Immigration
RESEARCH AND POLICY BRIEF
CATO INSTITUTE
October 4, 2018 | Number 9

Immigrant Wages Converge with Those of Native-Born Americans

By Andrew Forrester and Alex Nowrasteh

The degree and speed at which immigrant wages converge with the wages of native-born Americans are important indicators of economic assimilation. Newly arrived immigrants have wages lower than otherwise identical natives, but those wage differences diminish greatly or disappear entirely after about two decades of working in the United States. Immigrants entering today generally start with a narrower wage gap, relative to native-born Americans, than do immigrants who entered in the 1990s. From 1995 to 2017, illegal immigrants initially faced a hefty wage penalty of about 11.3 percent relative to legal immigrants. That wage gap can be mostly explained by their lack of legal work status. Although immigrant wages generally converge with those of native-born Americans, legalizing illegal immigrants will hasten overall wage convergence.

BACKGROUND

Differences between immigrant and native-born workers in education level, age, language, other demographic factors, and length of time in the United States largely explain the wage gap between the two groups.[1] In 1970, the hourly wages of immigrant men were about 3.7 percent higher than the hourly wage of native-born men.[2] By 2012, the wage gap had reversed and widened to the point that immigrant workers had hourly wages that were 10 to 11 percent lower than those of native-born workers.[3]

The longer an immigrant worker is here, the more his or her wages rise relative to native-born workers. Economist Barry Chiswick estimated that immigrants start with wages 17 percent below those of native-born Americans but close the wage gap in 10 to 15 years, depending on their country of origin.[4] The wages of immigrants from poorer and less educated countries grew more slowly than the wages of immigrants from more developed countries.

Harvard economist George Borjas's research into the wage gap focused on the immigrant year of entry, age, education level, and country of origin.[5] In 2017, the National Academies of Sciences, Engineering, and Medicine extended Borjas's methods by calculating age-adjusted wage differentials between immigrants and natives. They found immigrants who arrived from 1965 to 1989 closed the wage gap after 20 years of working in the United States and then earned higher wages than native-born workers.[6] Modern immigrants have generally assimilated more completely and rapidly than immigrants during the Age of Mass Migration in the late 19th and early 20th centuries.[7]

The large illegal immigrant population in the United States, estimated to comprise about 26 percent of all immigrants and about 31.3 percent of all immigrant workers, complicates the aforementioned research on wage convergence.[8] Since 1986, the Immigration Reform and Control Act (IRCA) has prohibited employers from hiring illegal immigrants under the threat of federal sanctions.[9] IRCA lowered the wages of the remaining illegal immigrants 13 to 24 percent.[10] The wages of formerly illegal immigrant men legalized under IRCA increased 6 to 15 percent relative to other workers,

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although the effect diminished somewhat over time.[11] The federal government has poorly enforced the employer sanctions portions of IRCA since then.[12]

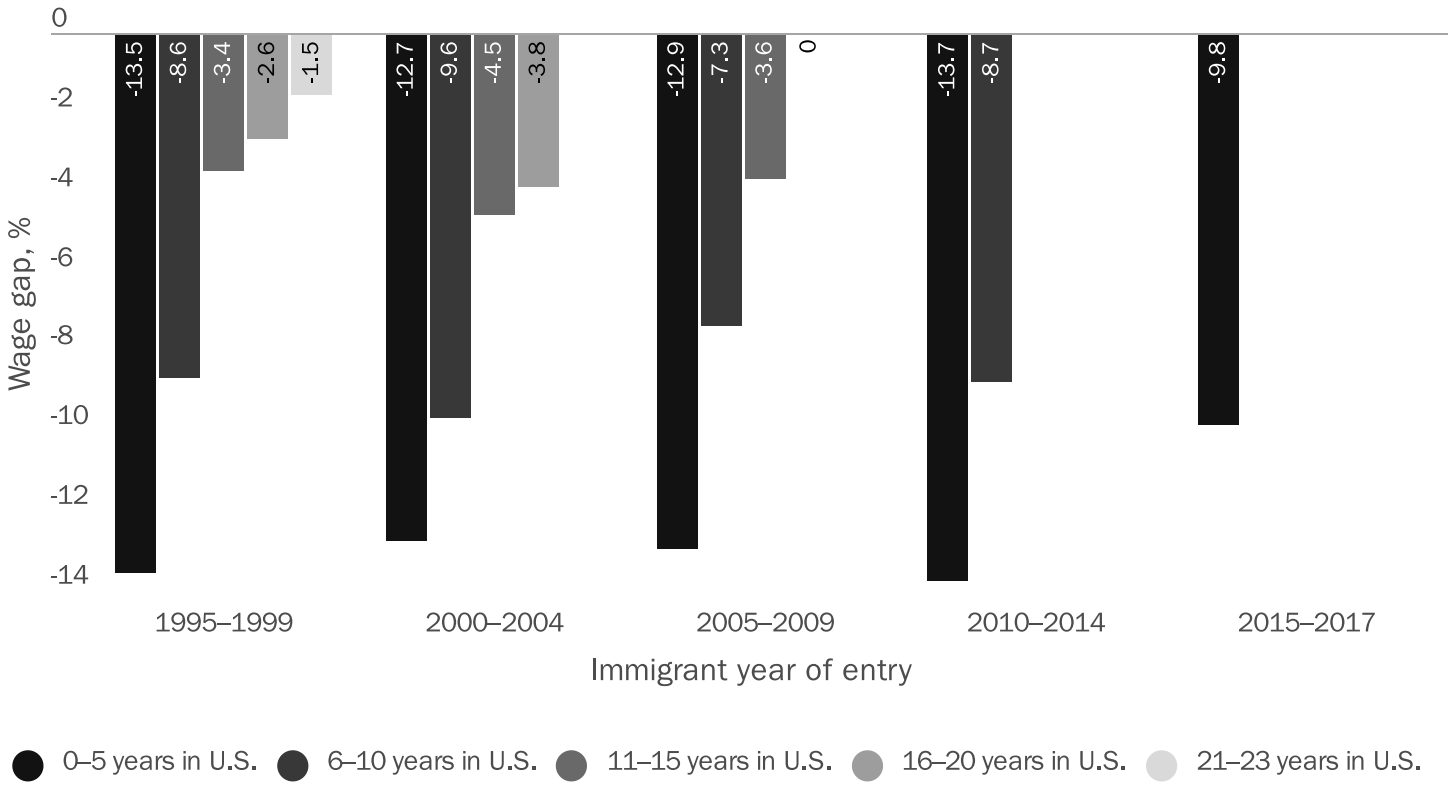
METHODOLOGY AND DATA

This brief borrows its methodology from George Borjas.[13] We compare the wage of immigrants with the wage of native-born Americans in the 25 to 64 age group of workers who are not enrolled in school. We control for age, age squared, birth in a Hispanic country, sex, and race. We take special note of the immigrant's year of arrival. We divide up the immigrants into entry cohorts based on the 5-year periods when they arrived: 1995 to 1999, 2000 to 2004, 2005 to 2009, 2010 to 2014, and 2015 to 2017. Weekly wages are expressed in 2017 dollars, adjusted using the personal consumption expenditures index. Data on the age, weekly wage, Hispanic origin, education, year of arrival, and other factors come from the pooled 1994 to 2017 Annual Social and Economic Supplement of the Current Population Survey (ASEC).[14] We change Borjas's methodology in two ways. First, we include both men and women, where he restricts his sample to men only. Second, we add additional controls for sex, race, education level, industry and occupation, and common state time trends, where he only controlled for age and entry cohort.

Figures 1–4 in the Results section of this brief show gradual wage convergence between immigrants by legal status and native-born Americans based on their 5-year period of arrival. The numbers in Figures 1–4 are based on the output of regression tables included in the Appendix (Tables 1A–4A). The regressions use state-by-year fixed effects and industry-by-occupation fixed effects with standard errors clustered at the state level.

We identify illegal immigrants in the ASEC by using the residual estimation technique employed by George Borjas in another research paper.[15] His technique narrows samples in the ASEC by excluding certain foreign-born workers on the basis of their own demographic characteristics that are highly correlated with legal immigration status. The remaining workers are likely to be illegal immigrants. The residual technique we use to identify illegal immigrants excludes foreign-born people who arrived before 1980, citizens, recipients of

Figure 1
Wage Difference between All Immigrants and All Natives by Year of Entry



Sources: Annual Social and Economic Supplement of the Current Population Survey and authors' regressions. See Appendix Table 1A for the regression output that provided the numbers for this figure.

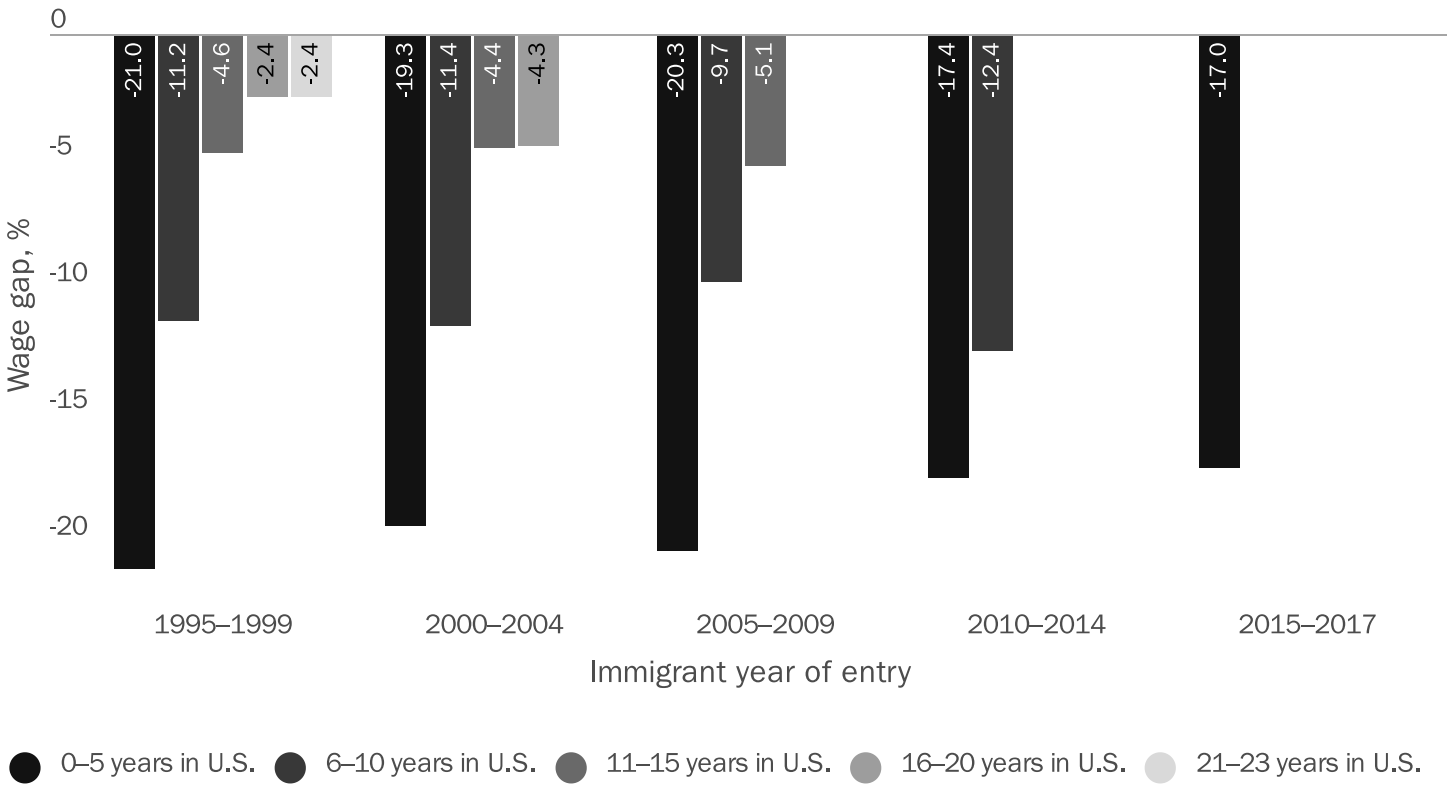
government benefits, veterans or those currently in the Armed Forces, government workers, people born in Cuba or Puerto Rico, those working in occupations that require government licenses, and those married to legal immigrants or citizens.

RESULTS

Every figure in this section divides immigrants by the period of years in which they entered the United States, labeled as "Immigrant Year of Entry" on the x-axis. The bars show the relative wages of immigrant workers to native workers for each year of entry. For instance, immigrants who entered in the 1995–1999 period had wages that were 13.5 percent below those of natives during their first 0 to 5 years in the United States (Figure 1). The wages of those same immigrants who entered in the same years were only 8.6 percent below those of identical natives after living in the United States for 6 to 10 years. After 21 to 23 years of living in the United States, the wages for immigrants who arrived during 1995–1999 were only 1.5 percent below those of similar native-born Americans. Immigrant arrivals divided up by their years of entry generally show a similar pace of wage convergence with native-born workers based on how long they have lived here. The exception to that are immigrants who arrived in the 2015–2017 range of years as they started with wages that were only 9.8 percent below those of native-born Americans, an improvement over the 13.5-point difference that new immigrant arrivals faced in 1995–1999. The wages of other groups of immigrants divided by their years of entry converged in a similar way. Immigrants arriving in the 2015–2017 period were initially better integrated in the U.S. labor market than immigrants who arrived in earlier years of entry.

Figure 2 shows the wage difference between legal immigrants only and all natives, controlling for age introduced as a fourth-order polynomial, sex, race, Hispanic origin, and the aforementioned fixed effects. Compared with all immigrants and illegal immigrants, legal immigrants start with much

Figure 2
Wage Difference between Legal Immigrants and All Natives by Year of Entry



Sources: Annual Social and Economic Supplement of the Current Population Survey and authors' regressions. See Appendix Table 2A for the regression output that provided the numbers for this figure.

Note: The x-axis tracks the same immigrants by the year period in which they initially arrived in the United States up until the present day.

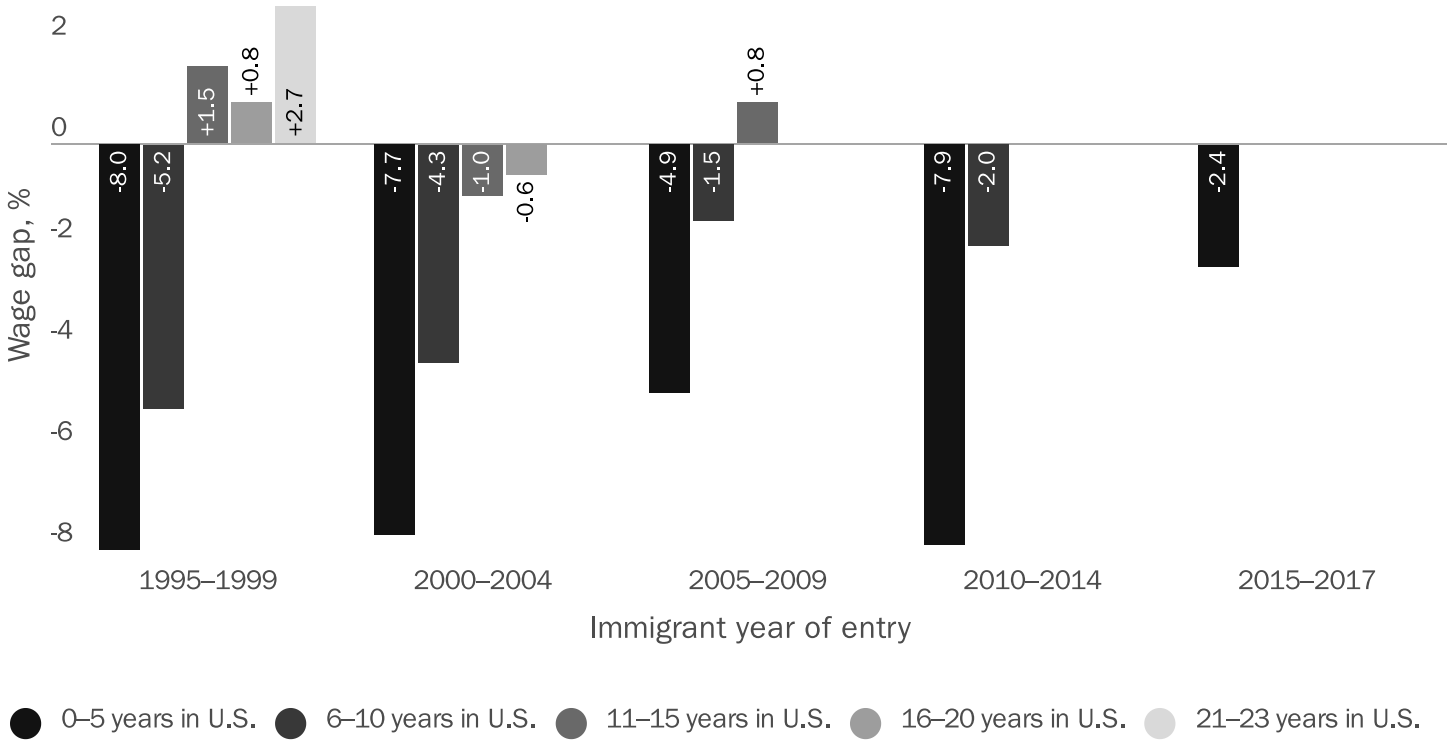
lower wages relative to native-born Americans. The lower relative wage for legal immigrants is due to several factors such as their relatively higher levels of education—meaning they are being compared to Americans who are also highly educated—and their admission to the United States through one of the many family-based green card categories that do not select immigrants on the basis of an existing employment offer in the United States. Another potential explanation is that immigrants compete with other immigrants in the labor market more than they compete with native-born Americans. The large number of legal immigrants arriving in these periods could be slowing their wage growth and, thus, might explain their initially low wages relative to native-born Americans who, by and large, are not competing with immigrant workers.[16] However, those factors do not prevent legal immigrants from eventually closing the wage gap as those who arrived in 1995–1999 had wages only 2.4 percent below those of native-born Americans after living in the United States for 16 to 20 years. Wages converged for other groups of immigrants in a similar way.

Figure 3 shows the wage difference between illegal immigrants only and all natives, controlling for age introduced as a fourth-order polynomial, sex, race, Hispanic origin, and the aforementioned fixed effects. They start off with the lowest wage gap of all the immigrant groups analyzed in this brief. After 11 to 15 years of living in the United States, wages for illegal immigrants who arrived in the 1995–1999 period were equal to those of native-born workers. After 21 to 23 years in the United States, their wages were 2.7 percent *higher* than similar native-born Americans. Wage convergence for other groups of illegal immigrants show a similar pattern. New illegal immigrants in the United States who arrived in the 2015–2017 period started out with wages that were only 2.4 percent below those of similar native-born Americans.

ILLEGAL IMMIGRATION STATUS AND WAGE CONVERGENCE

Illegal immigrant workers have lower wages than legal immigrant workers. Figure 4 presents estimates of the wage gap

Figure 3
Wage Difference between Illegal Immigrants and All Natives by Year of Entry



Sources: Annual Social and Economic Supplement of the Current Population Survey and authors' regressions. See Appendix Table 3A for the regression output that provided the numbers for this figure.
Note: The x-axis tracks the same immigrants by the year period in which they initially arrived in the United States up until the present day.

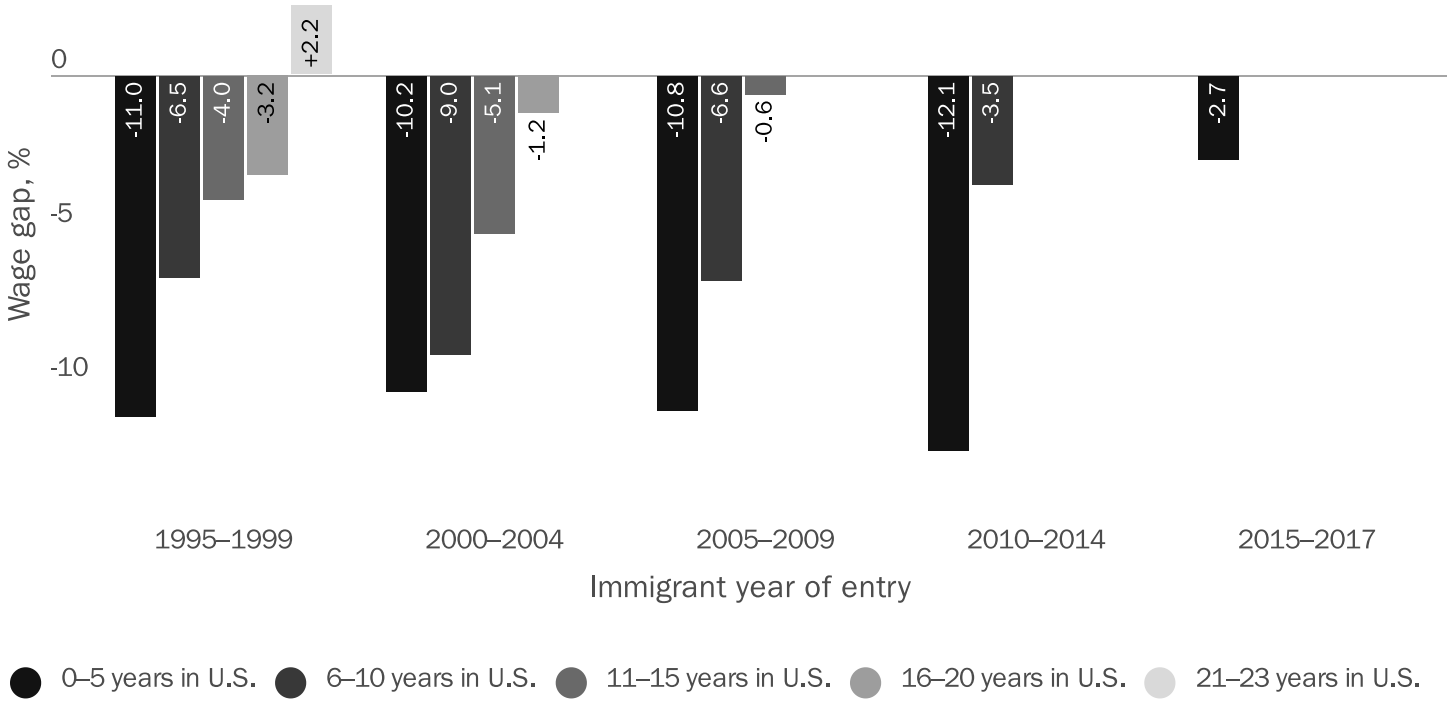
between legal immigrants and illegal immigrants, controlling for age introduced as a fourth-order polynomial, sex, race, Hispanic origin, and the aforementioned fixed effects. Many, but not all, illegal immigrant workers close the wage gap with legal immigrant workers after 11 to 23 years in the United States.

Over the entire period of 1995–2017, we estimate that illegal immigrant workers have average wages 11.3 percent below those of legal immigrant workers. We estimate this average wage gap using a common econometric technique known as the Oaxaca-Blinder decomposition, a method originally developed to analyze the difference between male and female wages.[17] The Oaxaca-Blinder decomposition technique compares average wages between illegal and legal workers by estimating a separate wage regression for each group. The difference in the conditional mean wages in those two regressions represents the average wage gap between illegal and legal workers over the span of 1995–2017 in absolute terms. The result of the Oaxaca-Blinder decomposition method contrasts with the cohort point estimates in Figure 4 and Table 4A, which denote the differences in average wages relative to immigrants' arrival cohort. That wage penalty of 11.3 percent implies that legalizing illegal immigrants, who comprise about 31.3 percent of foreign-born workers, would close much of the wage gap between all immigrants and natives.[18] In other words, legalizing illegal immigrants will boost wage assimilation in the United States.

CONCLUSION

The gap between native and immigrant wages narrows over time, closes in many cases, and sometimes even flips signs. Immigrant-native wage convergence in recent decades is similar to the degree of wage convergence that occurred during the Age of Mass Migration in the 19th and early 20th centuries. From 1995–2017, illegal immigrant wages were about 11.3 percent below those of legal immigrants, suggesting that their lack of legal status explains a large percentage of the overall wage gap between all immigrants and all natives. Immigrant wages are converging with those of natives, and legalizing illegal immigrants would likely narrow the gaps even further.

Figure 4
Wage Difference between Illegal Immigrants and Legal Immigrants by Year of Entry



Sources: Annual Social and Economic Supplement of the Current Population Survey and authors' regressions. See Appendix Table 4A for the regression output that provided the numbers for this figure.
Note: The x-axis tracks the same immigrants by the year period in which they initially arrived in the United States up until the present day.

APPENDIX

Table 1A
Wage Difference between All Immigrants and All Natives by Year of Entry

	(1)	(2)	(3)	(4)	(5)
Reference	**0–5 years in U.S.**	**6–10 years in U.S.**	**11–15 years in U.S.**	**16–20 years in U.S.**	**21–23 years in U.S.**
Pre–1980 arrivals	0.0509**	0.0350	0.0670**	0.0506**	-0.000884
	(0.0111)	(0.0209)	(0.0216)	(0.0163)	(0.0474)
1980–1984 arrivals	-0.0235*	-0.0159	0.00422	0.00824	-0.00358
	(0.00980)	(0.0139)	(0.0126)	(0.0195)	(0.0175)
1985–1989 arrivals	-0.0567**	-0.0261*	-0.00358	-0.00474	0.00994
	(0.0133)	(0.0118)	(0.0106)	(0.0208)	(0.0186)
1990–1994 arrivals	-0.0963**	-0.0647**	-0.0450*	-0.0313*	-0.0296*
	(0.0182)	(0.0137)	(0.0202)	(0.0122)	(0.0143)
1995–1999 arrivals	-0.135**	-0.0858**	-0.0343	-0.0257	-0.0149
	(0.0239)	(0.0136)	(0.0185)	(0.0128)	(0.0154)
2000–2004 arrivals		-0.127**	-0.0955**	-0.0450**	-0.0375
		(0.0153)	(0.0153)	(0.0110)	(0.0192)
2005–2009 arrivals			-0.129**	-0.0727**	-0.0358
			(0.0175)	(0.0142)	(0.0200)
2010–2014 arrivals				-0.137**	-0.0869**
				(0.0156)	(0.0152)
2015–onward arrivals					-0.0983**
					(0.0225)
N	323,304	394,957	408,198	384,198	209,595

Notes: The dependent variable is the natural log of weekly wages, expressed in 2017 dollars (deflated using PCE). Each specification controls for age (expressed as a fourth-order polynomial), education along four categories (HS dropouts, HS only, some college, and college plus), sex, Hispanic origin, and race. Specifications also include interacted state-by-year fixed effects and industry-occupation fixed effects. Robust standard errors in parentheses are clustered at the state level. Standard errors in parentheses: * $p < 0.05$, ** $p < 0.01$.

Table 2A
Wage Difference between Legal Immigrants and All Natives by Year of Entry

	(1)	(2)	(3)	(4)	(5)
Reference	**0–5 years in U.S.**	**6–10 years in U.S.**	**11–15 years in U.S.**	**16–20 years in U.S.**	**21–23 years in U.S.**
Pre–1980 arrivals	0.0478**	0.0307	0.0572*	0.0397*	-0.00606
	(0.0112)	(0.0205)	(0.0219)	(0.0158)	(0.0481)
1980–1984 arrivals	-0.0202	-0.0190	-0.000829	0.00976	-0.00709
	(0.0103)	(0.0156)	(0.0137)	(0.0200)	(0.0182)
1985–1989 arrivals	-0.0796**	-0.0201	-0.0137	-0.00583	0.00988
	(0.0147)	(0.0141)	(0.0103)	(0.0162)	(0.0190)
1990–1994 arrivals	-0.150**	-0.0705**	-0.0512*	-0.0397**	-0.0364*
	(0.0221)	(0.0157)	(0.0206)	(0.0122)	(0.0136)
1995–1999 arrivals	-0.210**	-0.112**	-0.0458*	-0.0236	-0.0244
	(0.0335)	(0.0214)	(0.0176)	(0.0131)	(0.0173)
2000–2004 arrivals		-0.193**	-0.114**	-0.0436**	-0.0429
		(0.0236)	(0.00869)	(0.0139)	(0.0214)
2005–2009 arrivals			-0.203**	-0.0966**	-0.0505*
			(0.0200)	(0.0224)	(0.0236)
2010–2014 arrivals				-0.174**	-0.124**
				(0.0189)	(0.0189)
2015–onward arrivals					-0.170**
					(0.0257)
N	311,721	376,684	386,416	362,927	198,610

Notes: The dependent variable is the natural log of weekly wages, expressed in 2017 dollars (deflated using PCE). Each specification controls for age (expressed as a fourth-order polynomial), education along four categories (HS dropouts, HS only, some college, and college plus), sex, Hispanic origin, and race. Specifications also include interacted state-by-year fixed effects and industry-occupation fixed effects. Robust standard errors in parentheses are clustered at the state level. Standard errors in parentheses: * $p < 0.05$, ** $p < 0.01$.

Table 3A
Wage Difference between Illegal Immigrants and All Natives by Year of Entry

	(1)	(2)	(3)	(4)	(5)
Reference	**0–5 years in U.S.**	**6–10 years in U.S.**	**11–15 years in U.S.**	**16–20 years in U.S.**	**21–23 years in U.S.**
1980–1984 arrivals	-0.0223	0.00408	0.0224	0.00510	-0.00259
	(0.0140)	(0.0179)	(0.0195)	(0.0306)	(0.0403)
1985–1989 arrivals	-0.0228	-0.0219	0.0473*	0.0182	0.0114
	(0.0242)	(0.0214)	(0.0181)	(0.0393)	(0.0204)
1990–1994 arrivals	-0.0496*	-0.0415**	0.00272	0.0188	0.00186
	(0.0240)	(0.0149)	(0.0253)	(0.0217)	(0.0277)
1995–1999 arrivals	-0.0798*	-0.0519**	0.0146	0.00782	0.0274
	(0.0304)	(0.0143)	(0.0185)	(0.0201)	(0.0183)
2000–2004 arrivals		-0.0769**	-0.0432	-0.00986	-0.00555
		(0.0233)	(0.0222)	(0.0140)	(0.0177)
2005–2009 arrivals			-0.0489*	-0.0151	0.00789
			(0.0201)	(0.0150)	(0.0195)
2010–2014 arrivals				-0.0790**	-0.0201
				(0.0194)	(0.0229)
2015–onward arrivals					-0.0239
					(0.0315)
N	294,703	357,549	365,738	338,299	182,363

Notes: The dependent variable is the natural log of weekly wages, expressed in 2017 dollars (deflated using PCE). Each specification controls for age (expressed as a fourth-order polynomial), education along four categories (HS dropouts, HS only, some college, and college plus), sex, Hispanic origin, and race. Specifications also include interacted state-by-year fixed effects and industry-occupation fixed effects. Robust standard errors in parentheses are clustered at the state level. Standard errors in parentheses: * $p < 0.05$, ** $p < 0.01$.

Table 4A
Wage Difference between Illegal Immigrants and Legal Immigrants by Year of Entry

	(1)	(2)	(3)	(4)	(5)
Reference	**0–5 years in U.S.**	**6–10 years in U.S.**	**11–15 years in U.S.**	**16–20 years in U.S.**	**21–23 years in U.S.**
1980–1984 arrivals	-0.0312	0.0227	-0.00665	-0.0137	0.0375
	(0.0194)	(0.0178)	(0.0215)	(0.0219)	(0.0290)
1985–1989 arrivals	-0.0393**	-0.0235	0.00489	-0.00711	0.0284
	(0.0133)	(0.0147)	(0.0111)	(0.0221)	(0.0246)
1990–1994 arrivals	-0.0640**	-0.0574**	-0.0504**	-0.0112	0.0168
	(0.0171)	(0.00976)	(0.0186)	(0.0143)	(0.0266)
1995–1999 arrivals	-0.110**	-0.0652**	-0.0404**	-0.0320*	0.0220
	(0.0329)	(0.0123)	(0.0144)	(0.0147)	(0.0188)
2000–2004 arrivals		-0.102**	-0.0903**	-0.0505**	-0.0120
		(0.0168)	(0.0157)	(0.0135)	(0.0236)
2005–2009 arrivals			-0.108**	-0.0664**	-0.00582
			(0.0191)	(0.0187)	(0.0135)
2010–2014 arrivals				-0.121**	-0.0350
				(0.0118)	(0.0232)
2015–onward arrivals					-0.0265
					(0.0408)
N	40,184	55,681	64,242	67,170	38,217

Notes: The dependent variable is the natural log of weekly wages, expressed in 2017 dollars (deflated using PCE). Each specification controls for age (expressed as a fourth-order polynomial), education along four categories (HS dropouts, HS only, some college, and college plus), sex, Hispanic origin, and race. Specifications also include interacted state-by-year fixed effects and industry-occupation fixed effects. Robust standard errors in parentheses are clustered at the state level. Standard errors in parentheses: * $p < 0.05$, ** $p < 0.01$.

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18. Illegal immigrants comprise 31.3 percent of all immigrant workers when we use the residual statistical technique employed by Borjas's "The Labor Supply of Undocumented Immigrants" to analyze the ASEC.

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