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Giovanni Peri
Zachary Routledge

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Giovanni Peri
University of California, Davis and IZA

Zachary Routledge
University of California, Davis

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ABSTRACT

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Using data from the United States spanning the period between 1970 and 2017, we analyze the economic assimilation of subsequent arrival cohorts of Mexican and Central American immigrants, the more economically disadvantaged group of immigrants. We compare their wage and employment probability to that of similarly aged and educated natives across various cohorts of entry. We find that all cohorts started with a disadvantage of 40-45 percent relative to the average US native, and eliminated about half of it in the 20 years after entry. They also started with no employment probability disadvantage at arrival and they overtook natives in employment rates so that they were 5-10 percent more likely to be employed 20 years after arrival. We also find that recent cohorts, arriving after 1995, did better than earlier cohorts both in initial gap and convergence. We show that Mexicans and Central Americans working in the construction sector and in urban areas did better in terms of gap and convergence than others. Finally, also for other immigrant groups, such as Chinese and Indians, recent cohorts did better than previous ones.

Corresponding author:
Giovanni Peri
Department of Economics
University of California, Davis
One Shields Avenue
Davis CA 95616
USA

E-mail: gperi@ucdavis.edu

1   Introduction

Economic assimilation of immigrants, usually measured by economists by how their income and employment status compare to that of similarly skilled natives, is a crucial outcome for several reasons. On one hand it affects the material and psychological well-being of immigrants. Their gains from migration are larger if they achieve earnings comparable to those of receiving country's residents (Clemens et al. 2016). On the other hand, economic assimilation is perceived by natives as a sign of how easy it is to integrate immigrants in their society, and better assimilation generates more open and positive opinions on immigrants and better attitudes towards immigration (Alesina et al. 2018). The United States has been historically a place where immigrants, attracted by economic opportunities and the potential of successful careers, have been able to overcome initial difficulties and succeed economically (Chiswick 1978). While differences among national groups exist, the narrative relative to the old immigration waves, the ones that arrived in the US before the 80's, is that most of those groups converged to natives' economic success. Similarly the evidence on earlier immigrants (Abramitsky et al. 2014) is that they also assimilated economically and, when compared to similar natives, they did not have a significant initial gap.

Several studies, however, since Borjas (1985) have pointed out that the recent history of immigrants assimilation is different. A deterioration in the initial gap between newly arrived immigrants and natives was putting this assimilation at risk. Moreover, even more recently, Borjas (2015) argues that not just the initial gap, but the rate of economic assimilation, measured as the average wage convergence of immigrants has been declining for recent cohorts of arrival. These papers paint a picture of a progressive increase in the initial gap and decline in the "catching up" between newly arrived immigrants and natives. This would certainly be a worrying sign, as it implies that immigrants arrive with a larger initial disadvantage and do not make up for it. Borjas (1985) and Borjas (2015), however, combine all immigrants in one group and study their average progress towards economic (wage) assimilation to natives. As different groups of immigrants are present in very different numbers, depending on the cohort of arrival, the changing gap and wage trajectory of aggregate immigrants relative to natives, over time, is due in part to a composition effect. Borjas (2015) shows that this is partly the case. As migrants of different nationalities have different education levels, age and initial skills, the changing composition may give the impression of a changing gap and changing average convergence. A situation in which immigrants earn wages similar to comparable natives, but where their composition has changed over time in terms of education, age and place of origin is very different from a scenario in which immigrants composition is stable but they are increasingly lagging behind at arrival and in their assimilation to natives. The first scenario implies stable levels of assimilation for each group, even if the composition of immigrants is changing. The second would imply a decrease in assimilation and could mean increasing difficulties, discrimination or barriers to participation of immigrants to the labor market, which would call for identifying the causes of such deterioration.

In this paper we focus on Mexicans and Central Americans, which represent the largest and the least economically affluent group of immigrants to the US. We follow the labor market assimilation of different arrival cohorts over time, starting with the cohort arriving in 1965-1969 and ending with the one arriving in 2005-2011. Our first question is whether these immigrants, usually characterized by low education and employed in manual and low-

paying jobs, have performed poorly in terms of employment probability and earnings relative to natives of the same age, and then relative to similarly educated natives. By focusing on this group, we zoom into assimilation of low skilled immigrants, and we can ask whether this has deteriorated over time. Or rather, if the slow economic progress of this group has simply been a corollary of the stagnant opportunities for low skilled natives. The second contribution in this literature is that we look at employment probability, besides earnings. The group of Mexican and Central Americans has been employed in many low-skilled jobs, and the general perception is that these immigrants work at high rates. Rarely however, the employment probability has been the focus of analysis for US data. In following the cohorts of arrival constructed with the Census and American Community Survey (ACS) data, we also provide an idea of how large is potential attrition for a cohort of arrival which often is associated to return migration.

Zooming into the potential correlates with Mexican's earning gap and growth we look at whether the sector of employment and the location affect the gap and assimilation of these immigrants. Finally, for comparison, we analyze the earning convergence behavior of two other immigrant groups, which have been quite different from Mexicans and Central Americans in skills, and whose number has been growing at a faster rate in the last decade, namely the Chinese and Indians.

Our main findings are four. First, Mexican and Central Americans had an income gap with natives on arrival around 40 percent of their earnings and only cut it by half in first 2-3 decades of their stay, with not much progress after that. Second, we find that both the initial gap and speed of convergence has not worsened with recent cohorts of arrival. In fact, the most recent cohorts (arriving in 1995-1999 and 2005-2011) have fared quite well relative to the others both in initial gap and in convergence. Very important to identifying the actual performance of Mexican and Central American immigrants is to compare them with natives with similar education and age. By doing this we document smaller gaps and better relative performance of recent cohorts. However, given that natives at low levels of education and experience have done relatively poorly in the US markets and as Mexicans and Central Americans are mainly in low education groups, in a comparison with average US wages this group of immigrants did not do too well but not for a lack of economic assimilation, but rather because wage dynamics of less educated, affecting all American workers.

Third, when looking at employment probability the picture is very different. Mexicans and Central Americans have almost no employment gap at arrival. Over time they overtake natives and show higher probability of employment both relative to the average US born and relative to US born with similar schooling after 20 years in the US. Overall immigrants have an employment rate larger than natives. Moreover, the employment probability of this group has become higher for recent arrival cohorts relative to previous arrival cohorts. This superior performance of low skilled immigrants in employment rates distinguishes the US from Europe and most other countries where the reverse is true (see Battisti et al. 2018). When decomposing Mexican and Central Americans by the sector of their employment, we find that the initial gaps are smaller and assimilation faster for immigrants in the construction sector, while their performance is the worst in the agricultural sector. We also find a somewhat smaller gap and faster assimilation to comparable natives for Mexicans and Central Americans in urban (rather than rural) areas.

Finally by analyzing the other two largest groups of immigrants in the US, Chinese

and Indians, who show a much higher average educational attainment than Mexicans and Central Americans, we see that even for these groups relative performance of recent cohorts (those who arrived in 1995-1999 and in 2005-2011) is better than the performance of those who arrived in the seventies and eighties. Hence, we suggest that the aggregate impression of worse initial gap and slower convergence is an artifact of the changing composition of aggregate immigrants and not of the performance of each group.

In finding these results, we introduce a note of caution and some optimism relative to the previous empirical research that looked at the convergence of different arrival cohorts. First, we emphasize the importance of considering a homogeneous group of immigrants when analyzing assimilation, especially when comparing different cohorts. The composition of cohorts of immigrants has changed much, and it is important to distinguish changes in type of immigrants (especially skills and countries of origin) from changes in ability to integrate into US labor markets for a certain group. Second we find that focusing on employment probability gives a very different picture, showing immigrants, even very low skilled ones, outperforming natives in their access to jobs.

The rest of the paper is developed as follows. Section 2 frames this paper in the existing literature on assimilation of immigrants. Section 3 introduces the data and some aggregate statistics, Section 4 shows the empirical models we estimate. Section 5.1 describes the main results on earnings and employment rate assimilation of Mexican and Central American Immigrants, Section 6 describes differentiate among immigrants by sector of employment and location. Section 7 analyzes economic assimilation of the other two largest groups of immigrants, Chinese and Indians, for comparison, and Section 8 provides some concluding remarks.

2 Economic Assimilation of Immigrants in the Literature

Since the seminal work of George Borjas (Borjas 1985) who showed that in order to analyze the earnings convergence of immigrants one has to follow a cohort of arrival over time, and differentiate across arrival cohorts, the economic literature has followed such an approach. This approach is a significant improvement over the cross-sectional analysis of immigrants (first explored by Chiswick 1978) which compares different groups who have been in the country for different periods of time and confounds changes in initial gap and changes in assimilation rate across cohorts. Even the cohort analysis, however, must be considered with caution. As subsequent cohorts of immigrants to the US have been quite different in their composition (by origin and education), the initial average gap in earnings, has changed and also their convergence in earnings may have varied over time due to change in their composition. Typically, this literature looks at the aggregate set of immigrants and compares them with the average native. If the composition of immigrants and the performance of different groups of natives are changing over time, wage dynamics relative to all workers of a certain skill group can be confounded with changes in assimilation rates. Moreover, as the cohort approach does not use longitudinal data, changes in the cohort composition over time due to attrition from the re-migration of individuals can also be a relevant concern.

Using longitudinal data from SIPP (Survey of Income and Program Participation) linked to tax records, Villareal and Tamborini (2018) show that recent arrival cohorts of immigrants have not performed worse than earlier ones, but also that the race of immigrants affects their assimilation, with black and Hispanic immigrants at a disadvantage. In this study the authors can actually follow individuals, capturing more closely the individual wage dynamics. However the small size of the sample, the fact that they consider all immigrant groups together and the fact that they do not compare immigrants to natives with similar age and education makes this study less informative on economic assimilation of the economically disadvantaged groups of immigrants that we consider.

In this paper we use an approach similar to Borjas (2015) but we focus on a specific and more homogeneous group: the Mexican and Central Americans. This is the group with lowest education and lowest average earnings among immigrants, hence their performance is important to understand the evolution of assimilation of low skilled immigrants. Moreover we focus on a comparison with natives in similar age and education group, so that the income and employment dynamics of native groups do not get confused with changes in assimilation rates. While the recent literature on immigrants' income convergence in the US has raised questions about the ability of recent cohorts to assimilate, the literature on assimilation of immigrants in Europe, which is more recent, has emphasized the employment gap of immigrants especially refugees, and their slow convergence. Evidence from the UK (Clark and Lindley 2006), Norway (Bratsberg et al. 2017) and from a set of 13 EU countries (Ho and Turk-Ariss 2018) finds a significant initial employment gap of immigrants relative to natives, especially when considering refugees and immigrants from low-income sources. While some convergence is usually observed, it is far from complete after 20 years from arrival. Several recent papers have looked at what policies have been successful in promoting more complete and faster convergence. Using causal inference through regression discontinuity and quasi-experimental evidence on assignment to policies, some recent papers have established that language training (Lochmann et al. 2019), active labor market policies (Sarvimäki and Hämäläinen 2016) and improvements in the processing time of asylum requests (Hainmueller et al. 2016) have improved the labor market assimilation and performance of immigrants. Overall, however, the recent research emphasizes worries about the assimilation of recent immigrants, especially refugees in Europe (Fasani et al. 2018). Our paper looks at assimilation of the most vulnerable group of immigrants in the US (Mexican and Central Americans) and analyzes whether their convergence has slowed for more recent cohorts and their gap has widened. While we will not provide causal evidence on the effect of policies, we will however identify some factors, such as occupation and location, as important correlates of economic assimilation of this group.

3 Data and Earnings Gap-Convergence for All Immigrants

The data we use were obtained from IPUMS (Ruggles et al. 2019) and contain samples similar to those used in Borjas (2015). However, we update our analysis to include the year 2017 and hence assimilation in the more recent seven years for which IPUMS data are

available. These data include the decennial US Census samples spanning the period between 1970 and 2000, as well as the pooled 2009-2011 and the 2017 ACS samples[1].

The sample of individuals used in the earnings analysis only includes males between the ages of 25 and 64 who have between 1 and 40 years of work experience, worked at least one week during the previous year, were not living in group quarters or attending school at the time of the survey, and arrived in the US at age 18 or older. For the employment rate analysis, the same criteria are used, but individuals who did not work and those who did not generate earnings are also included in the sample as we are constructing the employment rate (employment probability) for this group. We classify individuals as employed if they worked at least one week in the previous year.

For the earnings analysis, all dollar amounts have been adjusted to real 1999 dollars using the consumer price index (CPI) for "Current, not seasonally-adjusted, US city average for all items for all urban consumers."[2]

Table A.1 and Figure 1 update the stylized facts shown in Borjas (2015) relative to all immigrants, adding the cohort arrived in 2005-2011 and expanding the sample to 2017. Table A.1 shows the estimates of log earning gap relatively to US natives of same age group for each cohort of entry in each Census year 1970, 1980, 1990, 2000, 2010, and we add the year 2017 from the ACS data and this allows one more cohort and longer period of analysis for previous cohorts. Figure 1 shows those gaps in a chart, connecting each entry cohort over 30 years of stay in the US and first standardizing the initial gap to 0 in Panel a, and then showing the actual estimated initial gap in log points as starting value in Panel b. That figure shows the progressively larger initial gap and slower convergence emphasized in Borjas (2015) for the cohorts of immigrants that arrived from 1965-1969 to 2005-2009. In particular the cohorts that arrived in 85-89 and 95-99, which were the most recent considered in Borjas (2015) show large initial gap and slow convergences, relative to the previous two. Both the table and the figure are essentially identical to Figure 1 and Table 1 in Borjas (2015). As we said, however, the cohorts changed drastically in country of origin and education levels over time and Figure 1 comparing average immigrants with average US natives and not accounting for their education and origin composition may provide a limited understanding of economic assimilation.

[**Fig. 1** about here.]

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[1]Our samples differ slightly from those used by Borjas (2015) because of errata in the 2009-2011 ACS sample that had not been corrected at the time of Borjas (2015)'s analysis. In particular, on July 1, 2015 (which is after the date that Borjas (2015) had conducted his analysis), IPUMS adjusted the CPI on the source variables (inwage and incbus00) that are used to construct the main outcome variable (incearn) used in the analysis. In addition, on May 25th, 2017, IPUMS made another adjustment to the source variable incwage. Nevertheless, replication exercises using these corrected data reveal coefficients that are either identical or very close (all are within .01) to those reported by Borjas (2015), so we are confident that the updated samples we use will reflect estimates that are comparable to his analysis

[2]This CPI can be found using the "Multi-Screen Data Search" tool at https://www.bls.gov/cpi/data.htm. Since the census samples report earnings from the previous year, we also use the CPI from the previous year to adjust earnings reported in the census samples. However, the ACS surveys reflect information about the previous 12 months (not the previous calendar year). Following Borjas (2015), we also use the previous year's CPI to adjust the reported earnings from the ACS samples.

4 Methodology and Empirical Specification

In this study we focus on the rate of economic assimilation of a specific immigrant group, Mexicans and Central Americans. We start by estimating the following model separately for each cross section, τ, while restricting the sample to only include native-born and immigrant workers from the specific country/region under consideration, in our case usually Mexican and Central Americans:[3]

$$Y_{\ell\tau} = \beta_0 + \boldsymbol{\beta} \boldsymbol{C}_\ell + \boldsymbol{\Gamma} \boldsymbol{X}_{\ell\tau} + \epsilon_{\ell\tau}, \tag{1}$$

In Eq. (1) $Y_{\ell\tau} \in (ln(w_{\ell\tau}), Emp_{\ell\tau})$ represents the measure of labor market performance of interest. The variable $ln(w_{\ell\tau})$ is the natural log of the weekly earnings of individual ℓ measured in year (cross section) τ, $Emp_{\ell\tau}$ is a dummy variable that identifies whether an individual was employed during the previous year, $\boldsymbol{X}_{\ell\tau}$ is a third-order polynomial for the individual's age, $\boldsymbol{C}_\ell$ is a vector of fixed effects representing each immigrant cohort of arrival in the sample being considered and one fixed effect, omitted in the regression, representing native workers, and $\epsilon_{\ell\tau}$ is the error term.[4] With this notation and convention, the coefficients $\boldsymbol{\beta}$ for the vector of fixed effects $\boldsymbol{C}_\ell$ capture the log weekly earnings or employment rate differential for each immigrant cohort group relative to native workers with the same age, after controlling for nonlinear age effects.[5]

Then we pool the information in all cross sections and we allow for the comparison of different cohorts of migrants with natives of similar age and education. This allows a comparison of the initial gap and of the evolution of their wages, relative to a group of natives with similar age and education. We estimate the following model, including natives and immigrants from Mexico and Central America:

$$Y_{\ell\tau} = \boldsymbol{\Gamma} \boldsymbol{X}_{\ell\tau} + \boldsymbol{\alpha} \boldsymbol{y}_{\ell\tau} + \boldsymbol{\beta} \boldsymbol{C}_\ell + \boldsymbol{\theta}(\boldsymbol{y}_{\ell\tau} \boldsymbol{C}_\ell) + \boldsymbol{S}_{\ell\tau} + \epsilon_{\ell\tau}, \tag{2}$$

In Eq. (2), $\boldsymbol{X}_{\ell\tau}$ is third order polynomial for the age of each individual, $\boldsymbol{y}_{\ell\tau}$ is a third order polynomial that identifies the number of years in the US capturing the potentially nonlinear effect of US work experience, $\boldsymbol{C}_\ell$ is a vector of dummy variables identifying each immigrant cohort and $\boldsymbol{y}_{\ell\tau} \boldsymbol{C}_\ell$ identifies a cohort-specific additional experience trend. The term $\boldsymbol{S}_{\ell\tau}$ is a vector of education-age-survey year fixed effects.[6] The introduction of such a rich set of skill-by-year effects implies that in this regression we are comparing immigrants with natives in the same education-experience group. The estimated coefficients $\boldsymbol{\beta}$ capture the (log earning or employment) gap of a specific cohort at arrival and the coefficients $\boldsymbol{\theta}$ captures the average decennial growth of that specific cohort of entry of immigrants relative

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[3]For each separate analysis, we remove all immigrants from the sample whose birthplace differs from the country/region of origin being analyzed.

[4]We define employed as working at least one week during the previous year.

[5]All regressions that use Eq. (1) are weighted by the individual sample weights using the variable "perwt."

[6]We include four education groups (high school dropouts, high school graduate, some college, and college diploma) and eight age groups broken into five year intervals between the ages of 25 and 64 years old.

to natives.[7][8]

All the tables that we will show in the paper report the cohort-of-arrival specific initial gap, and the 10-years estimated growth from Eq. (2). They are estimated first without the age-education-year effects $\boldsymbol{S}_{\ell\tau}$ so as to capture the earning gap and growth of Mexicans and Central Americans relative to the average native with same age, and then with the set of education-age-year fixed effects $\boldsymbol{S}_{\ell\tau}$ so as to capture the gap and convergence relative to same age-education natives. The difference between those two specifications captures the part of the gap and convergence explained simply by the composition of immigrants across education groups and the different performance of those education groups over time.

5 Empirical Findings: Earnings and Employment Convergence for Mexicans and Central Americans

5.1 Adjusted Earning Gaps and Convergence

Figure 2 below shows the convergence of log earnings of Mexican and Central Americans to those of US natives of similar age, either normalizing the initial level to 0 (Panel A) or starting from the estimated initial gap (Panel B). Those are estimated using Eq. (1) above. Several things are worth noting. First, while the initial earning gap is somewhat smaller for the very early cohort (1965-1969) the difference is small and the convergence rate seems roughly comparable across cohorts. Second, the initial gap is substantial (-60 to -70 log points) and it is only reduced in the first twenty years by 15 to 20 log points. Third the great recession seems to have produced one lost decade of convergence for all cohorts. In Panel B we indicate which segments in the convergence of three cohorts of arrival, coincide with the period 2000-2010, which is when the great recession took place. Each of those segments is flat or even downward sloping implying no or negative convergence in that decade for all cohorts. Finally the very last cohort, the one that arrived in 2005-2011, seems to be quite good with an initial gap comparable to that of any cohort arrived in the 70's or 80's and faster convergence. In fact this cohort seems to achieve a 17 log point convergence in 10 years. It may be early to evaluate the economic success of this cohorts but these results are encouraging.

[**Fig. 2** about here.]

Figure 2, presenting the relative gap and convergence, however, does not account for the fact that the population of Mexican and Central Americans in the US has a large concentration among low education groups. If wages of less educated have done worse than wages of average Americans, during the period, this will result in appearance of slower assimilation, while the reason for slow convergence to the mean is increased earning inequality

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[7]Our model deviates from the one used in Borjas (2015) by constraining the age effects to be equal for natives and immigrants. This allows us to conveniently compare the results from Eq. (2) to Eq. (1), which uses the same constraint for age.

[8]All regressions that use Eq. (2) are weighted by the variable "perwt" divided by the population of the cross section that the observation belongs to.

affecting native and immigrants as well. In order to clean our analysis from this issue we show in Table 1 below, the comparison between the initial gap and ten year growth of each cohort, when compared to average US native of similar age and when compared with US natives with the same education and age, in the second column, reflecting the inclusion of age-education-year effects in Eq. (2). The table shows three important differences between column 1 and column 2. First the initial gap is reduced by one fourth to one third for each cohort. Most cohorts have a gap a 42-43 (about 34-34 percent) log points when measured relative to similarly educated natives (in column 2). Second the convergence is faster, equal to 20 log points (about 19 percent) in the first decade, for most cohorts. Third, the two most recent cohorts (arrived in 2005-11 and in 2012-17) look quite good as the second show a smaller initial gap and the first faster ten-year convergence. These encouraging findings are also confirmed in Figure B.1 where we show the convergence (Panel A) and initial gap plus convergence (Panel B) only considering Mexicans/Central Americans and Natives with high school degree or less relative to comparable natives. The initial gap was around 40 log points for the two most recent cohorts and it was reduced by half in 10-20 years. When comparing Mexican and Central Americans with similarly educated natives the gap reduces significantly.

[**Table 1** about here.]

5.2 Employment Rate Gaps and Convergence

While earnings and income show an initial substantial gap, albeit with convergence and no deterioration in the more recent cohorts of arrival, a different picture is painted by analyzing the employment gap. Panels C and D of Figure 2 show the convergence and initial gap for employment probability. It is clear that the low earnings of Mexicans and Central American are not due to their lower probability of working or marginal attachment to the labor market. This group of immigrants has high employment rate and after 10-20 years in the US their employment rate exceeds that of similarly aged natives (the graphs do not even correct for schooling). What is also true in this case is that the performance in terms of employment rate of immigrants relative to natives seem to have improved for recent cohorts with the last two cohorts surpassing the natives employment rate within 10 years. This phenomenon is in line with the idea that low skilled immigrants have taken a large number of jobs among manual and physically intensive occupations, whose job creation has been strong in the recent decades (Basso et al. 2017). The flexible US labor markets have employed many immigrants, although at low wages. This is quite different from what has occurred with refugees in Europe, where employment rates have remained quite low (Fasani et al. 2018) in part due to the more generous support of government, but in part due to harder access to labor markets due to more rigidity and hiring costs.

5.2.1 How large is return migration?

The cohort method that we adopt has been used as the main tool of analysis of immigrant assimilation, and the Census and ACS data have been the main source for this type of analysis. However, we need to emphasize two important caveats on these data. The first

is that if there is return migration, a cohort will change composition over time and if the return is selective part of the earnings convergence may be due to immigrants leaving if their economic performance is poor. This phenomenon would imply a reduction in size of a cohort of entry over time. The second is that there may be some recall error in the arrival time which would introduce measurement error in the size and characteristics of each cohort. Table A.2 in the Appendix shows the size (in units) of each cohort of entry analyzed in our empirical analysis, which we can follow along the rows of the table. Notice that the cohorts we use for the labor market analysis include people 25 to 64 years old, not in group quarters, and includes all Mexicans and Central Americans who enter the US at 18 or older. The change in size of the cohort in the first decade after arrival is always positive and it is due to the people who arrived at age 18-24 and enter the considered age group. After that we notice that the cohort size shrinks, and this is attrition out of the age group, in large part due to return migration, and in part to aging out of the group. However, given that the average age at arrival is rather young, the aging out is not significant till 3 or 4 decades after arrival. The reduction in size 30 years after arrival can be substantial (comparing the number after 30 years with that after 10 years). Attrition seems differential across cohorts and while we cannot do too much about it, it should be kept in mind as a possible source of selection of the remaining migrants.

6   The Role of Sector and Location

6.1   Convergence by Sector of Employment

It is hard to produce causal evidence on what economic conditions or what policies may promote faster earning convergence of Mexican and Central American immigrants. We can, however, identify some features of the labor market and of location choices that are associated with different rates of earnings' growth. In particular, by focusing on the occupation/industries where Mexicans and Central Americans are highly concentrated, we calculate whether working in any specific one of those is correlated with higher and faster growing wages, relatively to similarly skilled natives. Similarly, we analyze whether being located in urban areas produced an earning convergence advantage or being located in states with large share of Mexicans and Central American (enclaves) hurts their ability to assimilate and converge to native economic performance. Different occupation/industries may provide different opportunities for upward mobility, and similarly some specific urban locations (Chetty and Hendren 2018; Moretti 2013) are associated with faster wage growth and more inter-generation mobility of natives, suggesting a potential benefit for immigrants too.

Table A.3 shows the percent of Mexican and Central Americans among workers of four industries, their percent in urban and rural locations and in Enclave states, namely those six states with largest share of immigrants [9] and non-Enclave states from 1970 to 2017. In each of the industries chosen, the immigrant group is over-represented relative to its average presence in the labor force. In particular in the Agriculture and the Construction sectors, in 2017, 24% and 15% of the labor force, was Mexican and Central American. This implies a

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[9]Specifically those are the states with the largest percentage of Mexican and Central American in the population over the period 1970-2017. They are California, Texas, Arizona, New Mexico, Nevada, and Illinois

very high degree of over-representation as Mexican and Central American were only 5.4% of the overall labor force. The other two sectors, Manufacturing and Personal and Household Services, include a larger than average percent of Mexicans and Central Americans but not by much. The growth of Mexican presence, especially in Agriculture and Construction, was also substantial, going from 1.5 and 0.4% respectively in 1970 to the values of 23.8% and 15.1% in 2017. Panel B of the table indicates also that Mexican and Central Americans are more concentrated in Urban than in rural locations, and in enclave states (by definition).

The earning gap and convergence of Mexicans and Central Americans employed in different sectors, relative to natives of the same age is shown in Figure 3, in which each panel includes only Mexican and Central Americans working in a sector and natives. Those are, respectively, agriculture (Panel A), construction (Panel B), manufacturing (Panel C) and personal and household services (Panel D). The figures show the initial gap and 30-year convergence for each arrival cohort from 1965-1969 to 2005-2011, using dotted lines for the early cohorts, dashed for the intermediate and a solid line for the most recent with increasing thickness going from old to recent. Three facts emerge. First, both initial earning gap and convergence of earning has not changed systematically over time of arrival of cohorts. Each cohort of Mexican and Central Americans in a sector has started with a similar initial gap and has had similar convergence no matter the years of entry. A thing to notice is that this is a "within sector" convergence. Part of the aggregate convergence can derive from Mexicans changing sector of work (say from agriculture to construction) and it will not be captured in these graphs. Second, agriculture is the employment sector with largest initial earning gap with natives (about 80 log points, corresponding to a stunning 55 percent gap) and slowest and almost insignificant convergence. This is not a surprise, agricultural jobs have a negative wage differential with most other jobs and they do not show much of a growing earning profile over a worker's career. Personal and household services do not look much better than agriculture. The third fact standing out is that Mexicans with jobs in the construction sector, show a smaller initial gap and a faster and continuing convergence over thirty years performing better than in any of the other occupations/sectors. An initial gap of 60 log points is reduced to around 30 after 30 years. Keep in mind that these are gaps relative to the average US natives. If we account for the education level of Mexican and Central Americans and we compare the group more consistently with similarly educated citizens, as we do in Table 2 the results become even more striking. They confirm the advantage of Mexicans in construction, (now lagging only 32-33 log points at arrival and catching up by 20 log points each decade) and disadvantage of Mexicans in agriculture (lagging 50 log points at arrival and catching up only by 11-12 log points per decade).

[**Fig. 3** about here.]

Table 2 shows the comparison of initial log earning gap (panel A) and relative earning growth (Panel B), by sector, when comparing Mexicans with US-natives workers of similar age (Columns 1,3,5 and 7) or when adjusting for education and comparing them with natives of similar age and schooling level (Columns 2,4,6 and 8). Adjusting for education, the construction sector shows the lowest initial gap (around 30 log points) and fastest relative growth per decade (around 20 log point in the first decade) and significantly faster for the last arrival cohort. Once controlling for education, Mexicans in manufacturing also seem

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to perform relatively well, especially with a quite fast relative growth in the first decade (20-25 log points per decade). The performance of Mexican agricultural workers, becomes significantly better when compared with similarly educated natives, which is a sign that the negative selection of workers in agriculture and the slow growth of wage of low educated, which is true for natives too, is a big part of the story of under-performance of workers in that sector. Still the agricultural sector is the one with largest initial gap and slowest convergence even relative to natives of similar education and age.

[**Table 2** about here.]

6.2   Convergence in Rural and Urban Areas

In spite of their heavy presence in agricultural jobs, as most jobs are non-agricultural, the concentration of Mexicans and Central Americans is larger in urban areas. It is useful to see, therefore, if urban location of Mexicans is associated with better wage performance relative to natives. Figure 4 shows the earning gap and convergence relative to natives of similar age, separately for Mexicans in urban and rural areas. The initial gap is smaller for urban Mexicans, however the convergence does not seem significantly different. Except for the first cohort, which was small and show a rather noisy estimate of convergence, the other cohorts seem to perform similarly over time.

[**Fig. 4** about here.]

Table 3 below shows the adjustment of gap and convergence for rural and urban Mexicans, when we compare them to similarly educated natives. The results confirm a smaller initial gap of urban Mexicans but similar rate of earning growth. Urban location may provide some initial advantage in earning for Mexicans but it is not so clear that it produces a sustained advantage for their wage profile. It would be interesting to separate urban location between fast growing and declining ones as the dynamic of wages may be very different among them (as noted by Moretti 2013) to see if the "divergence" between those two types of urban areas is also reflected in the probability of convergence of Mexican and Central American immigrants.

6.3   Convergence in Enclave vs. Non-Enclave States

Some studies identify in the local crowding of immigrants a reason for slower integration (e.g. Borjas 2015). If immigrants live in an enclave with a large share of co-ethnics they may be less inclined to learn English, integrate and they may remain marginal to some job and career opportunities. Other studies, however (such as Piil Damm (2009)) using a more careful causal identification, find that living in an enclave significantly increases earning. In recent work on German refugees Battisti et al. (2016) find that while living in enclaves may provide initial employment advantage to new immigrants, in the long run it may reduce their investment in human capital hurting their earnings potential in the long run.

In order to test whether there is some association between living in enclave and gap and convergence of earnings, we separate Mexican and Central Americans between those living

in the 6 states with larger share of their group in the population. We call those "enclaves." This is a rough categorization as one would like to check enclaves in smaller geographical units, such as counties or metropolitan areas. However, it will provide some preliminary evidence. As usual we show the representation of convergence to native with similar age, in Panels A and B of Figure 5, and we show the gap and growth in the first ten years for the same comparison and adjusting for education in Table 3.

[**Table 3** about here.]

[**Fig. 5** about here.]

Both the figure and the adjusted coefficients in the Table do not show a large or significant difference in initial gap between Mexicans located in enclave or non-enclave states. Possibly, a worsening of the initial gap is visible in enclave states, which may reveal some crowding of Mexicans in some jobs, especially in the more recent decades. Several studies emphasize how the potential strongest labor market competition for new immigrants are other immigrants and this finding may be partially consistent with that observation.

Summarizing the main finding relative to the assimilation of Mexican and Central Americans in the US, over the last five decades we can say that: (i) Recent arrival cohorts did not do worse then previous ones, in initial gap or relative earning growth (ii) There is a significant earning gap with similar natives (in the order of 40 log points at arrival) and it is reduced by about one third to half but not eliminated in 20-30 years. (iii) There is small initial employment gap with natives and after 20 years in the country Mexican and Central Americans are employed at rate higher than natives with similar age. (iv) Those in the construction sector, and in part those in urban areas, do better in terms of gap and convergence than those in other sectors.

The picture revealed by this analysis is one of a group coming to the US for working in manual/physical intensive type of jobs and assimilating rapidly, in terms of being employed, but lagging behind in terms of earnings. Jobs in a sector like construction, which has a significant upward potential and usually is located in urban areas may be well suited to to help economic success of immigrants. This could be an important consideration when thinking of allowing job-related visas for less educated immigrants and distributing them across occupations and sectors.

7 Comparison with the Other Largest Groups: Chinese and Indian Immigrants

One important and novel finding of this paper is that the more recent cohorts of Mexican and Central American immigrants performed better than earlier ones in terms of earning and employment gaps. Certainly, they have been migrating into an economy where the wage of less educated Americans has been deteriorating relative to the wages of high skilled Americans. This wage evolution has hurt them in absolute terms, but it did not penalize them more than natives. This is an interesting finding, as several studies had pointed to a deterioration in the assimilation of immigrants (Borjas 2015). We show however, that

focusing on a homogeneous group of immigrants and comparing them to similar natives, this is not the case.

In particular we find that the Mexican and Central American cohorts that arrived in 1995-1999 and in 2009-2011 seem to be performing better than the previous ones. In a country where immigration is becoming more contentious it is important to show that recent immigrants are actually improving their labor market performance. Moreover these are cohorts of arrival where the share of undocumented was significant and several studies show that they may further improve their wage dynamics if those immigrants may have access to regularization.

Is this true also of other large group of immigrants? Are more recent arrival cohorts of immigrants from a specific country doing better than previous cohorts from the same country? We consider in this section Chinese and Indians, which are the two largest national groups after Mexicans. Their immigration flows have become larger than that of Mexicans in the last decade. Both groups have a much larger share of highly educated individuals migrating to the US, both relative to Mexicans and relative to the US population. Table A.4 shows the share of people with high school or less, some college and college degree among the three groups (Mexicans and Central Americans, Indians and Chinese immigrants).

It appears clearly from the table that Chinese and, even more, Indian Immigrants have been selected among very highly educated individuals already in the early cohorts arrived in 1965-69. This very strong selection makes them more educated on average than natives. Those two groups have had very different jobs than Mexicans, with large concentration in high tech jobs, engineering, science and professional occupations. Still, it is very interesting to see how subsequent cohorts of these immigrants compare to similar natives. Figures 6b and 6d show the initial gap and convergence of earnings and employment rates for Chinese immigrants relative to natives. In both cases we see that this group starts with relatively small gaps relative to natives and it overtake natives in terms of performance within 20-30 years of stay in the US. The graphs also show that the performance of most recent cohorts, arrived in 1995-1999 and 2005-2011, are the best overall.

[**Fig. 6** about here.]

Figure 7 shows the same graphs with the initial gap and convergence for Indians and in this case we see an even smaller initial gap and even faster convergence and overtaking natives' earnings and employment rates. For this group, actually, the recent cohorts of arrival already start at par or with an advantage in earnings and probability of working relative to natives and continue to improve their relative performance over time.

So the analysis of Indians and Chinese immigrants confirm that labor market performance of immigrants who arrived in the last two decades has been good. This suggests (i) that the quality of the more recent immigrants in terms of labor market skills is not worse than that of previous ones, when we compare within country of origin. (ii) possibly the slowing in the inflow of new immigrants in the recent years may have helped somewhat such convergence. Moreover the extremely high employment rates, when compared to similar natives, confirms that immigrants come to the US to work and that the US labor market continues to demand these workers. The exceptional relative performance of Indians arrived since 1995, many of whom have entered the US on a H1B visa, suggest that the stories of underpaid H1B

workers, parked in jobs with little upward perspective, may represent the experience of some of the recent arrivals but is not representative of the group of recent arrival, whose salary and employment perspectives are better than those of natives, already after 10 years of stay in the US.

[**Fig. 7** about here.]

8   Conclusion

Assimilation of low skilled immigrants, is a very important issue often dominating the debate about immigration. Several receiving countries claim that immigrants are and remain a burden to the receiving country because they do not have skills that can be integrated in the labor market, and hence their employment rate is low and their earnings lag behind those of similar natives.

In the US, where immigrants have been coming to the country in large numbers since 1965, and where immigration has actually slowed in the recent decades, there are anecdotes and some research showing that more recent immigrants have had a harder time assimilating in the labor market.

In this paper we analyze whether such a characterization is true for Mexican and Central American immigrants, traditionally a group of low educated immigrants earning low wages. This is also a very large group of immigrants, comprising almost 6% of the US labor force, hence their success is very important to the US economy and society as a whole. While we do find an initial earning gap and only incomplete convergence after 30 years of stay, we also find that recent cohorts of Mexicans and Central Americans, those that arrived after 1995, have not performed worse than earlier ones that arrived in the seventies and eighties. Moreover, we find that in terms of employment probability, Mexican and Central Americans outperform natives of similar age already after 20-30 years in the country. In particular, focusing on the entry cohort 1995-1999 and 2005-2011, they seem to perform particularly well in terms of initial gap and employment when compared to similar US citizens.

In finding these results we also discover that the appearance of worsening quality of more recent cohorts is a result of looking at all immigrants together. Once we focus on a group by country of origin, and we compare with similar US citizens, we find recent cohorts performing well, relative to earlier ones, also for other immigrant groups.

Finally we also identify some groups of Mexican and Central American immigrants that performed better than the rest, with smaller initial gap and faster convergence. Those employed in the construction sector and living in urban areas seem to start at higher earnings and have stronger wage progression, relative to natives, than the others. Those employed in agriculture, instead, are associated with larger initial gap, slowest convergence and with lowest level of education of immigrants.

In looking for some ideas that can inspire policies, given the high demand for labor in the construction sector and the good opportunities that it affords to immigrants one could think of visas linked to these type of jobs. This paper also suggests that there is no basis in the data to claim that new immigrants are of lower labor-market quality relative to earlier ones. Considering specific countries of origin, subsequent cohorts of immigrants have actually

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performed similarly or better in the US. Moreover, in spite of all hurdles, the US labor market does a very good job in getting immigrants a job. However, the poor earning performance of low skilled workers, in general, has had a disproportionate impact on Mexicans and Central American, who are heavily represented in those groups.

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Table 1 Age-Education-Adjusted Relative Weekly Earnings of
Mexicans and Central American Immigrants:
Initial Gap and Convergence After First 10 Years

	(1)	(2)
Panel A		
Relative Entry Wage		
1965-1969 arrivals	-0.523**	-0.449**
	(0.0439)	(0.0283)
1975-1979 arrivals	-0.626**	-0.437**
	(0.0418)	(0.0284)
1985-1989 arrivals	-0.670**	-0.445**
	(0.0463)	(0.0342)
1995-1999 arrivals	-0.674**	-0.423**
	(0.0225)	(0.0262)
2005-2011 arrivals	-0.732**	-0.427**
	(0.0159)	(0.0272)
2012-17 arrivals	-0.530**	-0.237**
	(0.00379)	(0.0260)
Panel B		
Relative Wage Growth in First 10 Years		
1965-1969 arrivals	0.081	0.221**
	[0.202]	[.000]
1975-1979 arrivals	0.088	0.216**
	[0.162]	[0.001]
1985-1989 arrivals	0.109	0.198**
	[0.102]	[0.002]
1995-1999 arrivals	0.099*	0.181**
	[0.031]	[0.000]
2005-2011 arrivals	0.189**	0.239**
	[0.000]	[0.000]
Basic Specification	X	–
Educ-Age-Year FE	–	X
N	9,669,594	9,669,594

Note: The wage differentials presented in Panel A are generated from regressions that are ran on the set of pooled cross sections from 1970, 1980, 1990, 2000, 2010, and 2017. The dependent variable identifies the log weekly earnings of each individual. The explanatory variables in column (1) include a third order polynomial for age, a third order polynomial for the number of years that immigrants have spent in the U.S., a set of cohort fixed effects, and a set of cohort fixed effects that are each interacted with a continuous variable identifying the number of years that immigrants have spent in the U.S. The explanatory variables for column (2) contain the same set of variables as in column (1) but additionally include a set of education-age-year fixed effects. The omitted group is comprised of native-born workers such that the coefficients in Panel A each represent a separate cohort's log weekly earnings relative to native born workers. The predicted relative wage growth in the first 10 years in Panel B assumes that all immigrants arrive in the country at the age of 25. Standard errors are in parentheses. P-values are in brackets. † $p < .1$, * $p < .05$, ** $p < .01$

Table 2 Age-Education-Adjusted Relative Weekly Earnings of
Mexicans and Central American Immigrants by Sector:
Initial Gap and Convergence After First 10 Years

	Agriculture		Construction		Manufacturing		Personal and Household Services	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A								
Relative Entry Wage								
1965-1969 arrivals	-0.753**	-0.606**	-0.449**	-0.339**	-0.478**	-0.409**	-0.654**	-0.570**
	(0.033)	(0.020)	(0.047)	(0.036)	(0.032)	(0.025)	(0.037)	(0.025)
1975-1979 arrivals	-0.733**	-0.500**	-0.534**	-0.325**	-0.592**	-0.393**	-0.816**	-0.612**
	(0.034)	(0.021)	(0.041)	(0.034)	(0.031)	(0.024)	(0.036)	(0.025)
1985-1989 arrivals	-0.803**	-0.490**	-0.581**	-0.337**	-0.686**	-0.448**	-0.779**	-0.536**
	(0.036)	(0.022)	(0.041)	(0.031)	(0.038)	(0.030)	(0.036)	(0.024)
1995-1999 arrivals	-0.833**	-0.489**	-0.605**	-0.317**	-0.702**	-0.423**	-0.746**	-0.481**
	(0.020)	(0.013)	(0.020)	(0.017)	(0.017)	(0.013)	(0.018)	(0.012)
2005-2011 arrivals	-0.872**	-0.461**	-0.746**	-0.368**	-0.641**	-0.289**	-0.817**	-0.459**
	(0.014)	(0.013)	(0.014)	(0.017)	(0.015)	(0.011)	(0.013)	(0.012)
2012-17 arrivals	-0.860**	-0.424**	-0.562**	-0.149**	-0.506**	-0.209**	-0.609**	-0.262**
	(0.002)	(0.008)	(0.003)	(0.013)	(0.002)	(0.003)	(0.003)	(0.007)
Panel B								
Relative Wage Growth in First 10 Years								
1965-1969 arrivals	0.010	0.147**	0.079	0.207**	0.072	0.243**	0.041	0.184**
	[0.854]	[0.000]	[0.161]	[0.000]	[0.162]	[0.000]	[0.457]	[0.000]
1975-1979 arrivals	-0.026	0.114**	0.082	0.209**	0.086†	0.237**	0.094†	0.224**
	[0.618]	[0.002]	[0.122]	[0.000]	[0.093]	[0.000]	[0.093]	[0.000]
1985-1989 arrivals	0.022	0.117**	0.105†	0.197**	0.134*	0.253**	0.076	0.169**
	[0.679]	[0.003]	[0.060]	[0.000]	[0.021]	[0.000]	[0.166]	[0.000]
1995-1999 arrivals	0.046	0.129**	0.094*	0.176**	0.118**	0.227**	0.006	0.099**
	[0.245]	[0.000]	[0.016]	[0.000]	[0.003]	[0.000]	[0.862]	[0.000]
2005-2011 arrivals	0.161**	0.201**	0.261**	0.313**	0.107**	0.165**	0.099**	0.120**
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
N	9,425,202	9,425,202	9,423,810	9,423,810	9,423,649	9,423,649	9,426,230	9,426,230
Basic Specification	X	–	X	–	X	–	X	–
Educ-Age-Year FE	–	X	–	X	–	X	–	X

Note: The wage differentials presented in Panel A are generated from regressions that are ran on the set of pooled cross sections from 1970, 1980, 1990, 2000, 2010, and 2017. The dependent variable identifies the log weekly earnings of each individual. The explanatory variables in columns (1), (3), (5), and (7) include a third order polynomial for age, a third order polynomial for the number of years that immigrants have spent in the U.S., a set of cohort fixed effects, and a set of cohort fixed effects that are each interacted with a continuous variable identifying the number of years that immigrants have spent in the U.S. The explanatory variables for columns (2), (4), (6), and (8) contain the same set of variables as in column (1) but additionally include a set of education-age-year fixed effects. The omitted group is comprised of native-born workers such that the coefficients in Panel A each represent a separate cohort's log weekly earnings relative to native born workers. The predicted relative wage growth in the first 10 years in Panel B assumes that all immigrants arrive in the country at the age of 25. Standard errors are in parentheses. P-values are in brackets. † $p < .1$, * $p < .05$, ** $p < .01$

Table 3 Age-Education-Adjusted Relative Weekly Earnings of
Mexicans and Central American Immigrants by Location:
Initial Gap and Convergence After First 10 Years

|	Rural		Urban		Enclave		Non-Enclave	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Panel A							
	Relative Entry Wage							
1965-1969 arrivals	-0.720**	-0.625**	-0.481**	-0.413**	-0.536**	-0.448**	-0.494**	-0.452**
	(0.0433)	(0.0298)	(0.0449)	(0.0291)	(0.054)	(0.035)	(0.024)	(0.017)
1975-1979 arrivals	-0.722**	-0.521**	-0.612**	-0.425**	-0.650**	-0.450**	-0.480**	-0.362**
	(0.0451)	(0.0306)	(0.0422)	(0.0289)	(0.043)	(0.029)	(0.040)	(0.028)
1985-1989 arrivals	-0.714**	-0.447**	-0.663**	-0.441**	-0.698**	-0.461**	-0.581**	-0.379**
	(0.0514)	(0.0357)	(0.0466)	(0.0344)	(0.048)	(0.035)	(0.041)	(0.029)
1995-1999 arrivals	-0.704**	-0.406**	-0.668**	-0.419**	-0.705**	-0.445**	-0.629**	-0.369**
	(0.0229)	(0.0169)	(0.0228)	(0.0249)	(0.025)	(0.023)	(0.017)	(0.015)
2005-2011 arrivals	-0.647**	-0.320**	-0.743**	-0.434**	-0.751**	-0.434**	-0.711**	-0.393**
	(0.0152)	(0.0124)	(0.0163)	(0.0255)	(0.017)	(0.019)	(0.012)	(0.019)
2012-17 arrivals	-0.512**	-0.147**	-0.531**	-0.243**	-0.570**	-0.270**	-0.484**	-0.176**
	(0.00284)	(0.00513)	(0.00363)	(0.0236)	(0.003)	(0.015)	(0.002)	(0.018)
N	9,112,492	9,112,492	9,331,676	9,331,676 N	9,588,212	9,588,212	9,465,090	9,465,090
	Panel B							
	Relative Wage Growth in First 10 Years							
1965-1969 arrivals	0.047	0.207**	0.073	0.213**	0.086	0.226**	0.096†	0.208**
	[0.476]	[0.000]	[0.257]	[0.000]	[0.224]	[0.000]	[0.057]	[0.000]
1975-1979 arrivals	0.093	0.232**	0.084	0.212**	0.103	0.228**	0.024	0.167**
	[0.188]	[0.000]	[0.183]	[0.000]	[0.124]	[0.000]	[0.653]	[0.000]
1985-1989 arrivals	0.097	0.193**	0.107	0.197**	0.126†	0.211**	0.056	0.161**
	[0.184]	[0.001]	[0.110]	[0.000]	[0.077]	[0.000]	[0.304]	[0.001]
1995-1999 arrivals	0.079†	0.171**	0.098*	0.180**	0.119*	0.202**	0.062†	0.147**
	[0.092]	[0.000]	[0.034]	[0.000]	[0.019]	[0.000]	[0.075]	[0.000]
2005-2011 arrivals	0.067**	0.170**	0.204**	0.249**	0.195**	0.240**	0.182**	0.242**
	[0.001]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Basic Specification	X	–	X	–	X	–	X	–
Educ-Age-Year FE	–	X	–	X	–	X	–	X

Note: The wage differentials presented in Panel A are generated from regressions that are ran on the set of pooled cross sections from 1970, 1980, 1990, 2000, 2010, and 2017. The dependent variable identifies the log weekly earnings of each individual. The explanatory variables in columns (1), (3), (5), and (7) include a third order polynomial for age, a third order polynomial for the number of years that immigrants have spent in the U.S., a set of cohort fixed effects, and a set of cohort fixed effects that are each interacted with a continuous variable identifying the number of years that immigrants have spent in the U.S. The explanatory variables for columns (2), (4), (6), and (8) contain the same set of variables as in column (1) but additionally include a set of education-age-year fixed effects. The omitted group is comprised of native-born workers such that the coefficients in Panel A each represent a separate cohort's log weekly earnings relative to native born workers. The predicted relative wage growth in the first 10 years in Panel B assumes that all immigrants arrive in the country at the age of 25. The enclave states are the states with the largest percentage of Mexican and Central Americans in the population over the period 1970-2017. They include California, Texas, Arizona, New Mexico, Nevada, and Illinois. Standard errors are in parentheses. P-values are in brackets. † $p < .1$, * $p < .05$, ** $p < .01$

Fig. 1 Age-Adjusted Convergence for the Relative Weekly Earnings of
Immigrant Cohorts from All Countries of Origin

a: Normalized Convergence   **b:** Inital Gap and Convergence
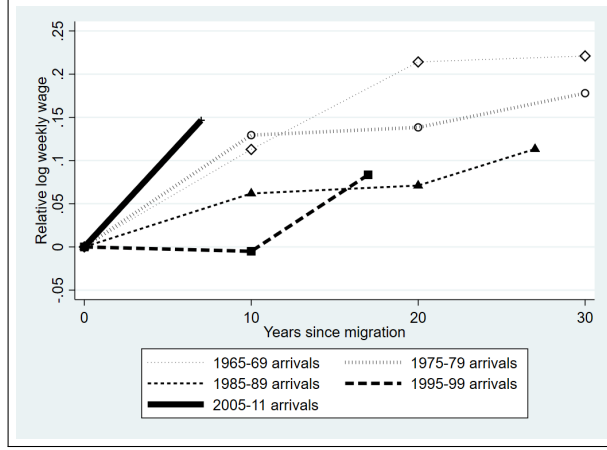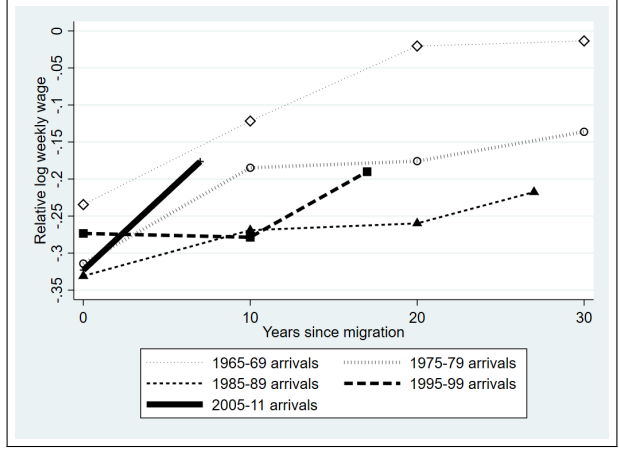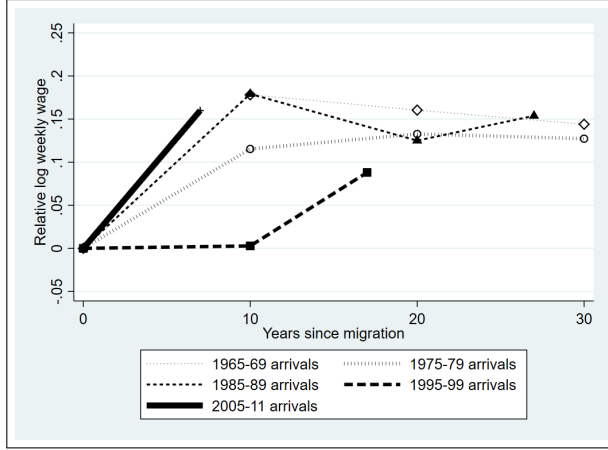

Note: The wage differentials presented in this figure are calculated from regressions that are estimated separately for each
cross section. The dependent variable in these regressions identifies the log weekly earnings of each individual, and the
explanatory variables include a third-order polynomial for age and a set of fixed effects: one for each immigrant cohort. The
omitted group is comprised of native-born workers such that the coefficients on the cohort fixed effects represent each cohort's
log weekly earnings relative to native-born workers in a given survey year, which are used to construct the data points in the
graphs. In Figure 1a, the relative log weekly earnings for each cohort is normalized to zero at the time of the entry.

Fig. 2 Age-Adjusted Convergence for the Relative Weekly Earnings
and Employment Rate of Mexican and Central American Cohorts

Earnings
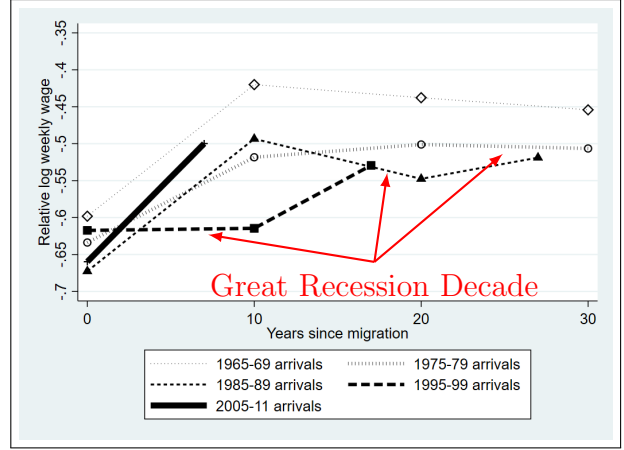
a: Normalized Convergence   **b:** Initial Gap and Convergence
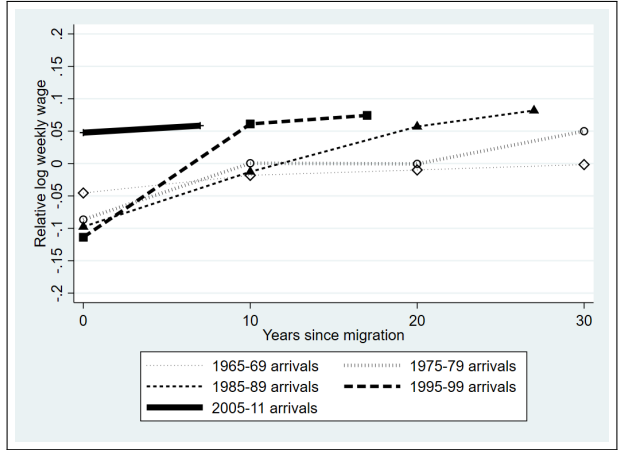

Employment

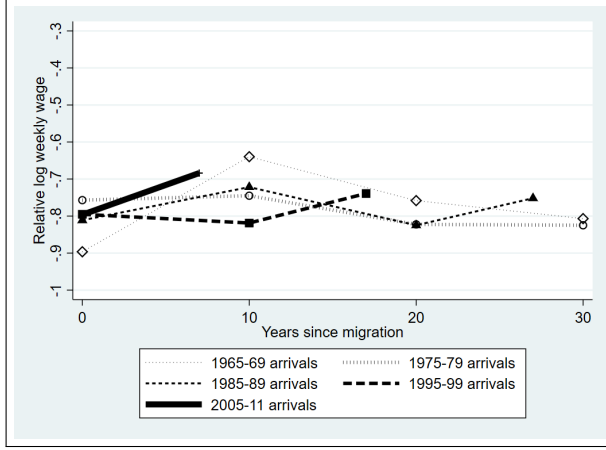**c:** Normalized Convergence   **d:** Initial Gap and Convergence

Note: The log weekly earnings and employment rate differentials presented in this figure are calculated from regressions that are estimated separately for each cross section. The dependent variable in the earnings regressions identifies the log weekly earnings of each individual. The dependent variable in the employment regressions identifies whether each individual was employed for at least one week during the previous year. The explanatory variables for both the earnings and the employment regressions include a third-order polynomial for age and a set of fixed effects: one for each immigrant cohort. The omitted group is comprised of native-born workers such that the coefficients on the cohort fixed effects represent each cohort's employment rate relative to native-born workers in a given survey year, which are used to construct the data points in the graphs. In Figure 2a, the relative log weekly earnings for each cohort is normalized to zero at the time of entry. In Figure 2c, the relative employment rate for each cohort is normalized to zero at the time of the entry.
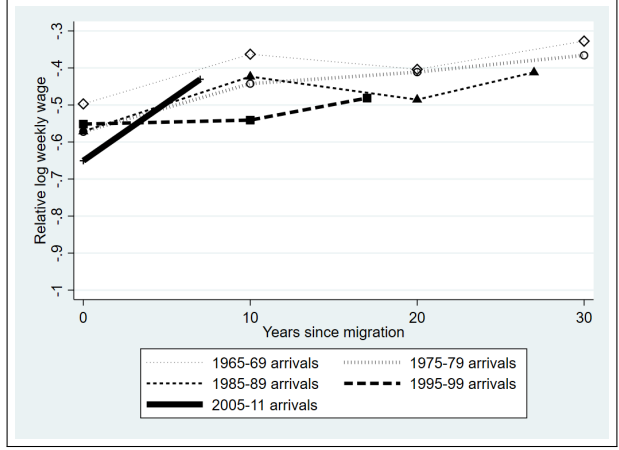
Fig. 3 Age-Adjusted Convergence for the Relative Weekly Earnings
of Mexican and Central American Cohorts by Sector: Initial Gap and Convergence
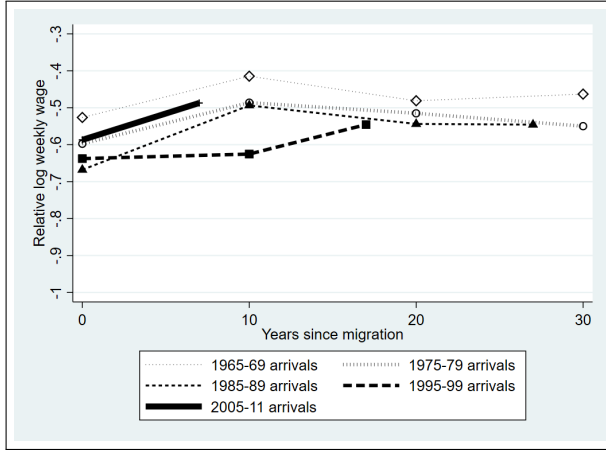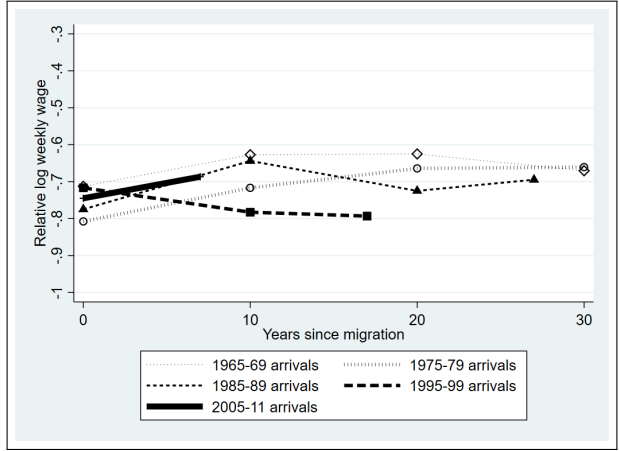
a: Agriculture and Farming

b: Construction

c: Manufacturing

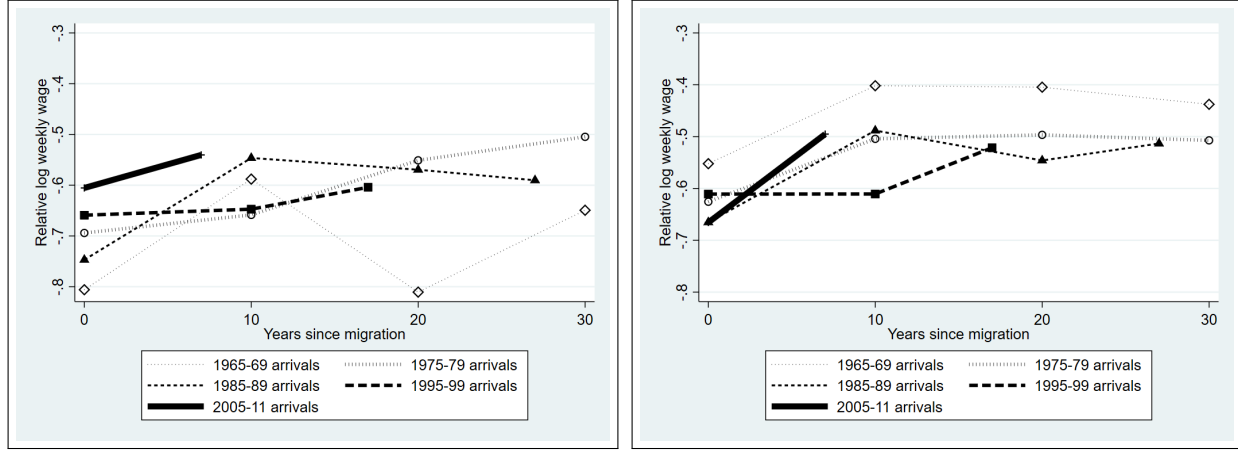**d:** Personal and
Household
Services

Note: The wage differentials presented this figure are calculated from regressions that are estimated separately for each cross section using data that only includes individuals employed in the sector identified in the panel being considered. The dependent variable in these regressions identifies the log weekly earnings of each individual, and the explanatory variables include a third-order polynomial for age and a set of fixed effects: one for each immigrant cohort. The omitted group is comprised of native-born workers such that the coefficients on the cohort fixed effects represent each cohort's log weekly earnings relative to native-born workers in a given survey year, which are used to construct the data points in the graphs.

Fig. 4 Age-Adjusted Convergence for the Relative Weekly Earnings of
Mexican and Central American Cohorts by Location: Initial Gap and Convergence
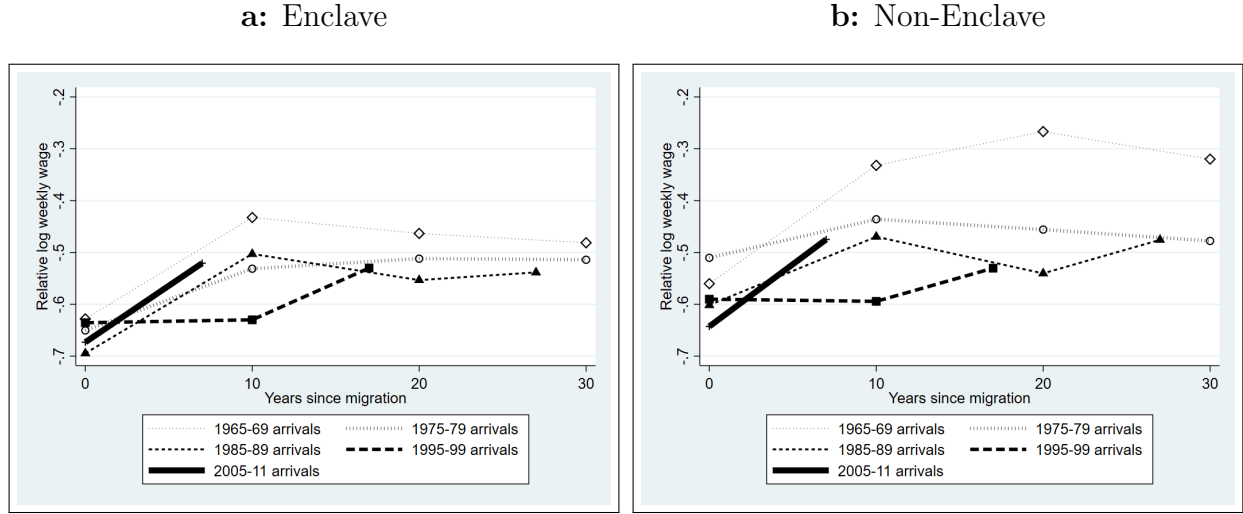
a: Rural   **b:** Urban

Note: The wage differentials presented this figure are calculated from regressions that are estimated separately for each cross section using data that only includes individuals employed in the region identified in the panel being considered. The dependent variable in these regressions identifies the log weekly earnings of each individual, and the explanatory variables include a third-order polynomial for age and a set of fixed effects: one for each immigrant cohort. The omitted group is comprised of native-born workers such that the coefficients on the cohort fixed effects represent each cohort's log weekly earnings relative to native-born workers in a given survey year, which are used to construct the data points in the graphs.

Fig. 5 Age-Adjusted Convergence for the Relative Weekly Earnings of
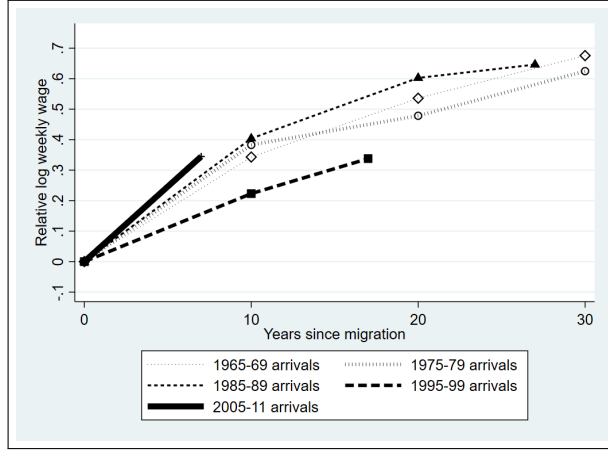Mexican and Central American Cohorts by Enclave Region: Initial Gap and Convergence

a: Enclave **b:** Non-Enclave

Note: The wage differentials presented this figure are calculated from regressions that are estimated separately for each cross section using data that only includes individuals employed in the region identified in the panel being considered. The dependent variable in these regressions identifies the log weekly earnings of each individual, and the explanatory variables include a third-order polynomial for age and a set of fixed effects: one for each immigrant cohort. The omitted group is comprised of native-born workers such that the coefficients on the cohort fixed effects represent each cohort's log weekly earnings relative to native-born workers in a given survey year, which are used to construct the data points in the graphs. The enclave states are the states with the largest percentage of Mexican and Central Americans in the population over the period 1970-2017. They include California, Texas, Arizona, New Mexico, Nevada, and Illinois.
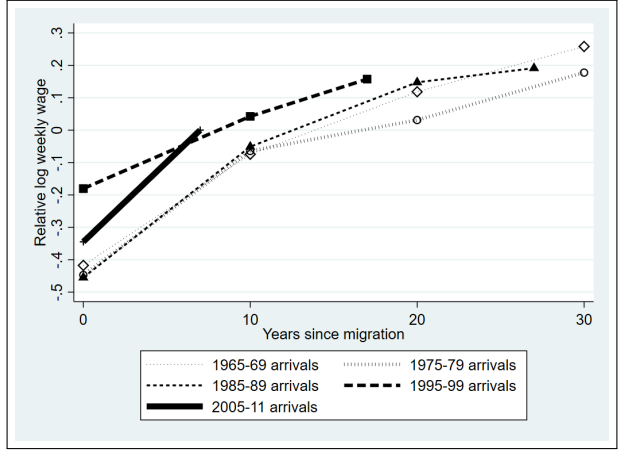
Fig. 6 Age-Adjusted Convergence for the Relative Weekly Earnings
and Employment Rate of Chinese Cohorts
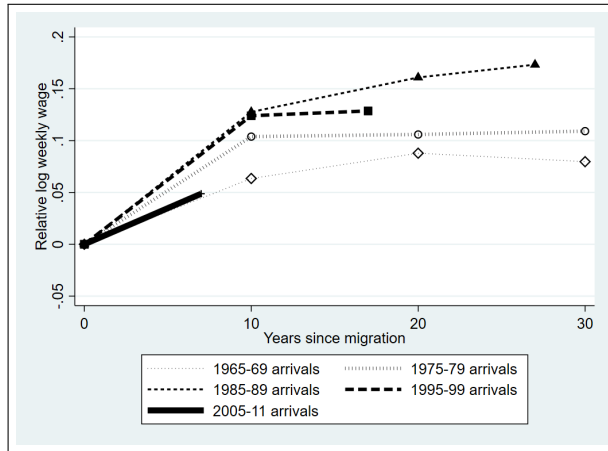
Earnings

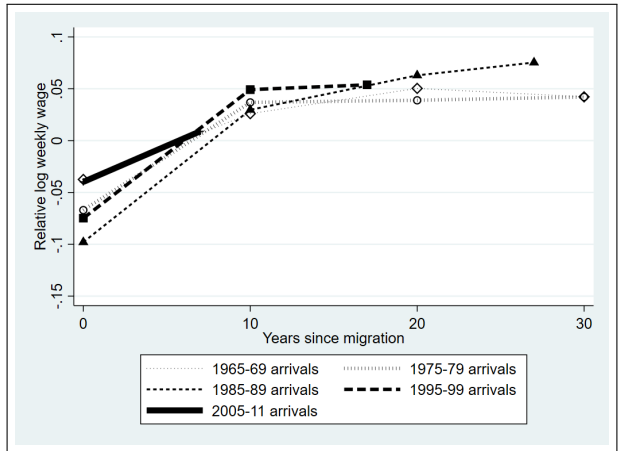**a:** Normalized Convergence **b:** Initial Gap and Convergence

Employment

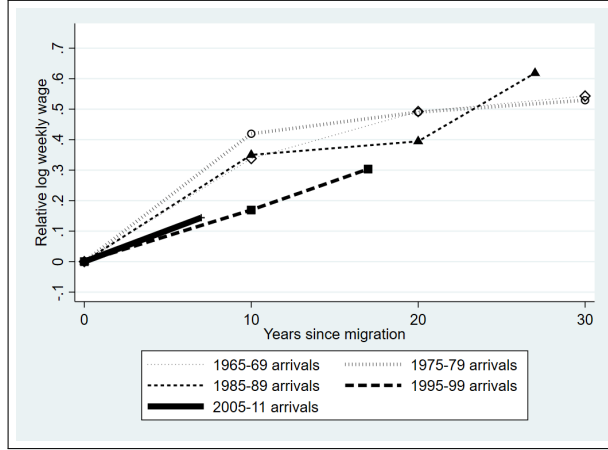**c:** Normalized Convergence **d:** Initial Gap and Convergence

Note: The log weekly earnings and employment rate differentials presented this figure are calculated from regressions that are estimated separately for each cross section. The dependent variable in the earnings regressions identifies the log weekly earnings of each individual. The dependent variable in the employment regressions identifies whether each individual was employed for at least one week during the previous year. The explanatory variables for both the earnings and employment regressions include a third-order polynomial for age and a set of fixed effects: one for each immigrant cohort. The omitted group is comprised of native-born workers such that the coefficients on the cohort fixed effects represent each cohort's log weekly earnings or employment rate relative to native-born workers in a given survey year, which are used to construct the data points in the graphs. In Figure 6a, the relative log weekly earnings is normalized to zero at the time of entry. In Figure 6c, the relative employment rate for each cohort is normalized to zero at the time of the entry.
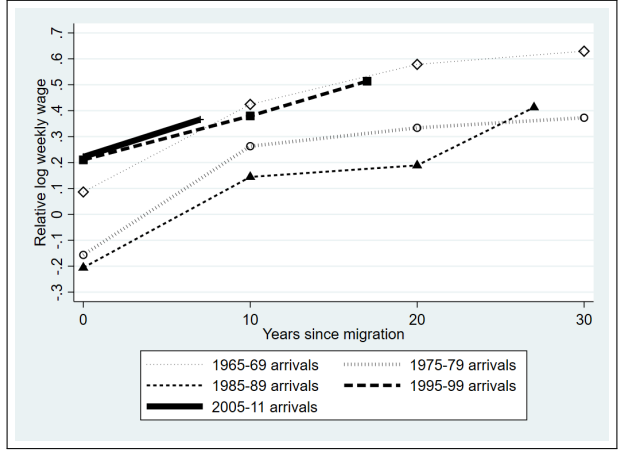
Fig. 7 Age-Adjusted Convergence for the Relative Weekly Earnings
and Employment Rate of Indian Cohorts

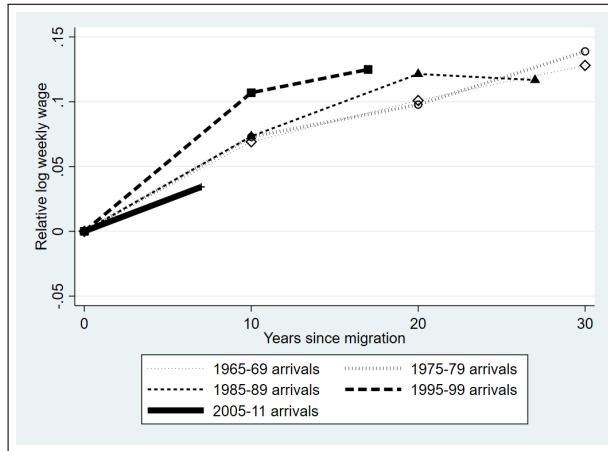### Earnings

a: Normalized Convergence
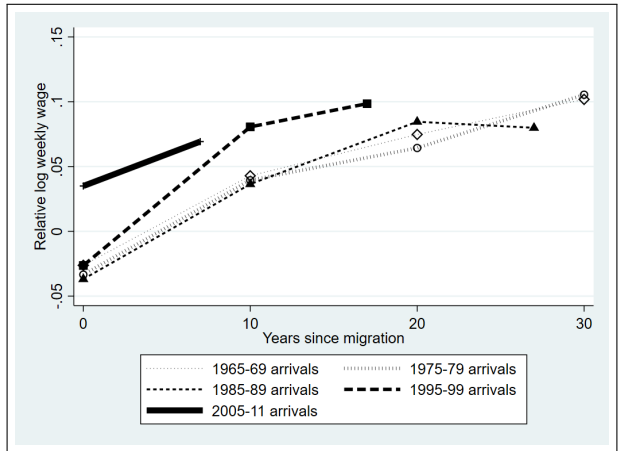
b: Initial Gap and Convergence

Employment

c: Normalized Convergence

d: Initial Gap and Convergence

Note: The log weekly earnings and employment rate differentials presented this figure are calculated from regressions that are estimated separately for each cross section. The dependent variable in the earnings regressions identifies the log weekly earnings of each individual. The dependent variable in the employment regressions identifies whether each individual was employed for at least one week during the previous year. The explanatory variables for both the earnings and employment regressions include a third-order polynomial for age and a set of fixed effects: one for each immigrant cohort. The omitted group is comprised of native-born workers such that the coefficients on the cohort fixed effects represent each cohort's log weekly earnings or employment rate relative to native-born workers in a given survey year, which are used to construct the data points in the graphs. In Figure 7a, the relative log weekly earnings is normalized to zero at the time of entry. In Figure 7c, the relative employment rate for each cohort is normalized to zero at the time of the entry.

For Online Publication: Appendices

A Supplemental Tables

[**Table** A.1 about here.]

[**Table** A.2 about here.]

[**Table** A.3 about here.]

[**Table** A.4 about here.]

B Supplemental Figures

[**Fig. B.1** about here.]

Table A.1 Age-Adjusted Relative Log Weekly Earnings of
Immigrant Cohorts from All Countries of Origin by Census Cross Section

Cohort	1970	1980	1990	2000	2010	2017
1950-59 arrivals	0.037**	0.032**	0.100**	0.147**	. . .	. . .
	(0.000)	(0.002)	(0.003)	(0.010)		
1960-64 arrivals	-0.058**	-0.041**	0.046**	0.074**	0.594**	. . .
	(0.001)	(0.001)	(0.004)	(0.004)	(0.019)	
1965-1969 arrivals	-0.235**	-0.122**	-0.020**	-0.014*	0.196**	. . .
	(0.001)	(0.000)	(0.003)	(0.005)	(0.010)	
1970-74 arrivals	. . .	-0.223**	-0.124**	-0.128**	-0.057**	0.161**
		(0.001)	(0.002)	(0.006)	(0.004)	(0.012)
1975-1979 arrivals	. . .	-0.314**	-0.185**	-0.176**	-0.136**	-0.118**
		(0.001)	(0.000)	(0.005)	(0.004)	(0.007)
1980-84 arrivals	. . .	. . .	-0.285**	-0.236**	-0.206**	-0.188**
			(0.001)	(0.002)	(0.006)	(0.010)
1985-1989 arrivals	. . .	. . .	-0.331**	-0.269**	-0.260**	-0.218**
			(0.001)	(0.002)	(0.005)	(0.011)
1990-94 arrivals	. . .	. . .	. . .	-0.269**	-0.271**	-0.168**
				(0.003)	(0.003)	(0.010)
1995-1999 arrivals	. . .	. . .	. . .	-0.273**	-0.279**	-0.190**
				(0.004)	(0.001)	(0.006)
2000-04 arrivals	. . .	. . .	. . .	. . .	-0.349**	-0.224**
					(0.003)	(0.003)
2005-2011 arrivals	. . .	. . .	. . .	. . .	-0.323**	-0.176**
					(0.004)	(0.003)
2012-17 arrivals	. . .	. . .	. . .	. . .	. . .	-0.103**
						(0.005)
N	945,579	2,002,074	2,373,285	2,708,438	1,653,425	557,077

Note: The wage differentials presented in this table are calculated from regressions that are estimated separately for each cross section, which are identified by the year displayed in the column heading. The dependent variable identifies the log weekly earnings of each individual, and the explanatory variables include a third-order polynomial for the age of the individual and a set of fixed effects: one for each immigrant cohort, including one (not shown in the table) for the cohort that arrived in the U.S. prior to 1950. The omitted group is comprised of native-born workers such that the coefficients in a column each represent a separate cohort's log weekly earnings relative to native-born workers in that survey year. The "2010" cross section is generated from the pooled 2009-11 American Community Surveys. Standard errors in parentheses are clustered at the cohort level.
† $p < .1$, * $p < .05$, ** $p < .01$

Table A.2 Population Estimates for Mexican and Central American Immigrant Cohorts

	Survey Year					
Cohort	1970	1980	1990	2000	2010	2017
1965-1969 arrivals	39,467	81,060	72,985	59,455	2,736	. . .
1975-1979 arrivals	. . .	147,640	240,400	267,721	149,135	38,555
1985-1989 arrivals	. . .	. . .	286,304	631,788	486,691	369,182
1995-1999 arrivals	. . .	. . .	. . .	640,099	768,334	653,910
2005-2011 arrivals	. . .	. . .	. . .	. . .	595,641	682,617
Natives	34,734,070	40,998,200	47,947,840	53,784,860	57,155,860	61,335,820

Note: These figures estimate the population of native-born and Mexican and Central American immigrant males between the ages of 25 and 64 who had between 1 and 40 years of potential work experience, were not in school or living in group quarters, and (for immigrants) entered the U.S. at the age of 18 or older.

Table A.3 Percent of Workforce Comprised of Mexican and
Central American Immigrants by Sector and Location

| | Survey Year | | | | | |
	1970	1980	1990	2000	2010	2017
	Panel A: *By Sector*					
Agriculture and Farming	1.5	4.7	10.5	19.6	27.8	23.8
Construction	0.4	1.1	2.8	7.5	13.1	15.1
Manufacturing	0.8	2.7	4.4	8.5	9.7	7.5
Personal and Household Services	0.7	2.1	4.3	7.5	9.3	7.2
All Sectors	0.4	1.1	2.1	4.4	6.0	5.4
	Panel B: *By Location*					
Rural	0.2	0.4	0.6	1.8	2.8	2.5
Urban	0.5	1.5	2.8	5.2	6.9	6.1
Enclave	1.6	4.2	6.9	11.7	13.3	11.5
Non-Enclave	0.2	0.2	0.5	1.8	3.3	3.1

Note: These figures only include US-born, Mexican, and Central American males between the age of 25 and 64 who had between 1 and 40 years of potential work experience, were not in school or living in group quarters, had positive earnings, worked at least one week during the survey year, and (for immigrants) entered the US at the age of 18 or older. The enclave states used here are based on the share of Mexican and Central American immigrants calculated over the time period 1970-2017. They include California, Texas, Arizona, New Mexico, Nevada, and Illinois.

Table A.4 Percent of Immigrants with High-School and College Education

|	Survey Year					
	1970	1980	1990	2000	2010	2017
	Panel A					
	With a High School Diploma or Less					
Mexicans and Central Americans	89.4	89.9	87.3	86.4	84.5	81.6
Chinese	49.4	40.6	36.5	31.8	32.1	28.0
Indians	10.7	12.3	17.5	16.9	13.1	12.6
Natives	69.2	55.2	44.2	39.1	35.4	33.2
	Panel B					
	With At Least Some College					
Mexicans and Central Americans	10.6	10.1	12.7	13.6	15.5	18.4
Chinese	50.6	59.4	63.5	68.2	67.9	72.0
Indians	89.3	87.7	82.5	83.1	86.9	87.4
Natives	30.8	44.8	55.8	60.9	64.6	66.8
	Panel C					
	With a Bachelor's Degree or Higher					
Mexicans and Central Americans	4.3	3.8	4.2	4.6	5.6	7.2
Chinese	41.4	49.6	50.2	58.0	59.2	62.9
Indians	83.5	78.6	72.0	73.5	78.7	81.0
Natives	17.0	24.8	27.9	30.9	34.2	36.6

Note: These figures only include males between the age of 25 and 64 who had between 1 and 40 years of potential work experience, were not in school or living in group quarters, had positive earnings, worked at least one week during the survey year, and (for immigrants) entered the US at the age of 18 or older.

Fig. B.1 Age-Adjusted Convergence for the Relative Weekly Earnings of
Mexican and Central American Cohorts, Only High School Educated or Less

a: Normalized Convergence   **b:** Inital Gap and Convergence
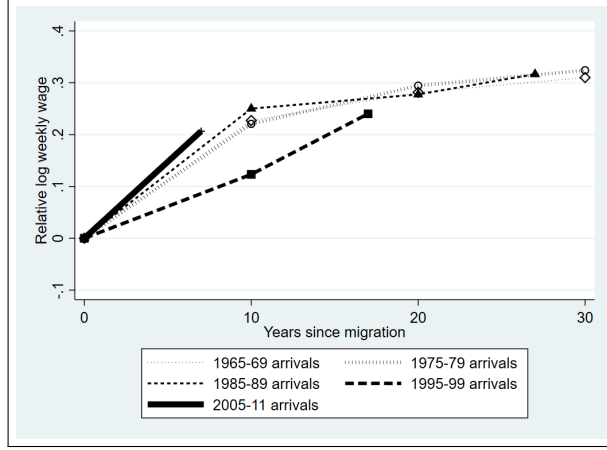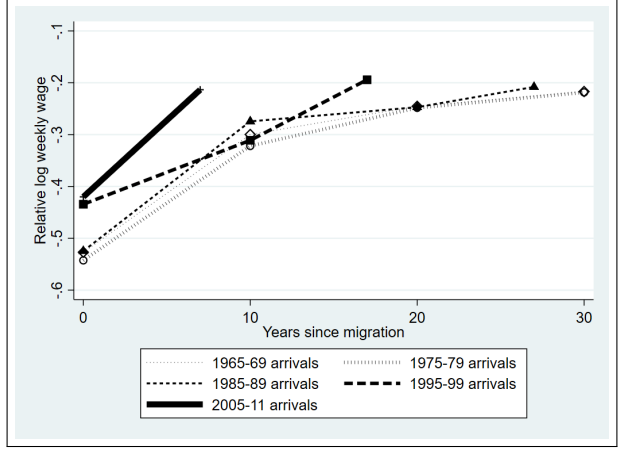
Note: The wage differentials presented in this figure are calculated from regressions that are estimated separately for each
cross section. The dependent variable in these regressions identifies the log weekly earnings of each individual, and the
explanatory variables include a third-order polynomial for age and a set of fixed effects: one for each immigrant cohort. The
omitted group is comprised of native-born workers such that the coefficients on the cohort fixed effects represent each cohort's
log weekly earnings relative to native-born workers in a given survey year, which are used to construct the data points in the
graphs. In Figure B.1a, the relative log weekly earnings for each cohort is normalized to zero at the time of the entry. In
Figures B.1a and B.1b, all individuals (both native and immigrant) have a high-school education or less.