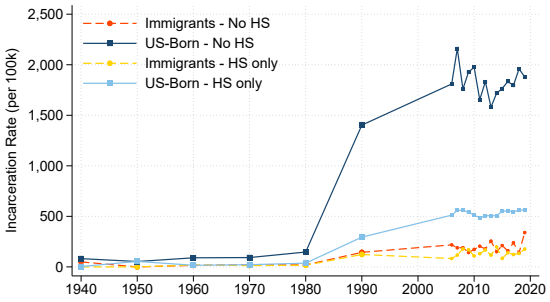
(e) Share with Excellent or Good Health (%)



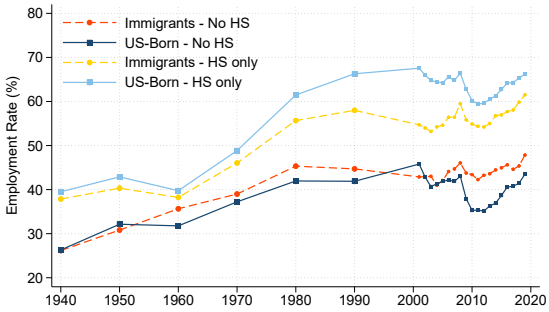
Notes: This figure is analogous to panels (b)-(f) of Figure 4 but considers all immigrants and US-born men regardless of educational attainment. For more details, see the note to Figure 4 and Online Appendix B.

Figure A24: Incarceration, Labor Market, Family Formation, and Health Outcomes of Immigrants and US-born Women Without Any College Education, 1940-2019

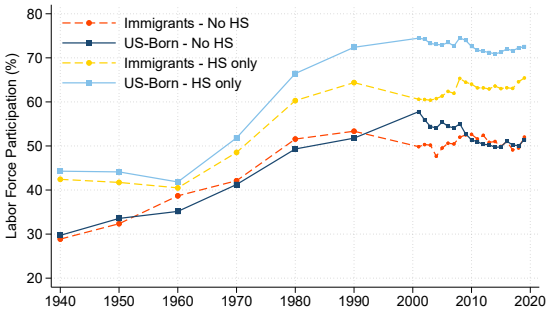
(a) Incarceration Rate (per 100,000)



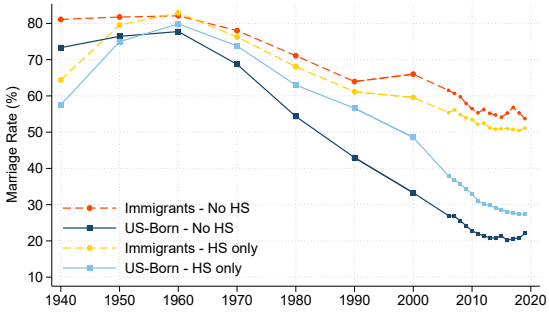
(b) Employment Rate (%)



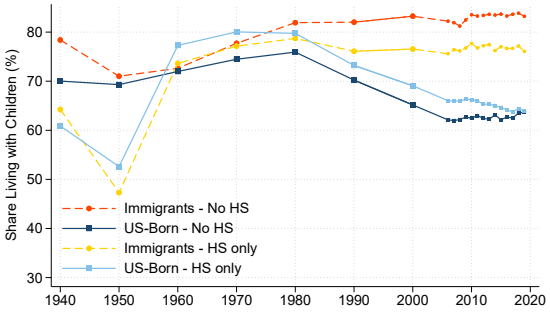
(c) Labor Force Participation Rate (%)



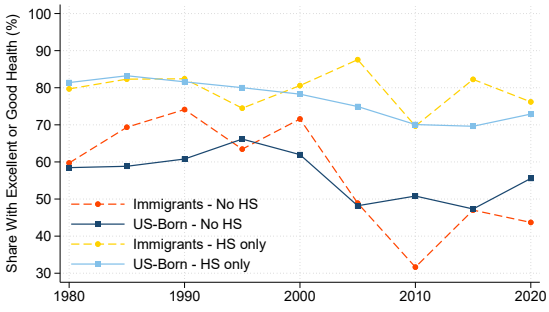
(d) Marriage Rate (%)



(e) Share Living with Children (%)

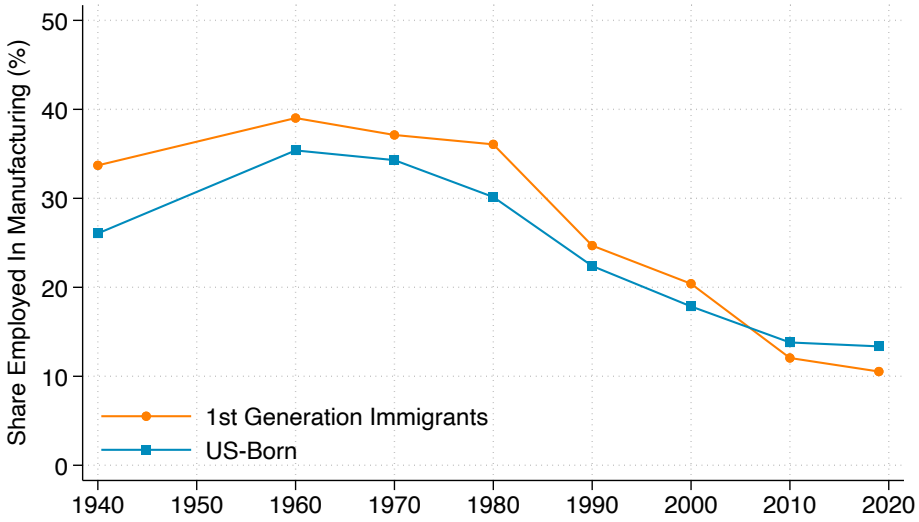


(f) Share with Excellent or Good Health (%)



Notes: This figure is analogous to Figure 4 but expands the sample to include female immigrants and US-born individuals. For more details, see the note to Figure 4 and Online Appendix B.

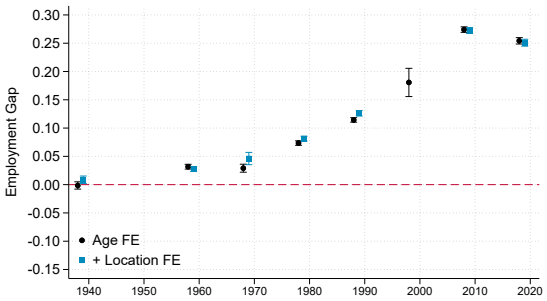
Figure A25: Share of Low-Educated Immigrants and US-born Men Employed in Manufacturing



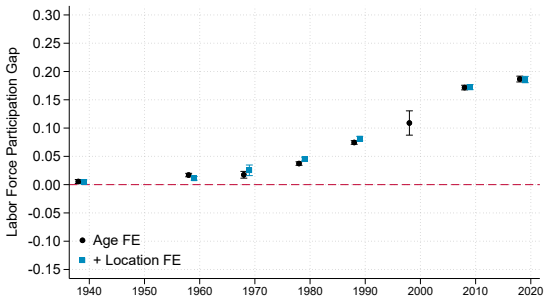
Notes: This figure plots the share of immigrants and US-born men ages 18-40 that were employed in manufacturing between 1940 and 2019. The sample is restricted to non-institutionalized men without a high school degree and who were in the labor force. This figure shows that the shares resembled each other until 2010, suggesting that compositional differences across declining industries cannot alone explain the immigrant-US-born differences in labor market outcomes (depicted in Figure 4).

Figure A26: Differences in Labor Market and Family Formation Outcomes of Immigrants and US-born Men Without a High School Degree, Adjusting for Geography, 1940-2019

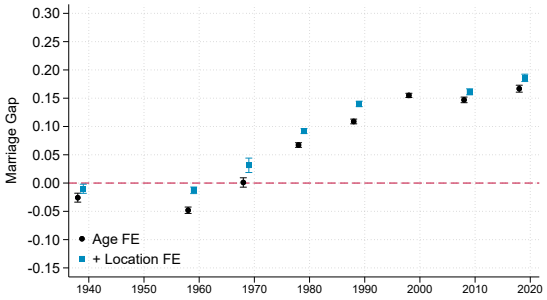
(a) Employment Rate



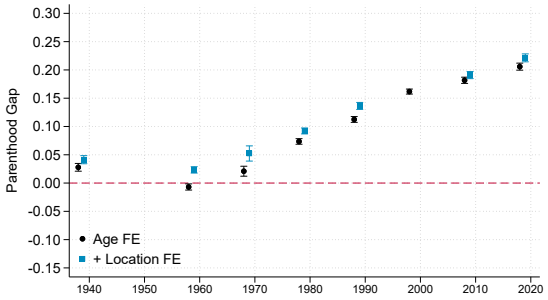
(b) Labor Force Participation Rate



(c) Marriage Rate



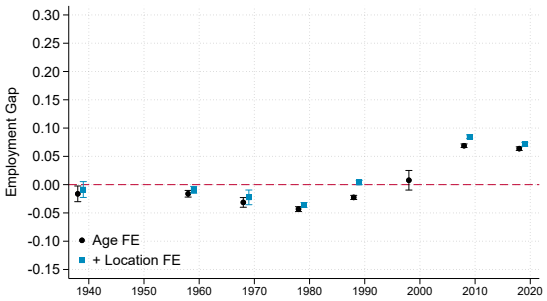
(d) Share Living with Children



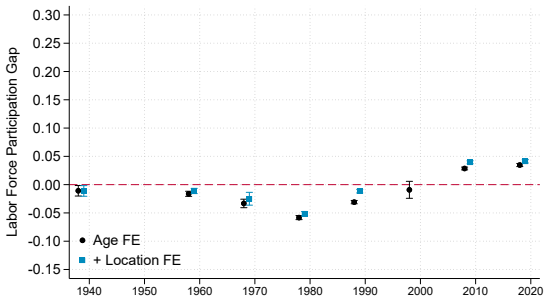
Notes: This figure plots the estimated values of β from equation (1) for immigrants and US-born men without a high school degree. Each panel considers a different outcome. The sample is non-institutionalized men ages 18-40 in panels (a)-(c) and ages 30-50 in panel (d). The first series plots the estimated gaps including individual age fixed effects. The second series adds location fixed effects. For 1940, we include county-of-residence fixed effects. For 1970 and 1980, we include fixed effects for each county group. For 1960 and 1990 onward, we include Public Use Metropolitan Area (PUMA) fixed effects. For more details, see the note to Figure 4 and Online Appendix B. All estimates report robust standard errors.

Figure A27: Differences in Labor Market and Family Formation Outcomes of Immigrants and US-born Men With Only a High School Degree, Adjusting for Geography, 1940-2019

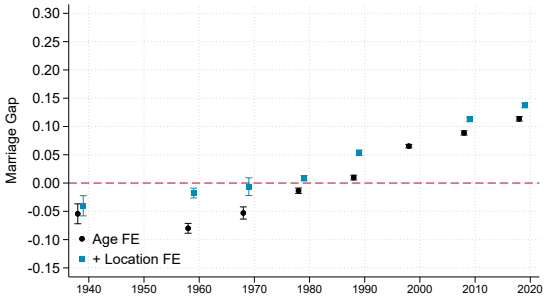
(a) Employment Rate



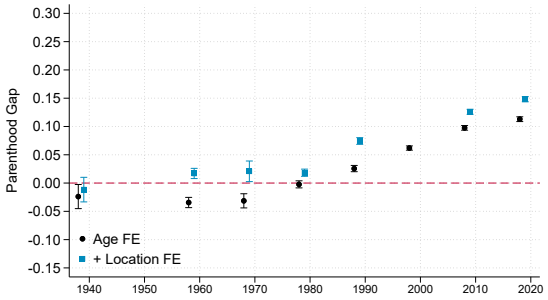
(b) Labor Force Participation Rate



(c) Marriage Rate



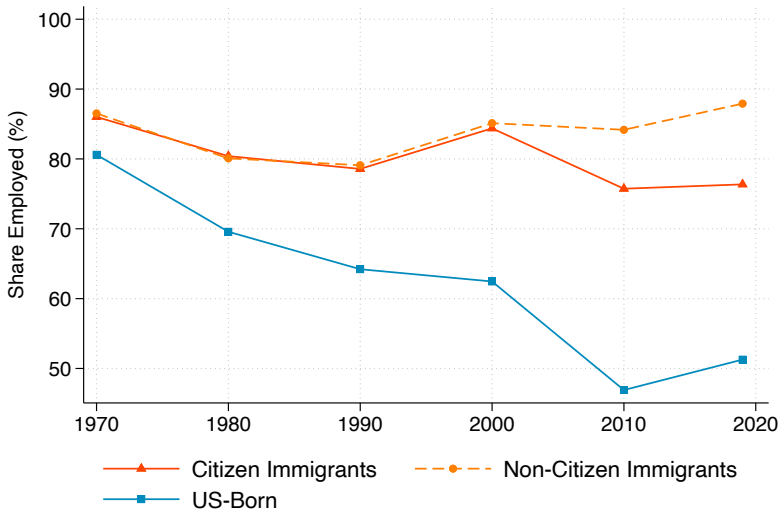
(d) Share Living with Children



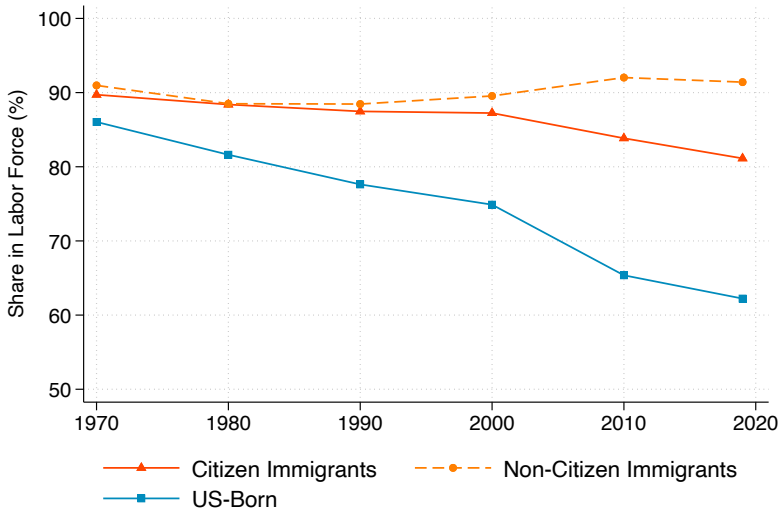
Notes: This figure plots the estimated values of β from equation (1) for immigrants and US-born men with only a high school degree. Each panel considers a different outcome. The sample is non-institutionalized men ages 18-40 in panels (a)-(c) and ages 30-50 in panel (d). The first series plots the estimated gaps including individual age fixed effects. The second series adds location fixed effects. For 1940, we include county-of-residence fixed effects. For 1970 and 1980, we include fixed effects for each county group. For 1960 and 1990 onward, we include Public Use Metropolitan Area (PUMA) fixed effects. For more details, see the note to Figure 4 and Online Appendix B. All estimates report robust standard errors.

Figure A28: Employment and Labor Force Participation Rates of Citizen and Non-Citizen Immigrants and US-born Men Without a High School Degree

(a) Employment Rate

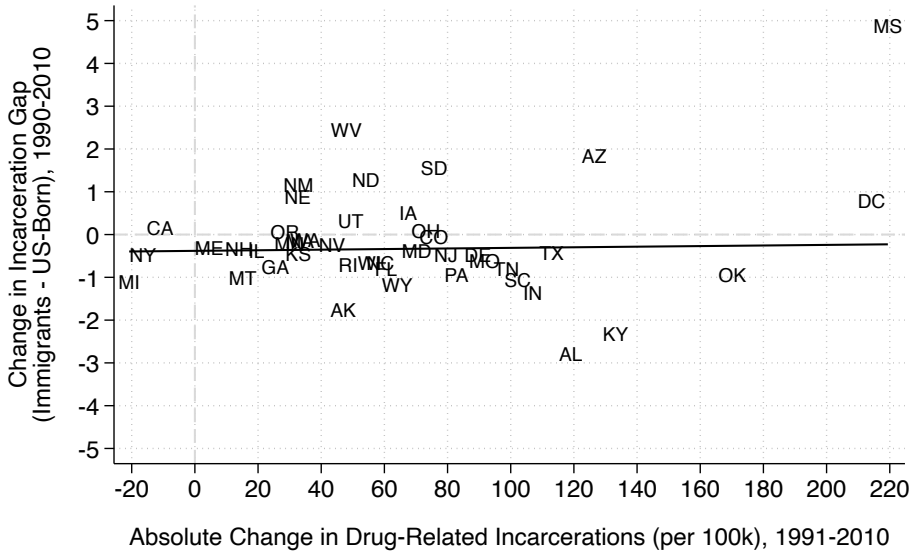


(b) Labor Force Participation Rate



Notes: This figure plots employment and labor force participation rates for citizen immigrants, non-citizen immigrants, and US-born men between 1970 and 2019. The sample is restricted to non-institutionalized men ages 18-40 who did not complete high school. Although the magnitude of the gaps between citizen migrants and the US-born are somewhat smaller in recent decades, the figure shows that less-educated citizen immigrants also have significantly higher employment and labor force participation rates than their US-born counterparts. It is thus unlikely that the availability of social insurance can explain the immigrant-US-born differences in labor market outcomes (depicted in Figure 4).

Figure A29: State-Level Changes in Drug-Related Incarcerations and the Immigrant-US-born Incarceration Gap Between 1990 and 2010



Notes: This figure plots state-level (absolute) changes in the incarceration rate of individuals convicted of drug-related offenses between 1991 and 2010 (x-axis) against changes in the immigrant-US-born incarceration gap, estimated using equation (1), in that same state and time period (y-axis). We use data from the National Corrections Reporting Program to calculate incarceration rates for drug-related offenses (averaging incarcerations between 1991 and 1993 and between 2008 and 2010 to calculate differences over this time period). This figure considers the potential role of drug crimes in explaining the widening of the immigrant-US-born incarceration gap: if US-born men are more likely to commit drug-related offenses and they are more likely to be incarcerated for these offenses than immigrants in the modern time period, then this difference could explain the relative decline in immigrants' incarceration rate. Put differently, if drug-related incarcerations are driving the increase, then we should find that the immigrant-US-born gaps are larger in states that experience large increases in drug-related incarcerations. This figure shows that at least when looking at state-level correlations, this does not seem to be the case.

Table A1: Sample Size for Immigrants, by Year and Country Group

	US-born			All Immigrants			"Old" Europeans			"New" Europeans			Chinese			Mexican & Central Americans			Rest of the world		
	Inc. (1)	Total (2)	Inc. Rate (3)	Inc. (4)	Total (5)	Inc. Rate (6)	Inc. (7)	Total (8)	Inc. Rate (9)	Inc. (10)	Total (11)	Inc. Rate (12)	Inc. (13)	Total (14)	Inc. Rate (15)	Inc. (16)	Total (17)	Inc. Rate (18)	Inc. (19)	Total (20)	Inc. Rate (21)
1870	10,836	5,299,875	204	3,573	1,667,878	214	2,792	1,406,536	199	101	42,743	236	91	46,680	195	96	13,855	693	493	158,064	312
1880	34,615	7,625,747	454	6,322	1,808,660	350	4,572	1,383,229	331	272	98,575	276	404	77,618	520	251	21,868	1,148	823	227,370	362
1900	53,626	11,761,318	456	8,623	2,826,309	305	4,810	1,600,221	301	1,761	737,100	239	196	52,810	371	435	29,255	1,487	1,421	406,923	349
1910	43,631	14,574,042	299	8,165	4,101,636	199	2,621	1,451,220	181	3,697	2,095,851	176	83	23,196	358	687	82,717	831	1,077	448,652	240
1920	51,132	16,339,910	313	9,624	3,661,154	263	1,659	934,362	178	5,618	2,228,389	252	42	14,975	280	1,395	157,491	886	910	325,937	279
1930	149,380	19,709,041	758	14,609	3,030,274	482	2,261	836,267	270	6,278	1,558,613	403	192	22,048	871	3,537	228,384	1,549	2,341	384,962	608
1940	165,699	23,081,996	718	6,826	1,458,866	468	1,166	456,094	256	2,124	607,595	350	168	18,327	917	1,819	105,338	1,727	1,549	271,512	571
1950	556	302,177	726	17	8,946	712	3	2,085	523	2	3,162	246	1	226	1,334	10	1,239	3,346	1	2,234	160
1960	11,515	1,244,704	925	132	42,800	308	14	10,393	135	23	13,746	167	0	1,237	0	55	6,418	857	40	11,006	363
1970	7,179	851,088	844	103	37,146	277	7	7,511	93	13	8,083	161	2	1,358	147	35	5,484	638	46	14,710	313
1980	17,992	1,900,112	947	461	136,617	337	81	17,182	471	30	16,429	183	3	5,243	57	185	37,082	499	162	60,681	267
1990	29,169	1,984,280	2,173	1,909	229,569	1,072	157	19,745	913	72	14,786	545	18	9,960	172	750	89,747	1,232	912	95,331	1,136
2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2010	90,995	1,758,597	3,165	10,336	340,376	1,574	329	17,368	1,156	263	20,280	708	70	16,146	241	7,185	149,787	2,319	2,489	136,795	964
2019	97,028	1,892,429	2,790	8,284	326,127	1,203	263	17,020	857	264	21,283	720	79	22,060	174	5,402	116,614	1,970	2,276	149,150	745

Notes: This table presents the sample size and incarceration rates for US-born men and for immigrant men from different country groups. The sample is restricted to men ages 18—40. Whenever available, we use sample weights provided by IPUMS to calculate incarceration rates (per 100,000). For more information about each data source, see Online Appendix B.

Table A2: Overlap Between Alternative Incarceration Measures in the Full Count Censuses

	US-Born				Immigrants			
	GQ (1)	Preferred (2)	Both (3)	Share (%) (4)	GQ (5)	Preferred (6)	Both (7)	Share (%) (8)
1870	9,012	10,836	9,012	83	3,174	3,573	3,174	89
1880	28,613	34,615	28,262	82	5,006	6,322	4,970	79
1900	35,904	53,626	33,748	63	6,788	8,623	6,554	76
1910	–	43,631	–	–	–	8,165	–	–
1920	38,689	51,132	36,949	72	7,829	9,624	7,561	79
1930	125,993	149,380	122,197	82	13,077	14,609	12,672	87
1940	126,576	165,699	57,691	35	4,758	6,826	2,320	34

Notes: This table displays the number of incarcerated individuals in each Census year separately by nativity and by measure of incarceration. "GQ" refers to the number of men classified as incarcerated using the IPUMS group quarters variable. "Preferred" refers to the number of men classified as incarcerated using our preferred measure that combines information from the group quarters variable with the original strings of the "group quarters," "occupation," and "relationship to household head" variables. "Both" refers to the number of men classified as incarcerated under both approaches. "Share" refers to the share of incarcerated men under the preferred measure that would have also been classified as incarcerated using only using the group quarters variable (column 3 divided by column 2 and column 7 divided by column 6). For more details, see Online Appendix B.

Table A3: Characteristics of Immigrants and US-Born Men, by Incarceration Status and Period

	1870–1940				1940–1970				1980–2019			
	US-Born		Immigrants		US-Born		Immigrants		US-Born		Immigrants	
	Incarcerated	Not Incarcerated	Incarcerated	Not Incarcerated	Incarcerated	Not Incarcerated	Incarcerated	Not Incarcerated	Incarcerated	Not Incarcerated	Incarcerated	Not Incarcerated
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Age	26.9	27.9	29.3	30.5	27.2	28.3	28.5	30.5	29.2	28.4	29.9	30.3
Married	28.8	51.6	26.8	56.3	31.0	63.2	33.4	65.3	14.3	34.6	24.4	46.9
Region												
North	20.8	24.5	44.6	47.9	18.4	23.5	26.6	41.3	13.9	16.9	13.8	19.8
Midwest	29.0	33.2	26.6	33.4	23.3	28.3	13.1	20.1	20.1	23.3	9.0	12.4
South	41.7	34.7	9.8	5.8	39.6	32.2	28.7	13.3	45.6	37.1	43.0	33.5
West	8.4	7.5	18.9	12.9	18.7	16.0	31.6	25.3	20.4	22.7	34.1	34.3
Education												
Illiterate	15.6	7.5	16.1	11.9	.	.	.	.	.	.	.	.
Literate	84.4	92.5	83.9	88.1	.	.	.	.	.	.	.	.
No High School	.	.	.	.	77.8	45.2	78.7	52.3	36.3	9.6	50.6	25.4
Only High School	.	.	.	.	17.3	30.2	13.9	19.6	49.8	40.1	35.9	31.6
Any College	.	.	.	.	4.9	24.6	7.4	28.0	13.9	50.3	13.5	43.0
Race												
White	63.5	87.3	94.4	96.5	58.5	89.1	84.0	88.7	45.0	77.8	50.2	46.2
Black	36.0	12.5	2.5	0.6	39.8	10.1	8.2	3.2	43.8	13.2	11.7	8.1
Other	0.5	0.3	3.1	2.8	1.6	0.8	7.7	8.1	11.1	9.0	38.1	45.7
Observations	343,220	74,966,713	50,916	17,044,995	1,301,780	156,554,705	27,550	6,891,281	19,443,177	666,781,639	1,880,911	140,088,216

Notes: This table presents characteristics of immigrant and US-born men by incarceration status for three sample periods. The sample is restricted to men ages 18-–40. Whenever available, we use sample weights provided by IPUMS to calculate averages for each variable. refers to the unweighted number of observations. For more information about each data source, see Online Appendix B.

ONLINE APPENDIX B: ADDITIONAL DETAIL ON DATA SOURCES

Data Sources: Census and ACS

We combine the full-count decennial Censuses between 1870 and 1940 (excluding 1890) with the largest available subsample of each Census between 1950 and 2000 and the American Community Survey for the more recent period. We recover the full-count decennial Censuses from the IPUMS datasets in the NBER server (Ruggles et al. 2021) and the Census subsamples and the ACS from the IPUMS website (Ruggles et al. 2022). In particular, we use the following:

- 1870, 1880, 1900, 1910, 1920, 1930, and 1940 full-count decennial Censuses.[1]
- 1950 1% weighted sample
- 1960 5% unweighted (flat) sample
- 1970 pooled 1% FORM 1 unweighted state, metro and neighborhood samples. Form 1 compiles a set of variables that were asked to 5% of the population, which is included in these samples
- 1980 5% unweighted (flat) state sample
- 1990 5% weighted state sample
- 2000 5% weighted state sample
- 2005–2019 annual ACS weighted sample corresponding to 1% of the population in each year
- 2008–2012 5-year ACS weighted sample corresponding to 5% of the population
- 2015–2019 5-year ACS weighted sample corresponding to 5% of the population

We also collect historical subsamples from IPUMS for robustness exercises:

- 1870 1% unweighted (flat) sample
- 1880 10% weighted sample
- 1900 5% unweighted (flat) sample
- 1910 1% unweighted (flat) sample
- 1920 1% unweighted (flat) sample
- 1930 5% unweighted (flat) sample
- 1940 1% weighted sample

We use annual ACS samples to plot incarceration rates and five-year samples to estimate differences in incarceration between immigrants and the US-born. We do not pool annual and five-year samples for the same analysis.

[1] For 1870–1940, we use the full-count Census files located in the following directory of the NBER server: /home/data/census-ipums/v2021/dta/. For 1940, we use the file located in /homes/data/cens1940/20180316/100files/ to produce alternative measures of incarceration (i.e., our "GQ" and "Relate" measures, as described in this appendix).

Our baseline results restrict the sample to men ages 18–40. Given its small sample size, we exclude the 1950 Census from results that split immigrants by country-of-origin group. Throughout the analysis, we utilize person weights provided by IPUMS.

Defining US-born, immigrants, and country groups

We define immigrants as individuals who were not born in any US state or outlying US area or territory. The US-born includes every individual not coded as an immigrant under this definition. Following Butcher and Piehl (2007), we exclude from the sample individuals born in outlying areas of the United States as well as those born abroad to US citizens.

We define the following five countries-of-origin groups for immigrants:

- "Old Europeans": individuals born in the countries that belong to Northern and Western Europe including Germany (IPUMS codes 400–429 and 453).
- "New Europeans": individuals born in the countries that belong to Southern Europe, Central/Eastern Europe, and the former USSR (IPUMS codes 430–499 excluding 453).
- Individuals born in China.
- Individuals born in Mexico and Central America.
- "Rest of the World": individuals born in other countries in Asia, Africa, Oceania, the Caribbean, and South America.

Measuring incarceration

Full-count censuses

Incarceration can in principle be measured in the full-count data using the "group quarters" and "group quarter type" variables available from the Census. Prisoners are defined as those who reside in institutional and other group quarters and whose group quarter type corresponds to correctional institutions. Correctional institutions include federal and state correctional facilities, prisons, penitentiaries, military prisons, local correctional facilities, jails, school juvenile delinquents, reformatory, camp or chain gangs, and houses of correction.

However, these variables were not consistently coded to identify prisoners in the full-count Census data (see Eriksson 2020 for a discussion).[2] Common issues with these variables involve individuals who were not incarcerated but were counted as such, individuals that were actually incarcerated but appeared in households, and individuals that lived in prisons but were not incarcerated (such as prison guards). An additional issue is the classification of individuals defined solely as inmates, who may not be incarcerated in a correctional facility (e.g., inmates who frequent or live in mental and elderly institutions or those in non-institutional group quarters).

To account for these issues, we construct our preferred incarceration measure for the full-count Census data using the following procedure:

[2] Eriksson (2020) implements a different classification procedure from us. Specifically, that paper uses the 1920–1940 full-Count Census along with images looked up by hand to classify individuals born in fourteen states in the US South as incarcerated.

1. For each individual in the data, we retrieve their "group quarters," "group quarter type," "relate," and "occupation" variables (i.e., the code as well as the original strings as reported in the Census).
2. Next, we define individuals as incarcerated using information in the "relate" string variable if they meet *any* the following requirements:
    a. *Explicit correctional string:* Individuals who have the following words and their spelling variations in the "relate" string variable: "Prisoner," "Convict," or "Jail." At this step, we exclude individuals whose "relate" string variable conveys a relationship to "Prisoner," "Convict," or "Jail," such as "Daughter," "Son," "Wife," "Head," as well as "Guard," "Jailer," "Chief," "Helper," "Officer," "Manager," "Charge," "Superintendent," including their spelling variations. (i.e., we exclude an individual whose "relate" string variable is "Prisoner guard," "Convict daughter," etc.).
    b. *Inmate and explicit correctional institution string*: Individuals who have the following words and their spelling variations combined with the word "Inmate" in the "relate" string variable: "Prison," "Jail," "Penitentiary," "Reformatory," and "Correction." We exclude individuals classified by the "group quarter type" variable as part of a mental institution, an institution for the elderly, handicapped, and poor, or a non-institutional group quarter. This avoids counting individuals who reside in these institutions as inmates, but for whom it is not clear that they are serving a criminal sentence.
    c. *Inmate with missing information in the string variable:* Individuals who have the word "Inmate" (without any additional words) in the "relate" string variable or who have a missing value, an "X," or a "*" in the "relate" string variable. These individuals are classified as incarcerated if either:
        i. their "group quarters" string variable contains the words "Prison," "Jail," "Penitentiary," "Reformatory," "Correction," "Convict," "Delinquent," "Penal," and other grammatical variations of these words; or
        ii. their "group quarters type" variable code corresponds to a correctional institution when the relate string says "Inmate." For individuals with missing values, "X," or "*" in the relate string variable, we additionally condition on whether the individual is an institutional inmate based on their "relate" variable code.
3. We follow the steps in (2) to classify individuals as incarcerated using the "occupation" string variable.
    a. We follow the procedure in (2.a) (i.e., an individual is identified as incarcerated if their occupation includes "Prisoner," "Convict," or "Jail."). Because the "occupation" string does not convey familial relationships, we do not exclude any individuals in this step based on their relationship to household. However, we do exclude individuals if their occupation denotes a potential non-prisoner occupation ("Guard," "Jailer," "Chief," "Helper," "Officer," "Manager," "Charge," and "Superintendent").
    b. We replicate step (2.b) exactly.

c. We replicate step (2.c), but in addition to "Inmate," "X," and "*," we also include individuals in this step whose occupation string variable says: "No Occupation," "No," "None," "Without Occupation," "Nothing," or has a missing value.[3]

In our preferred measure of incarceration, we define an individual as incarcerated if they are classified as such in steps one through three.[4]

The 1870 Census does not include the "relate" string variable. We classify individuals as incarcerated in these years using the "occupational" string variable (step 3). In addition, we include individuals as incarcerated if their "relate" variable code is "institutional inmate" and their "group quarter type" variable code corresponds to correctional institutions.

The 1910 Census does not identify group quarter types. In this case, we rely on our preferred measure to classify prisoners based on strings of the "relate" and "occupation" variables that clearly identify individuals as prisoners (as in step 2.a). However, due to the lack of the "group quarter" string variable and the "group quarter type" variable, we are unable to implement steps 2.b, 2.c., 3.b, and 3.c.

For robustness checks, we also construct two alternative measures of incarceration, which we refer to as the "GQ measure" and the "relate measure." The "GQ measure" refers to individuals who reside in institutional and other group quarters and whose group quarter type corresponds to correctional institutions (without any additional modifications). The "relate measure" refers to individuals who satisfy the "GQ measure" and either steps (2.a) or (2.b). In the "relate measure," we exclude individuals who appear to be incarcerated via the "GQ measure," but who are coded as family members of the household head in their "relate" variable code.

We note that the paper's main takeaways are similar when using just IPUMS group quarters variable, rather than this more detailed approach. Indeed, Table A2 shows that between 1870–1930, more than three-fourths of individuals that we classify as incarcerated are coded as living in a correctional institution, and this share is comparable across immigrants and the US-born.

Census subsamples and ACS

Between 1950 and 1980, we define prisoners as those who belong to institutional and other group quarters and whose group quarter type corresponds to correctional institutions (analogous to the GQ measure described above). For 1910, group quarter types were imputed by IPUMS. Between 1990 and 2019, the "group quarter" variables only allow us to identify institutionalized individuals, but not those who are institutionalized in adult correctional facilities. In this case, we identify incarcerated individuals as those who are classified as living in institutional group quarters.

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[3] To be conservative, when an individual is classified as incarcerated using missing information under the relate string (step 2c), but not under the occupation string (step 3c), we only identify an individual as incarcerated if they are classified as institutional inmates in their "relate" variable code or if their "relate" variable string is the word "Inmate."

[4] The 1940 Census presents a comparability issue among large households. According to IPUMS: "Before 1940 and in 1980–1990, units with 10 or more individuals unrelated to the householder are considered group quarters." We adjust our "preferred" measure in 1940 to include individuals whose "relate" variable string says "Inmate" (in cases where the "group quarters" variable code is "Other Group Quarters" and the "group quarter type" variable code indicates a "Non-group quarter household"). For more details, see https://usa.ipums.org/usa-action/variables/GQ#comparability_section.

Other variable definitions

Education

We use the "education" variable in each sample to assign individuals to three educational groups: high school dropouts (i.e., those with no schooling up to those who completed grade 11), high school only (grade 12), and any college (1 or more years of college). These three groups comprise the educational fixed effects used in our analysis. This variable is defined starting with the 1940 Census.

Race

We use the "race" variable in each sample to assign individuals to three racial groups: white, Black, and "other" (referring to individuals whose race classification is neither white nor Black). These three groups comprise the race fixed effects used in our analysis.

Marital status

We use the "marital status" variable in each sample to assign individuals to three marital status groups: married (married, spouse present or absent); separated, divorced, or widowed; and never married/single. These three groups comprise the marital status fixed effects used in our analysis, and we use the married category to construct marriage rates. This variable is defined for every year.

State of residence

To compare individuals living in similar geographies, we use state-of-residence fixed effects. Although most individuals convicted of crimes are incarcerated in their state of residence, we cannot control for geography below the state level because inmates can be incarcerated in correctional facilities far from their initial residential location (i.e., their county of residence at the time of the Census may not reflect their county of residence prior to incarceration).[5]

Parenthood status

We utilize the variable "NCHILD" available via IPUMS to calculate the share of men living with children of their own among individuals who are not incarcerated. This variable is defined for every year.

Citizenship status

This variable is not available in 1880 and 1960. In 1870, 1900, and 1910, citizenship status was defined for foreign-born men older than 20. From 1920 onwards, it was defined for all foreign-born individuals. Individuals born in any US state are classified as citizens in all of these samples.

ICE Facilities and Deportations Data

We identify Immigration and Customs Enforcement (ICE) detention facilities from the list provided in the 2022 ICE Detentions Statistics Appendix (available at https://www.ice.gov/detain/detention-management). We identify two groups of facilities: The first group includes 18 ICE-owned service processing centers and privately-owned contract detention

[5] This assumption may not be true for those incarcerated for federal offenses because individuals might be sent to federal prisons outside of their state of residence. Nevertheless, the share of inmates in federal prisons is generally small (5–7% of incarcerated individuals in 1990 and 2000; Beck and Harrison 2001).

facilities.[6] In 2017, these types of facilities were 6% of the total number of facilities used for detention, but held approximately 28% of detainees.[7] The second group extends this list to 107 facilities (for a total of 125 facilities) operated under agreements with local and state governments and federal agencies. This group includes facilities under intergovernmental service agreements and US Marshall's administered facilities.

We geolocate these facilities and assign them to their corresponding PUMA in 1990 (1,726 total PUMAs), in 2006–2011 (2,069 total PUMAs), and 2012–2019 (2,351 total PUMAs) using shapefiles provided by IPUMS. For 1970 and 1980, we follow the same procedure using county group shapefiles provided by IPUMS (309 and 1,154 county groups in 1970 and 1980, respectively). Given changes in PUMA/county group geographic areas across time as well as the proximity of certain facilities to each other, we end up tagging 14–17 areas as including ICE facilities in the first group and 63–110 areas as including facilities in the second group. We exclude these areas from the sample in the second and third series of Figure A21, respectively.

To consider how the incarceration rate would change after including deportations, we use the 2006–2019 reports from the Department of Homeland Security on Immigration Enforcement Actions. We focus on removals of individuals with criminal histories.

Health

We use data from the General Social Survey (GSS) to measure health outcomes. We focus on the 1977–2021 period, in which individuals can be classified as foreign-born. We group annual data into five-year bins (e.g., the 2000 point includes the 1998–2002 survey waves). We rely on the "health" variable, identifying individuals who report an "excellent" or "good" health condition. Given small samples, we focus on men ages 18–65.

Admissions for Drug-Related Offenses

We use data from the National Corrections Reporting Program (NCRP; ICPSR 36404) between 1991 and 2010. We derive the stock of incarcerated individuals for each year by keeping all records of individuals admitted to prison before or during that calendar year who are released after that same year. We then sum the number of drug-related incarcerations in each state and year and compute average drug incarceration rates at the state level for the 1991–1993 and 2008–2010. To calculate incarceration rates, we use state population counts from the 1990 and 2010 Census.

[6] See also https://www.ice.gov/doclib/foia/media-requests/09foia5638detentionfacilitylist.xls.
[7] "ICE Does Not Fully Use Contracting Tools to Hold Detention Facility Contractors Accountable for Failing to Meet Performance Standards." Office of Inspector General, Department of Homeland Security. https://www.oig.dhs.gov/sites/default/files/assets/2019-02/OIG-19-18-Jan19.pdf.