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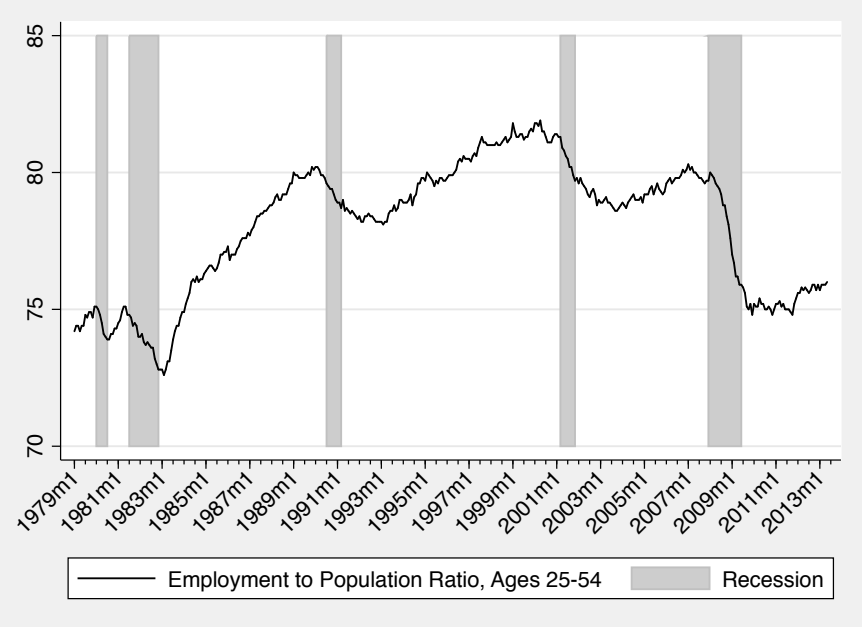
A Appendix

A.1 Employment and Wage Changes During the Great Recession

As discussed in section 2.1, there is substantial evidence that during the Great Recession employers responded to decreases in product demand through cutting payroll employment rather than by cutting wages. Figures A-1 and A-2 document this descriptive fact. Figure A-1 shows the national employment to population ratio among prime age workers (25-54) from 1979 to 2013. This ratio fell sharply between late 2007 and late 2009, declining by five percentage points. Compared to the pre-recession trend, it is clear that employment growth stalled by 2007, so we consider 2006 as the pre-recession baseline period and 2010 as the post-recession period throughout our analysis.

Figure A-1: Time Series of National Employment to Population Ratio, Ages 25-54, 1979-2013



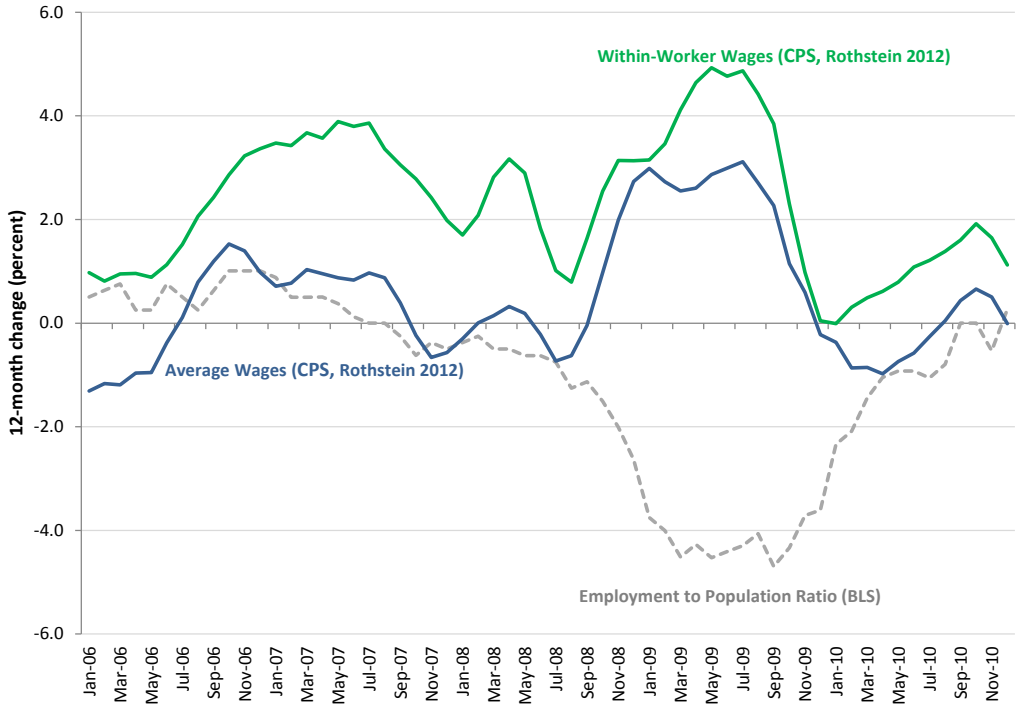
Sources: Bureau of Labor Statistics and National Bureau of Economic Research.

Figure A-2 compares employment and wage changes over this time period. This figure combines the employment to population ratio from Figure A-1 with calculations from Rothstein (2012) of changes in wage rates over the same time period.[68] All values represent proportional changes compared to the same month in the previous year. Average wages are roughly constant over this time period, although they rise in real terms in 2008, which reflects a combination of approximately flat nominal wages and price deflation. Additionally, the lack of downward wage changes was not due to compositional effects. Using the panel dimension of the CPS, the "Within-Worker Wages" series exhibits mildly rising wages for workers observed in the reference month and in the preceding

[68] We are grateful to Jesse Rothstein for making this series available to us.

year. As a whole, these results show no evidence of falling wages, even when employment was falling by more than four percent per year in mid-2009.

Figure A-2: Time Series of Wages and Employment, 2006-2010

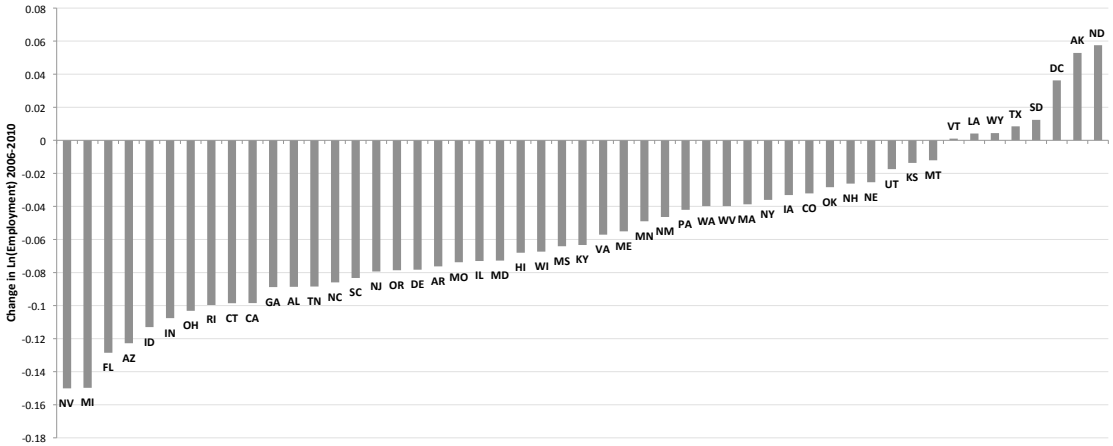


Sources: Authors' calculations from Bureau of Labor Statistics data; Rothstein (2012).

A.2 Employment Changes in the Great Recession

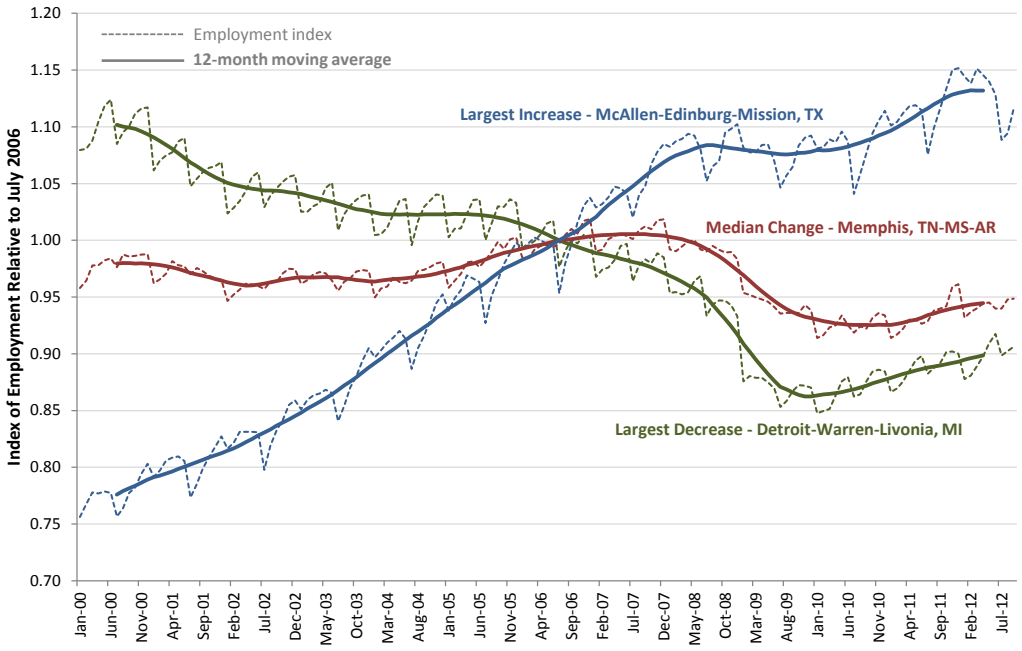
This section presents summary statistics on employment changes that occurred during the Great Recession. Figure A-3 shows changes in log(employment) by state, as measured in County Business Patterns data. Figure A-4 provides time series information on employment for the metro areas with the largest decline, largest increase, and the median change in employment over this same time period, showing substantial variation across cities. Figure A-5 shows that there was considerable variation in employment declines across industries, and Figure A-6 shows that Mexican-born workers (the largest single group among the low-skilled foreign-born) were more concentrated in the types of jobs that experienced the largest declines.

Figure A-3: Changes in Employment 2006-2010, US States



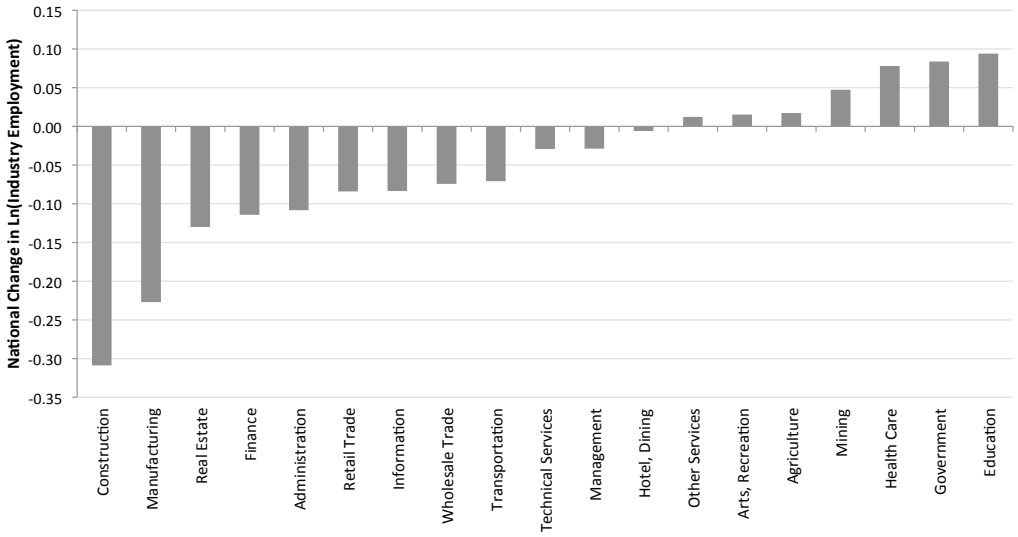
Source: County Business Patterns.

Figure A-4: Employment 2006-2010, Selected Metro Areas



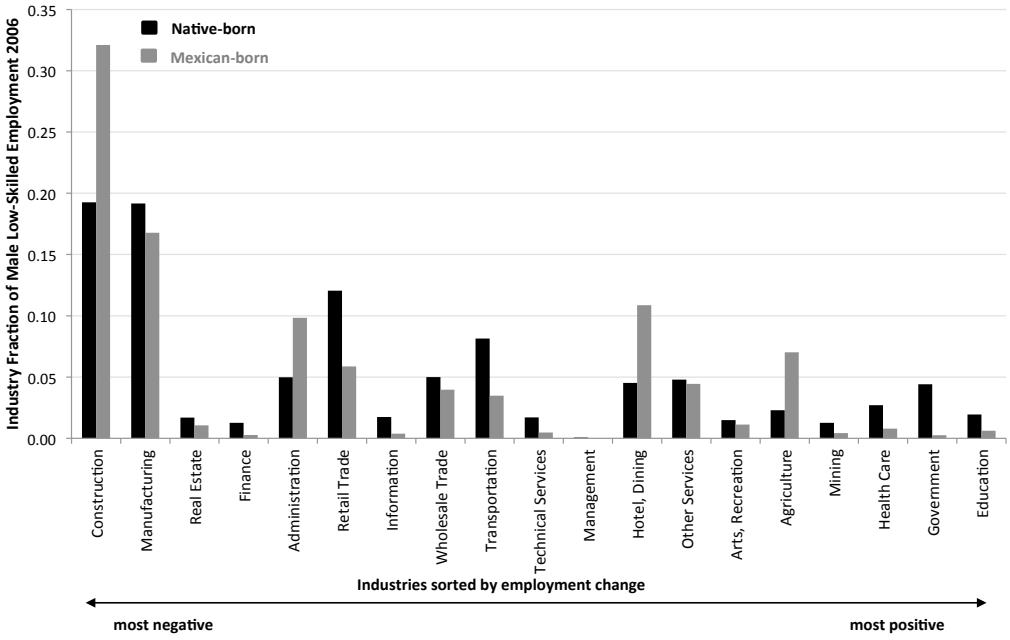
Source: Authors' calculations from Current Employment Statistics, metro area total non-farm employment. Normalized to 1 in July 2006.

Figure A-5: Employment Changes by Industry 2006-2010



Sources: Authors' calculations from County Business Patterns (CBP) and the American Community Survey (ACS). CBP employment changes shown for all industries except those without without full coverage in the CBP: Agriculture, Other Services, and Government. ACS employment changes shown in those cases.

Figure A-6: Employment Shares by Industry Among Low-Skilled Men, Native- and Mexican-Born, 2006



Sources: Authors' calculations from the 2006 American Community Survey. See text for individual sample restrictions. This figure reports information for men with no more than a high school education. See Figure A-5 for industry employment changes used to sort categories.

A.3 Details of the Multinomial Logit Estimation of Industry Shares

In constructing employment declines faced by each (skill × sex × nativity) group in each city, we need information on each group's city-level industry shares. We calculate these shares based on multinomial logit estimates. In earlier versions, we calculated shares by directly measuring the within-city share of the group working in each industry in the ACS. This approach is potentially problematic because the cell sizes can be quite small for particular industries. The remainder of this section describes the implementation of the approach we use, although we emphasize that none of these decisions are pivotal. In fact, the results are remarkably similar to those obtained using the simpler sample-based shares approach.

We predict the probability that an individual of type j living in city c works in industry i as a function of his/her type and location. Our explanatory variables are a full set of worker type dummies and city dummies, and we run separate models for each (skill × sex) group. Note that if we included dummies at the (type × city) level, the predicted probabilities would simply be the sample shares. Our method therefore imposes the assumption that the influence of worker type and city on the industry distribution of employment are separable in determining an individual's likelihood of working in a given industry.[69]

For further richness, we also account for the different composition of the native and foreign-born workforce across cities. For natives, we allow a worker's industry to depend on his/her racial and ethnic composition, with separate coefficients for non-Hispanic whites, non-Hispanic blacks, non-Hispanic Asians, native-born Hispanics, and other non-Hispanics. Among the "other immigrants" category, we allow for a separate industry mix based on groupings of source countries including Western Hemisphere immigrants, Asian immigrants, and other immigrants.

After running these models, we predict individual-level probabilities of working in each industry. We then aggregate these predicted probabilities to the city level for the broader groups considered in the regressions (native-born, foreign-born, Mexican-born, other foreign-born).[70] We use these shares to create the employment shocks based on CBP data at the city-industry level.

A.4 Heteroskedasticity Weights

The population growth measures we use as dependent variables are estimates derived from underlying micro data, and hence are likely to result in heteroskedasticity. Along with reporting heteroskedasticity-robust standard errors, we weight by the inverse of the sampling variance of the population growth estimates. This section describes how we construct these variance estimates.

A.4.1 Proportional Growth

In previous versions of this paper, we used the proportional growth in population as the dependent variable. Under the specification, for a particular city c, our dependent variable is

$$\frac{\hat{p}_c^{2010} - \hat{p}_c^{2006}}{\hat{p}_c^{2006}} = \frac{\hat{p}_c^{2010}}{\hat{p}_c^{2006}} - 1 \tag{9}$$

[69] These factors can be considered as additively separable in a latent variable framework, although given the multinomial logit function form, they are multiplicatively separable in determining the probability.

[70] Note that this approach merely takes a weighted average of each of the finer groups within the more aggregate cells.

where $\hat{p}_c^t$is the estimated city population in year t. The variance of the dependent variable is thus

$$var\left(\frac{\hat{p}_c^{2010}}{\hat{p}_c^{2006}}-1\right)=var\left(\frac{\hat{p}_c^{2010}}{\hat{p}_c^{2006}}\right) \tag{10}$$

Since this represents the variance of a nonlinear combination of random variables, we must use the delta method to approximate the variance of the overall expression based on the variances of the individual random variables. Applying the delta method to the ratio of random variables, we have

$$var\left[\frac{\hat{p}_c^{2010}}{\hat{p}_c^{2006}}\right]\approx\left(\frac{E\left[\hat{p}_c^{2010}\right]}{E\left[\hat{p}_c^{2006}\right]}\right)^2\left(\frac{var\left[\hat{p}_c^{2006}\right]}{E\left[\hat{p}_c^{2006}\right]^2}+\frac{var\left[\hat{p}_c^{2010}\right]}{E\left[\hat{p}_c^{2010}\right]^2}-2\frac{cov\left[\hat{p}_c^{2006},\hat{p}_c^{2010}\right]}{E\left[\hat{p}_c^{2006}\right]E\left[\hat{p}_c^{2010}\right]}\right) \tag{11}$$

Assuming independent sampling across years, the covariance term goes to zero. Then plug in the sample estimates for the means $\left(\hat{E}\left[\hat{p}_c^t\right]=\hat{p}_c^t\right)$ and variances to yield a feasible estimate of the variance of the dependent variable.

$$\hat{var}\left[\frac{\hat{p}_c^{2010}}{\hat{p}_c^{2006}}\right]\approx\left(\frac{\hat{p}_c^{2010}}{\hat{p}_c^{2006}}\right)^2\left(\frac{\hat{var}\left[\hat{p}_c^{2006}\right]}{\left(\hat{p}_c^{2006}\right)^2}+\frac{\hat{var}\left[\hat{p}_c^{2010}\right]}{\left(\hat{p}_c^{2010}\right)^2}\right) \tag{12}$$

In our data, sampling probabilities are not equal for all observations, so we must account for that in calculating the variance of the city population estimates. By definition, $\hat{p}_c^t$ is simply an estimate of the population total of an indicator ι_{ic} taking the value 1 if individual i lives in city c. Letting w_i be the inverse of individual i's probability of appearing in the sample, we calculate the city population estimate as

$$\hat{p}_c^t=\sum_{i=1}^{n_t}w_i\iota_{ic} \tag{13}$$

Given that $\hat{p}_c^t$ estimates the population total of ι_{ic}, we can follow Deaton equation (1.24) by estimating $var\left[\hat{p}_c^t\right]$ as

$$\hat{var}\left[\hat{p}_c^t\right]=\frac{n^t}{n^t-1}\sum_{i=1}^{n^t}\left(z_i-\overline{z}\right)^2, \tag{14}$$

where $z_i\equiv w_i\iota_{ic}$.[71] Combining these results, we have the following estimator for the variance of the proportional change in population.

$$\hat{var}\left[\frac{\hat{p}_c^{2010}-\hat{p}_c^{2006}}{\hat{p}_c^{2006}}\right]\approx\left(\frac{\hat{p}_c^{2010}}{\hat{p}_c^{2006}}\right)^2\left(\frac{\hat{var}\left[\hat{p}_c^{2006}\right]}{\left(\hat{p}_c^{2006}\right)^2}+\frac{\hat{var}\left[\hat{p}_c^{2010}\right]}{\left(\hat{p}_c^{2010}\right)^2}\right) \tag{15}$$

where $\hat{var}\left[\hat{p}_c^t\right]$ is given by (14).

[71] With equal weights, the sum in the expression reduces to

$$wN^t\left[\frac{n_c^t}{n^t}\left(1-\frac{n_c^t}{n^t}\right)\right]$$

where N^t is the population, w is the common sampling weight, and n_c^t is the number of observations in the sample in city c. This shows the underlying binomial structure, and the fact that the variance increases with smaller samples that have larger weights.

A.4.2 Change in log Population

In this version of the paper, we have altered the dependent variable to be

$$\ln\left(\hat{p}_c^{2010}\right) - \ln\left(\hat{p}_c^{2006}\right). \tag{16}$$

Applying the delta method, plugging in feasible estimates for the means and variances, and imposing zero covariance across years yields the variance of the change in log population,

$$var\left[\ln\left(\hat{p}_c^{2010}\right) - \ln\left(\hat{p}_c^{2006}\right)\right] \approx \frac{\hat{var}\left[\hat{p}_c^{2006}\right]}{\left(\hat{p}_c^{2006}\right)^2} + \frac{\hat{var}\left[\hat{p}_c^{2010}\right]}{\left(\hat{p}_c^{2010}\right)^2} \tag{17}$$

where $\hat{var}\left[\hat{p}_c^t\right]$ is given by (14).

A.4.3 Summary

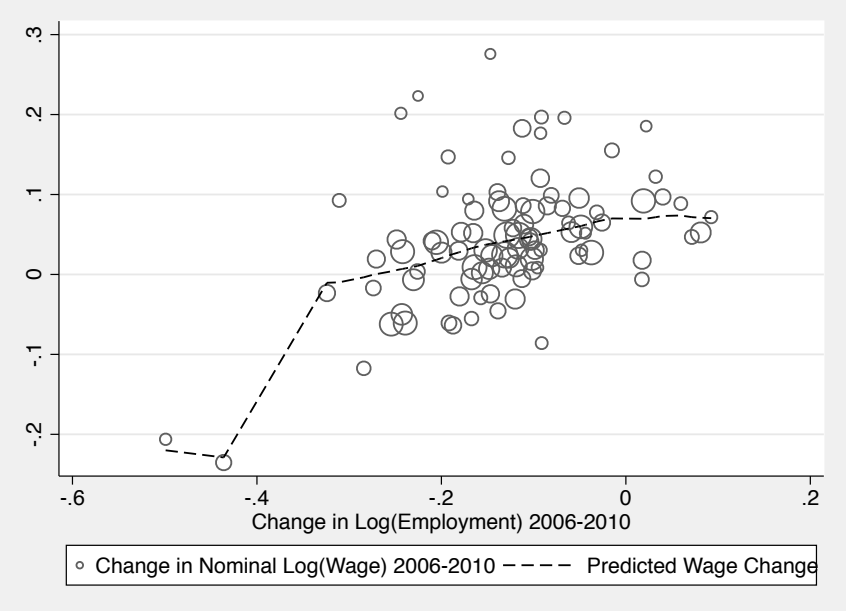
We use three-year ACS samples to calculate these variance estimates to avoid wildly inaccurate estimates for demographic groups with only a few individuals in a given city (this only appreciably affected the weights in a few cities for the "other foreign-born" group). In practice, these weights turn out to be very closely related to the 2006 population, with a correlation coefficient of 0.987 when considering observations for all demographic groups in all cities. For completeness, later in this appendix we present versions of Tables 2 and 4 weighting by 2006 population with no substantive changes to the main results.

Calculating the variance of the dependent variable for the employment rate and wage regressions is simpler because these dependent variables are changes in sample means from one survey year to another. Continuing to impose the assumption of independent sampling across years, the variance of the difference is simply the sum of the variances of the components. We estimate each of these year-specific variances using a regression of the underlying microdata on city-level fixed effects, which we run separately for each sex-skill-nativity group in each year. We then use the square of the resulting standard errors on the fixed effects as estimates of the sampling variance of the city-level means in order to calculate the estimated variance of the dependent variable.

A.5 Wage and Employment Changes

As discussed, in section 3.1, the elasticity of population with respect to employment will overstate the supply elasticity with respect to expected earnings when wage changes and changes in the employment probability are positively correlated. Figure A-7 shows the relationship between *nominal* changes in log wages and payroll employment shocks for low-skilled native-born men from 2006-2010. The wage data come from the ACS questions on annual earnings, usual hours worked, and annual weeks worked. The figure reveals a positive relationship between changes in log wages and employment declines. With the exception of the outlier cities in the SW corner of the figure, however, the range of average wage changes is relatively narrow. The hardest hit cities experienced close to zero nominal wage growth while cities with relatively stronger labor demand changes saw wage growth in line with inflation. The change in CPI-U from 2006 to 2010 was roughly eight percent, which is close to the largest predicted value from the smoothed conditional expectation line. These results are consistent with the large body of literature showing that employers respond to demand decreases through layoffs and that workers often continue to receive small raises even when employers are cutting payrolls.

Figure A-7: Wage Changes and Employment Changes 2006-2010



Source: Authors' calculations from ACS and CBP data. The wage data are calculated as annual earnings divided by (usual weekly hours * annual weeks worked). The wage sample includes native men with a high school degree or less. The employment changes are calculated using the industry weights for this population. The fitted line is the fit from an epanechnikov kernel (bw=0.04) calculated at each city's value of the employment shock. These conditional means are weighted using city weights. The outliers in the SW corner are Naples, FL and Fort Meyers-Cape Coral, FL.

A.6 Population Sizes of Demographic Groups

Table A-1 provides the estimated population sizes for each of the sex-skill-nativity groups considered in the main analysis. Note that roughly 90 percent of Mexican-born immigrants have no more than a high school degree. Relatedly, splitting the immigrant population into Mexican and non-Mexican portions among the lower skilled results in roughly equal cell sizes. Among higher-skilled immigrants, however, the cell sizes for the Mexican-born are substantially smaller than for the other foreign-born.

Table A-1: Population Sizes for Demographic Groups used in Population Response Regressions (2005)

	All	Native-Born	Foreign-Born	Mexican-Born	Other Foreign-Born
Panel A: Men, High-school or less					
Estimated Sample Population	21,243,571	14,427,983	6,815,588	3,704,846	3,110,742
Share of Group with Education Level	0.496	0.452	0.626	0.893	0.462
Panel B: Men, Some college or more					
Estimated Sample Population	21,559,797	17,492,647	4,067,150	444,215	3,622,935
Share of Group with Education Level	0.504	0.548	0.374	0.107	0.538
Panel C: Women, High-school or less					
Estimated Sample Population	20,641,339	14,504,441	6,136,898	2,820,215	3,316,683
Share of Group with Education Level	0.483	0.445	0.605	0.883	0.477
Panel D: Women, Some college or more					
Estimated Sample Population	22,079,281	18,068,539	4,010,742	374,327	3,636,415
Share of Group with Education Level	0.517	0.555	0.395	0.117	0.523

Estimated total populations are the sum of person weights for sample observations meeting the overall sampling criteria discussed in the text, calculated separately for each demographic group using the American Community Survey. All statistics are based on a consistent sample of 95 city observations. Listed shares add to 1 for each nativity-sex cell.

A.7 Descriptive Statistics for Population Elasticity Regressions

Table A-2 provides the mean and standard deviation for the change in log(population) and change in log(group-specific) employment measures used as the dependent and independent variables (respectively) in the main population elasticity regressions (2006-2010). Table A-3 provides similar statistics for the change in log(population) from 2000-2006. Table A-4 provides the mean and standard deviation for each of the controls used in Tables 3 and 4 as well as for the Bartik and leverage instruments used in Tables 5 and 6 respectively.

Table A-2: Descriptive Statistics for Population Response Regressions

	All		Native-Born		Foreign-Born		Mexican-Born		Other Foreign-Born	
Panel A: Men, High-school or less	mean	std. dev.	mean	std. dev.	mean	std. dev.	mean	std. dev.	mean	std. dev.
Change in ln Population	-0.019	0.045	-0.018	0.047	-0.022	0.110	-0.069	0.146	0.029	0.145
Change in ln Group-Specific Employment	-0.142	0.087	-0.134	0.081	-0.154	0.100	-0.171	0.115	-0.131	0.079
Panel B: Men, Some college or more										
Change in ln Population	0.058	0.053	0.055	0.054	0.066	0.102	0.151	0.33	0.056	0.102
Change in ln Group-Specific Employment	-0.077	0.058	-0.074	0.059	-0.088	0.058	-0.123	0.095	-0.083	0.053
Panel C: Women, High-school or less										
Change in ln Population	-0.026	0.050	-0.060	0.058	0.045	0.090	0.043	0.127	0.045	0.119
Change in ln Group-Specific Employment	-0.046	0.048	-0.045	0.048	-0.049	0.051	-0.055	0.062	-0.045	0.042
Panel D: Women, Some college or more										
Change in ln Population	0.096	0.045	0.085	0.046	0.140	0.082	0.232	0.278	0.130	0.083
Change in ln Group-Specific Employment	-0.013	0.041	-0.010	0.042	-0.027	0.039	-0.018	0.054	-0.028	0.037

Each panel provides the mean and standard deviation of change in log(population) (from the American Community Survey) and the change in log(employment) from County Business Patterns data, using the demographic group's industry mix, for a different demographic group of workers (by sex and education level). All statistics are based on a consistent sample of 95 city observations. Observations are weighted by the inverse of the estimated sampling variance of the dependent variable.

Table A-3: Descriptive Statistics for Population Response Regressions
False Experiment 2000-2006

	All		Native-Born		Foreign-Born		Mexican-Born		Other Foreign-Born	
Panel A: Men, High-school or less	mean	std. dev.	mean	std. dev.	mean	std. dev.	mean	std. dev.	mean	std. dev.
Change in ln Population	-0.019	0.045	-0.019	0.047	-0.024	0.109	-0.074	0.145	0.025	0.141
Panel B: Men, Some college or more										
Change in ln Population	0.057	0.052	0.055	0.054	0.063	0.099	0.144	0.331	0.053	0.100
Panel C: Women, High-school or less										
Change in ln Population	-0.027	0.050	-0.061	0.058	0.043	0.088	0.039	0.122	0.042	0.117
Panel D: Women, Some college or more										
Change in ln Population	0.095	0.044	0.084	0.046	0.137	0.079	0.228	0.270	0.127	0.081

Each panel provides the mean and standard deviation of change in log(population) (from the American Community Survey) for a different demographic group of workers (by sex and education level). All statistics are based on a consistent sample of 95 city observations. Observations are weighted by the inverse of the estimated sampling variance of the dependent variable.

Table A-4: Descriptive Statistics for Population Response Regressions
Controls and Instrumental Variables

	mean	std. dev.
Controls		
Enclave Measrure (Mexican-born Share of City Population)	0.150	0.087
New State Immigrant Employment Legislation	0.159	0.366
New State 287g Policy	0.093	0.290
Instrumental Variables		
Bartik (1991) Predicted Change in log Employment[a]	-0.076	0.010
Mian and Sufi (2012) Household Leverage	1.944	0.588

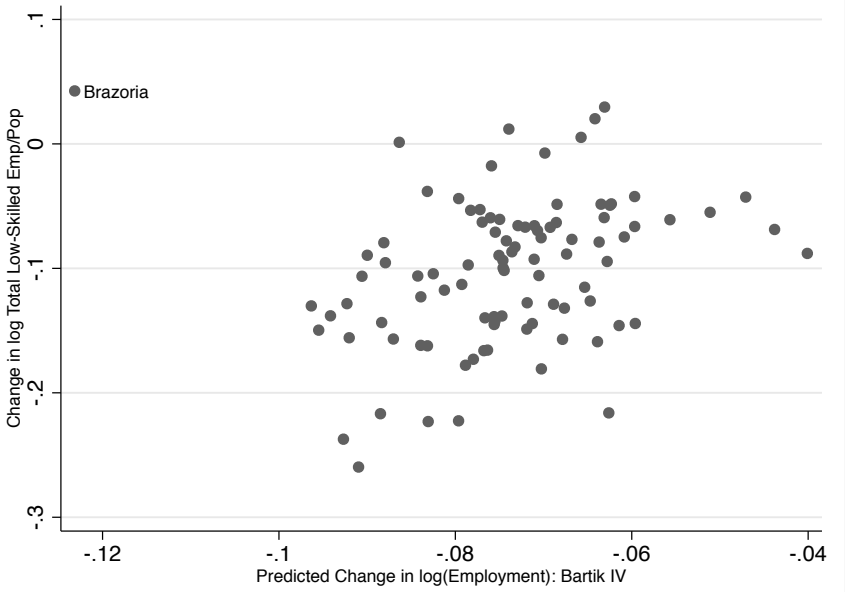
Statistics are based on a sample of 95 city observations, and observations are weighted using heteroskedasticity efficiency weights for low skilled mexican men's population changes. [a]94 metro area observations, omitting Brazoria, TX; see appendix section A.8 for details.

A.8 Outlier in Bartik IV Analysis

The analysis using the Bartik IV drops Brazoria, TX from all specifications because it is a severe outlier in both the first-stage and the reduced form. Its outlier status derives, in part, from the fact that the Bartik shock value for Brazoria is 4.01 standard deviations below the mean while the next lowest shock is only 1.81 standard deviations below the mean. Despite this very large negative value of predicted employment loss based on the instrument, employment *rose* slightly in Brazoria over this time period, which occurred in only a handful of the 95 analysis cities. This employment increase appears both in the ACS and CBP data. The most likely explanation appears to be that Brazoria's labor market benefitted from its ties to the energy extraction sector, which allowed it to deviate substantially from national trends. Although Brazoria was highly dependent on the manufacturing sector, manufacturing jobs declined only slightly from 2006-2010. Across the country, manufacturing employment fell by about 22 percent; in Brazoria, it fell by only 6 percent.

This combination leads Brazoria to have extreme leverage in the smoothing analysis in particular. Figure A-8 provides a scatter plot of data points showing the relationship between changes in the male low-skilled employment rate and the Bartik instrument. Given Brazoria's clear status as an outlier with extreme leverage, we have omitted it from all of the analysis using the Bartik instrument in the 2006-2010 time period.

Figure A-8: Brazoria, TX is an Outlier with Extreme Leverage in Bartik IV



Source: Authors' calculations from 2006-2010 American Community Survey and County Business Patterns. Changes in log(employment to population ratio) are calculated from 2006 to 2010 for low-skilled men (without regard to nativity). Construction of the Bartik instrument described in the text.

A.9 Population Elasticity Specification Checks

We have conducted several specification checks for the main elasticity results as discussed in the main text. These include using employment declines that are not specific to each demographic group, various ways of addressing the CBP's non-covered industries, using the three-year samples of ACS data to calculate population changes, and alternative weighting schemes (including unweighted results). We include versions of Table 2 (population elasticities without controls) and Table 4 (elasticities with controls) for each of the specification alternatives. As discussed in the text, all of these alternatives are consistent with the primary finding that native-born low-skilled individuals respond very little to demand shocks while Mexican-born low-skilled immigrants are highly responsive.

A.9.1 Demand Shocks that are not Group-Specific

In the main results, we calculate demand shocks based on local employment changes that take account of each demographic group's industry mix. The following two tables provide results using shocks that are calculated only by skill level and sex. As expected, these shocks show an even larger gap between natives and the Mexican-born, as low-skilled employment losses fall disproportionately on the latter.

Table A-5: Population Response to Labor Demand Shocks - General Shocks

	Dependent Variable: Change in log of Population				
	All	Native-Born	Foreign-Born	Mexican-Born	Other Foreign-Born
Panel A: Men, High-school or less					
Change in log of Group-Specific	0.163***	0.0172	0.443**	0.699***	-0.037
Employment	(0.061)	(0.067)	(0.182)	(0.244)	(0.271)
Panel B: Men, Some college or more					
Change in log of Group-Specific	0.498***	0.455***	0.698***	0.274	0.756***
Employment	(0.090)	(0.093)	(0.196)	(0.441)	(0.200)
Panel C: Women, High-school or less					
Change in log of Group-Specific	0.408***	0.216	0.708***	0.824***	0.496
Employment	(0.115)	(0.161)	(0.179)	(0.192)	(0.351)
Panel D: Women, Some college or more					
Change in log of Group-Specific	0.475***	0.444***	0.804***	0.130	0.897***
Employment	(0.126)	(0.118)	(0.266)	(0.507)	(0.261)

Each listed coefficient represents a separate regression of the change in log(population) for the relevant group (from the American Community Survey) on the general (not group-specific) change in log(employment) from County Business Patterns data. All regressions include an intercept term and 95 city observations. Observations are weighted by the inverse of the estimated sampling variance of the dependent variable (see appendix for details). Heteroskedasticity-robust standard errors in parentheses - *** significant at the 1% level, ** 5%, * 10%.

Table A-6: Population Response to Labor Demand Shocks - General Shocks with Enclave and Policy Controls

	Dependent Variable: Change in log of Population				
	All	Native-Born	Foreign-Born	Mexican-Born	Other Foreign-Born
Panel A: Men, High-school or less					
Change in log of Group-Specific	0.150**	0.019	0.346**	0.590***	-0.048
Employment	(0.063)	(0.066)	(0.155)	(0.202)	(0.279)
Panel B: Men, Some college or more					
Change in log of Group-Specific	0.479***	0.433***	0.701***	0.176	0.785***
Employment	(0.074)	(0.082)	(0.183)	(0.422)	(0.195)
Panel C: Women, High-school or less					
Change in log of Group-Specific	0.395***	0.191	0.717***	0.893***	0.400
Employment	(0.121)	(0.162)	(0.182)	(0.207)	(0.365)
Panel D: Women, Some college or more					
Change in log of Group-Specific	0.473***	0.432***	0.820***	0.219	0.942***
Employment	(0.095)	(0.100)	(0.241)	(0.588)	(0.243)

Each listed coefficient represents a separate regression of the change in log(population) for the relevant group (from the American Community Survey) on the general (not group-specific) change in log(employment) from County Business Patterns data, with the full set of enclave and policy controls discussed in the paper. All regressions include an intercept term and 95 city observations. Observations are weighted by the inverse of the estimated sampling variance of the dependent variable (see appendix for details). Heteroskedasticity-robust standard errors in parentheses - *** significant at the 1% level, ** 5%, * 10%.

A.9.2 Treatment of Industries Not Covered by CBP

As mentioned in the text, the CBP does not cover employment in agricultural production, private households, or government. In our main results, we fill in employment changes in these industries using calculations from the ACS at the city x year level. We completed two additional robustness checks of this way of constructing demand shocks. First, we re-calculate the demand shocks treating the CBP data as missing in taking share-weighted averages of job losses by covered industry. Those results are in the following tables.

Table A-7: Population Response to Labor Demand Shocks - Omitting Industries with Incomplete CBP Coverage

	Dependent Variable: Change in log of Population				
	All	Native-Born	Foreign-Born	Mexican-Born	Other Foreign-Born
Panel A: Men, High-school or less					
Change in log of Group-Specific	0.132**	0.024	0.303**	0.410**	-0.100
Employment	(0.056)	(0.068)	(0.152)	(0.186)	(0.242)
Panel B: Men, Some college or more					
Change in log of Group-Specific	0.431***	0.406***	0.507**	0.099	0.630***
Employment	(0.101)	(0.099)	(0.215)	(0.305)	(0.222)
Panel C: Women, High-school or less					
Change in log of Group-Specific	0.345***	0.169	0.601***	0.661***	0.415
Employment	(0.117)	(0.160)	(0.191)	(0.197)	(0.352)
Panel D: Women, Some college or more					
Change in log of Group-Specific	0.420***	0.406***	0.692**	0.123	0.765***
Employment	(0.132)	(0.115)	(0.291)	(0.495)	(0.290)

Each listed coefficient represents a separate regression of the change in log(population) for the relevant group (from the American Community Survey) on the change in log(group-specific employment) from County Business Patterns data, using the demographic group's industry mix. Industries with incomplete coverage in CBP are omitted from the employment changes. All regressions include an intercept term and 95 city observations. Observations are weighted by the inverse of the estimated sampling variance of the dependent variable (see appendix for details). Heteroskedasticity-robust standard errors in parentheses - *** significant at the 1% level, ** 5%, * 10%.

Table A-8: Population Response to Labor Demand Shocks - Omitting Industries with Incomplete CBP Coverage, with Enclave and Policy Controls

	Dependent Variable: Change in log of Population				
	All	Native-Born	Foreign-Born	Mexican-Born	Other Foreign-Born
Panel A: Men, High-school or less					
Change in log of Group-Specific	0.115**	0.024	0.206	0.323**	-0.100
Employment	(0.058)	(0.067)	(0.127)	(0.147)	(0.259)
Panel B: Men, Some college or more					
Change in log of Group-Specific	0.428***	0.396***	0.535***	-0.033	0.649***
Employment	(0.080)	(0.084)	(0.195)	(0.280)	(0.215)
Panel C: Women, High-school or less					
Change in log of Group-Specific	0.334***	0.141	0.575***	0.739***	0.345
Employment	(0.120)	(0.161)	(0.203)	(0.233)	(0.378)
Panel D: Women, Some college or more					
Change in log of Group-Specific	0.435***	0.406***	0.712***	0.202	0.800***
Employment	(0.0993)	(0.0977)	(0.261)	(0.569)	(0.274)

Each listed coefficient represents a separate regression of the change in log(population) for the relevant group (from the American Community Survey) on the change in log(group-specific employment) from County Business Patterns data (using the demographic group's industry mix), with the full set of enclave and policy controls discussed in the paper. Industries with incomplete coverage in CBP are omitted from the employment changes. All regressions include an intercept term and 95 city observations. Observations are weighted by the inverse of the estimated sampling variance of the dependent variable (see appendix for details). Heteroskedasticity-robust standard errors in parentheses - *** significant at the 1% level, ** 5%, * 10%.

Additionally, we calculated all employment changes using the ACS (rather than CBP) at the (city x year) level. The results using those shocks are are provided below.

Table A-9: Population Response to Labor Demand Shocks - Shocks Calculated from ACS

	Dependent Variable: Change in log of Population				
	All	Native-Born	Foreign-Born	Mexican-Born	Other Foreign-Born
Panel A: Men, High-school or less					
Change in log of Group-Specific	0.258***	0.0467	0.733***	1.006***	0.148
Employment	(0.072)	(0.092)	(0.184)	(0.177)	(0.264)
Panel B: Men, Some college or more					
Change in log of Group-Specific	0.730***	0.686***	0.943***	0.514	0.990***
Employment	(0.074)	(0.078)	(0.186)	(0.468)	(0.179)
Panel C: Women, High-school or less					
Change in log of Group-Specific	0.584***	0.337**	1.081***	1.096***	1.032***
Employment	(0.107)	(0.146)	(0.176)	(0.198)	(0.238)
Panel D: Women, Some college or more					
Change in log of Group-Specific	0.684***	0.637***	1.031***	0.503	1.062***
Employment	(0.080)	(0.090)	(0.232)	(0.701)	(0.235)

Each listed coefficient represents a separate regression of the change in log(population) for the relevant group on the change in log(group-specific employment) (both calculated using the American Community Survey). All regressions include an intercept term and 95 city observations. Observations are weighted by the inverse of the estimated sampling variance of the dependent variable (see appendix for details). Heteroskedasticity-robust standard errors in parentheses - *** significant at the 1% level, ** 5%, * 10%.

Table A-10: Population Response to Labor Demand Shocks - Shocks Calculated from ACS, with Enclave and Policy Controls

	Dependent Variable: Change in log of Population				
	All	Native-Born	Foreign-Born	Mexican-Born	Other Foreign-Born
Panel A: Men, High-school or less					
Change in log of Group-Specific	0.247***	0.047	0.647***	0.956***	0.156
Employment	(0.074)	(0.089)	(0.142)	(0.177)	(0.263)
Panel B: Men, Some college or more					
Change in log of Group-Specific	0.701***	0.650***	0.977***	0.212	1.049***
Employment	(0.072)	(0.078)	(0.192)	(0.466)	(0.189)
Panel C: Women, High-school or less					
Change in log of Group-Specific	0.577***	0.320**	1.064***	1.116***	0.906***
Employment	(0.114)	(0.145)	(0.121)	(0.177)	(0.242)
Panel D: Women, Some college or more					
Change in log of Group-Specific	0.654***	0.604***	1.041***	0.561	1.103***
Employment	(0.076)	(0.090)	(0.241)	(0.741)	(0.242)

Each listed coefficient represents a separate regression of the change in log(population) for the relevant group on the change in log(group-specific employment) (both calculated using the American Community Survey), with the full set of enclave and policy controls discussed in the paper. All regressions include an intercept term and 95 city observations. Observations are weighted by the inverse of the estimated sampling variance of the dependent variable (see appendix for details). Heteroskedasticity-robust standard errors in parentheses - *** significant at the 1% level, ** 5%, * 10%.

A.9.3 Three Year ACS Samples for Population Changes

Although the ACS is a one percent sample of the entire country, it has relatively small sample sizes for some (sex × skill × demographic) cells. The ACS also makes available three-year samples that are based on a reference year and the years immediately preceding and following. For robustness, we ran versions of our main results using population changes measured with three-year samples centered at 2006 and 2010, and our preferred shock measures. As expected, the results are slightly muted, likely because some movement is already occurring in 2007 and it is not complete by 2009.

Table A-11: Population Response to Labor Demand Shocks - Population Changes from 3-year ACS

	Dependent Variable: Change in log of Population				
	All	Native-Born	Foreign-Born	Mexican-Born	Other Foreign-Born
Panel A: Men, High-school or less					
Change in log of Group-Specific	0.130*	0.031	0.302**	0.484***	-0.163
Employment	(0.073)	(0.080)	(0.150)	(0.173)	(0.228)
Panel B: Men, Some college or more					
Change in log of Group-Specific	0.453***	0.434***	0.497**	0.428**	0.525**
Employment	(0.076)	(0.065)	(0.222)	(0.172)	(0.243)
Panel C: Women, High-school or less					
Change in log of Group-Specific	0.433***	0.291***	0.529***	0.588***	0.360
Employment	(0.0987)	(0.107)	(0.197)	(0.204)	(0.347)
Panel D: Women, Some college or more					
Change in log of Group-Specific	0.475***	0.472***	0.730***	0.465*	0.703**
Employment	(0.113)	(0.100)	(0.277)	(0.261)	(0.286)

Each listed coefficient represents a separate regression of the change in log(population) for the relevant group (from the 3-year samples of the American Community Survey) on the change in log(group-specific employment) from County Business Patterns data (using the demographic group's industry mix). All regressions include an intercept term and 95 city observations. Observations are weighted by the inverse of the estimated sampling variance of the dependent variable (see appendix for details). Heteroskedasticity-robust standard errors in parentheses - *** significant at the 1% level, ** 5%, * 10%.

Table A-12: Population Response to Labor Demand Shocks - Population Changes from 3-year ACS, with Enclave and Policy Controls

	All	Native-Born	Foreign-Born	Mexican-Born	Other Foreign-Born
Panel A: Men, High-school or less					
Change in log of Group-Specific	0.110	0.011	0.210*	0.399***	-0.154
Employment	(0.073)	(0.078)	(0.117)	(0.109)	(0.254)
Panel B: Men, Some college or more					
Change in log of Group-Specific	0.436***	0.410***	0.523**	0.374**	0.551**
Employment	(0.062)	(0.057)	(0.200)	(0.173)	(0.229)
Panel C: Women, High-school or less					
Change in log of Group-Specific	0.412***	0.253**	0.538***	0.722***	0.329
Employment	(0.105)	(0.112)	(0.193)	(0.218)	(0.347)
Panel D: Women, Some college or more					
Change in log of Group-Specific	0.473***	0.454***	0.753***	0.487	0.725**
Employment	(0.0786)	(0.0821)	(0.254)	(0.327)	(0.284)

Each listed coefficient represents a separate regression of the change in log(population) for the relevant group (from the 3-year samples of the American Community Survey) on the change in log(group-specific employment) from County Business Patterns data (using the demographic group's industry mix), with the full set of enclave and policy controls discussed in the paper. All regressions include an intercept term and 95 city observations. Observations are weighted by the inverse of the estimated sampling variance of the dependent variable (see appendix for details). Heteroskedasticity-robust standard errors in parentheses - *** significant at the 1% level, ** 5%, * 10%.

A.9.4 Alternative Weighting Schemes

As discussed in the paper, our preferred weighting scheme uses a feasible version of the inverse of the analytical sampling variance of the dependent variable. For completeness, we provide results here for two alternatives: population weighting and equal weighting. As mentioned in the paper, the efficient weights are very closely related to the group-specific population in 2006. The first set of tables contains results using these group sizes as weights.

Table A-13: Population Response to Labor Demand Shocks - Weighted by 2006 Population

	Dependent Variable: Change in log of Population				
	All	Native-Born	Foreign-Born	Mexican-Born	Other Foreign-Born
Panel A: Men, High-school or less					
Change in log of Group-Specific	0.162***	0.049	0.400**	0.588***	-0.071
Employment	(0.061)	(0.073)	(0.181)	(0.212)	(0.248)
Panel B: Men, Some college or more					
Change in log of Group-Specific	0.497***	0.465***	0.599***	0.281	0.708***
Employment	(0.090)	(0.090)	(0.204)	(0.340)	(0.204)
Panel C: Women, High-school or less					
Change in log of Group-Specific	0.417***	0.192	0.625***	0.645***	0.552*
Employment	(0.118)	(0.158)	(0.174)	(0.179)	(0.310)
Panel D: Women, Some college or more					
Change in log of Group-Specific	0.472***	0.431***	0.822***	0.195	0.910***
Employment	(0.126)	(0.117)	(0.270)	(0.506)	(0.274)

Each listed coefficient represents a separate regression of the change in log(population) for the relevant group (from the American Community Survey) on the change in log(group-specific employment) from County Business Patterns data (using the demographic group's industry mix). All regressions include an intercept term and 95 city observations. Observations are weighted by the group-specific 2006 population. Heteroskedasticity-robust standard errors in parentheses - *** significant at the 1% level, ** 5%, * 10%.

Table A-14: Population Response to Labor Demand Shocks - Weighted by 2006 Population, with Enclave and Policy Controls

	Dependent Variable: Change in log of Population				
	All	Native-Born	Foreign-Born	Mexican-Born	Other Foreign-Born
Panel A: Men, High-school or less					
Change in log of Group-Specific	0.147**	0.047	0.293**	0.488***	-0.0661
Employment	(0.062)	(0.073)	(0.140)	(0.176)	(0.266)
Panel B: Men, Some college or more					
Change in log of Group-Specific	0.475***	0.433***	0.624***	0.026	0.736***
Employment	(0.073)	(0.080)	(0.184)	(0.330)	(0.198)
Panel C: Women, High-school or less					
Change in log of Group-Specific	0.399***	0.163	0.642***	0.726***	0.521
Employment	(0.123)	(0.158)	(0.176)	(0.192)	(0.328)
Panel D: Women, Some college or more					
Change in log of Group-Specific	0.464***	0.410***	0.836***	0.158	0.947***
Employment	(0.095)	(0.100)	(0.241)	(0.562)	(0.256)

Each listed coefficient represents a separate regression of the change in log(population) for the relevant group (from the American Community Survey) on the change in log(group-specific employment) from County Business Patterns data (using the demographic group's industry mix), with the full set of enclave and policy controls discussed in the paper. All regressions include an intercept term and 95 city observations. Observations are weighted by the group-specific 2006 population. Heteroskedasticity-robust standard errors in parentheses - *** significant at the 1% level, ** 5%, * 10%.

Finally, we provide results where each city is given equal weight. The table also provides the p-value for a test of the null that the squared residuals are unrelated to the group's population size. In nearly all cases, this null is rejected. Comparing these tables to the main results in Tables 2 and 4, whenever the null of homoskedasticity is rejected, the efficient-weighted results produce estimates with smaller standard errors, which suggests that the weighted specification is, in fact, more efficient. In most cases, the unweighted results are very similar to the main results. The one exception is the point estimate among the other foreign-born, which is substantially more positive in the unweighted versions. Some additional investigation reveals that this point estimate is being driven by a few very small population cities that are outliers. In addition, the size of the coefficient falls by nearly half when adding controls (for men). Nevertheless, we note that the results for the other foreign-born are much more dependent on specification than are the results for natives and for Mexican-born immigrants, which form the core of our analysis.

Table A-15: Population Response to Labor Demand Shocks - Unweighted

	Dependent Variable: Change in log of Population				
	All	Native-Born	Foreign-Born	Mexican-Born	Other Foreign-Born
Panel A: Men, High-school or less					
Change in log of Group-Specific	0.243***	0.111	0.506***	0.788***	0.531
Employment	(0.059)	(0.079)	(0.081)	(0.147)	(0.350)
Panel B: Men, Some college or more					
Change in log of Group-Specific	0.511***	0.545***	0.437	0.733	0.618
Employment	(0.099)	(0.120)	(0.266)	(0.758)	(0.467)
Panel C: Women, High-school or less					
Change in log of Group-Specific	0.323***	0.202	0.223	0.120	-0.242
Employment	(0.112)	(0.126)	(0.243)	(0.296)	(0.593)
Panel D: Women, Some college or more					
Change in log of Group-Specific	0.517***	0.453***	0.903**	-0.768	0.931*
Employment	(0.149)	(0.141)	(0.357)	(1.048)	(0.518)

Each listed coefficient represents a separate regression of the change in log(population) for the relevant group (from the American Community Survey) on the change in log(group-specific employment) from County Business Patterns data (using the demographic group's industry mix). All regressions include an intercept term and 95 city observations. Observations are equally weighted. Heteroskedasticity-robust standard errors in parentheses - *** significant at the 1% level, ** 5%, * 10%.

Table A-16: Population Response to Labor Demand Shocks - Unweighted, with Enclave and Policy Controls

	Dependent Variable: Change in log of Population				
	All	Native-Born	Foreign-Born	Mexican-Born	Other Foreign-Born
Panel A: Men, High-school or less					
Change in log of Group-Specific	0.230***	0.095	0.518***	0.797***	0.494
Employment	(0.061)	(0.084)	(0.082)	(0.162)	(0.335)
Panel B: Men, Some college or more					
Change in log of Group-Specific	0.452***	0.492***	0.400	0.448	0.553
Employment	(0.100)	(0.120)	(0.267)	(0.811)	(0.387)
Panel C: Women, High-school or less					
Change in log of Group-Specific	0.249**	0.148	0.477*	0.410	0.370
Employment	(0.118)	(0.132)	(0.247)	(0.321)	(0.610)
Panel D: Women, Some college or more					
Change in log of Group-Specific	0.430***	0.382**	0.824**	-0.968	0.545
Employment	(0.156)	(0.156)	(0.379)	(1.039)	(0.535)

Each listed coefficient represents a separate regression of the change in log(population) for the relevant group (from the American Community Survey) on the change in log(group-specific employment) from County Business Patterns data (using the demographic group's industry mix), with the full set of enclave and policy controls discussed in the paper. All regressions include an intercept term and 95 city observations. Observations are equally weighted. Heteroskedasticity-robust standard errors in parentheses - *** significant at the 1% level, ** 5%, * 10%.

A.9.5 Falsification Results for All Groups

Figure 2 provided the results for the pre-trend falsification test for low-skilled men (native- and Mexican-born). For reference, Table A-17 provides analogous results for all (sex x skill x nativity) groups.

Table A-17: Falsification Test: 2000-2006 Population Change vs. 2006-2010 Labor Demand Shocks

	Dependent Variable: Change in log of Population				
	All	Native-Born	Foreign-Born	Mexican-Born	Other Foreign-Born
Panel A: Men, High-school or less					
Change in log of Group-Specific	-0.310	-0.168	-0.664***	-0.481***	-0.986***
Employment	(0.199)	(0.183)	(0.214)	(0.169)	(0.332)
Panel B: Men, Some college or more					
Change in log of Group-Specific	-0.090	-0.022	-0.599*	-0.216	-0.640*
Employment	(0.133)	(0.118)	(0.357)	(0.376)	(0.372)
Panel C: Women, High-school or less					
Change in log of Group-Specific	0.176	0.199	-0.125	-0.021	-0.248
Employment	(0.301)	(0.268)	(0.490)	(0.470)	(0.619)
Panel D: Women, Some college or more					
Change in log of Group-Specific	0.235	0.346**	0.096	0.790	-0.215
Employment	(0.156)	(0.146)	(0.373)	(0.561)	(0.371)

Identical specification to Table 2, with the exception that the changes in log(population) are calculated for 2000-2006.

A.9.6 Detailed Race/Ethnicity or Source Country

In the main text, we examine mobility responses of natives-born, Mexican-born, and other foreign-born individuals. Here we examine mobility responses of less aggregate groups. While we are able to calculate robust mobility estimates for the larger groups discussed in the main text, the results for these smaller groups are often imprecisely estimated and vary across specifications. Hence, we focus on the more aggregate groups in the main text and present the less aggregate results here for completeness.

The following table replicates Table 2 for these more detailed population groups.

Table A-18: Population Response to Labor Demand Shocks

	Dependent Variable: Change in log of Population								
	Native-Born					Foreign-Born			
	White Non-Hispanic	Black Non-Hispanic	Asian Non-Hispanic	Hispanic	Other Non-Hispanic	Mexican	Other W. Hemis.	Asian	Other
Panel A: Men, High-school or less									
Change in log of Group-Specific Employment	0.118	-0.164	1.547	-0.359**	-0.295	0.569***	-0.203	-0.083	0.145
	(0.074)	(0.186)	(0.971)	(0.146)	(0.492)	(0.202)	(0.302)	(0.455)	(0.318)
Panel B: Men, Some college or more									
Change in log of Group-Specific Employment	0.383***	0.589*	1.117	0.202	-0.170	0.171	0.869**	0.695***	0.651*
	(0.070)	(0.319)	(0.792)	(0.215)	(0.599)	(0.316)	(0.346)	(0.205)	(0.335)
Panel C: Women, High-school or less									
Change in log of Group-Specific Employment	0.146	0.120	2.759*	-0.425	1.728**	0.652***	0.122	0.336	1.511***
	(0.177)	(0.456)	(1.413)	(0.268)	(0.817)	(0.192)	(0.645)	(0.315)	(0.497)
Panel D: Women, Some college or more									
Change in log of Group-Specific Employment	0.465***	0.263	0.818	-0.041	-0.111	0.218	-0.595	0.958***	2.151***
	(0.106)	(0.271)	(0.768)	(0.315)	(0.935)	(0.505)	(0.480)	(0.297)	(0.486)

Each listed coefficient represents a separate regression of the change in log(population) for the relevant group (from the American Community Survey) on the change in log(group-specific employment) from County Business Patterns data (using the demographic group's industry mix). All regressions include an intercept term and 95 city observations. Observations are weighted by the inverse of the estimated sampling variance of the dependent variable (see appendix for details). Heteroskedasticity-robust standard errors in parentheses - *** significant at the 1% level, ** 5%, * 10%.

Among less-skilled native workers, white and Asian populations respond most strongly to labor demand shocks. Hispanic natives exhibit a surprising negative response, apparently moving toward the most negatively affected locations. As we will see below, this counterintuitive result is not robust to changes in specification, and may reflect ongoing trends for this group. Among less-skilled foreign-born individuals, Mexican men and women, and women from "Other" countries are the only groups exhibiting strong relocation toward more favorable markets.

The following table adds controls, as in Table 4 in the main text. The results are similar to those without controls, but the surprising negative response for less-skilled Hispanic natives is no longer statistically significant at the five percent level. (The Mexican enclave control absorbs much of the variation in this specification, an interesting result warranting study in future work.)

Table A-19: Population Response to Labor Demand Shocks - With Enclave and Policy Controls

	Dependent Variable: Change in log of Population								
	Native-Born					Foreign-Born			
	White Non-Hispanic	Black Non-Hispanic	Asian Non-Hispanic	Hispanic	Other Non-Hispanic	Mexican	Other W. Hemis.	Asian	Other
Panel A: Men, High-school or less									
Change in log of Group-Specific Employment	0.129*	-0.158	1.461	-0.277*	-0.277	0.475***	-0.198	-0.256	0.293
	(0.075)	(0.212)	(1.053)	(0.165)	(0.484)	(0.172)	(0.311)	(0.519)	(0.349)
Panel B: Men, Some college or more									
Change in log of Group-Specific Employment	0.389***	0.561**	1.213	0.192	-0.218	0.014	0.887**	0.723***	0.649*
	(0.073)	(0.272)	(0.776)	(0.228)	(0.596)	(0.285)	(0.339)	(0.212)	(0.358)
Panel C: Women, High-school or less									
Change in log of Group-Specific Employment	0.189	0.250	2.594*	-0.342	1.652**	0.743***	0.067	0.175	1.571***
	(0.162)	(0.494)	(1.477)	(0.317)	(0.792)	(0.202)	(0.622)	(0.353)	(0.494)
Panel D: Women, Some college or more									
Change in log of Group-Specific Employment	0.466***	0.450*	0.682	-0.071	-0.217	0.315	-0.574	0.957***	2.186***
	(0.113)	(0.265)	(0.757)	(0.341)	(0.927)	(0.597)	(0.488)	(0.291)	(0.491)

Each listed coefficient represents a separate regression of the change in log(population) for the relevant group (from the American Community Survey) on the change in log(group-specific employment) from County Business Patterns data (using the demographic group's industry mix), with the enclave and policy controls in Column (4) of Table 3. All regressions include an intercept term and 95 city observations. Observations are weighted by the inverse of the estimated sampling variance of the dependent variable (see appendix for details). Heteroskedasticity-robust standard errors in parentheses - *** significant at the 1% level, ** 5%, * 10%.

We now examine the robustness of the results for detailed race/ethnicity and source country. First, we consider the pre-recession false experiment in which we relate the 2000-2006 population change to the 2006-2010 employment decline. As discussed in the main text, the strong positive response of Mexican-born immigrants in the main analysis represents a reversal of the exiting trend. It is also clear that the strange negative results for Hispanic natives partly reflect the continuation of an ongoing trend, which changed in the expected direction during the recession period. Similar findings for immigrants from the Other Western Hemisphere and Other locations suggest that the surprising negative (though insignificant) point estimates for these groups may also partly reflect preexisting trends.

Table A-20: Population Response to Labor Demand Shocks - Falsification Test: Population Change 2000-06 vs. Group-Specific Employment Change 2006-10

	Dependent Variable: Change in log of Population								
	Native-Born					Foreign-Born			
	White Non-Hispanic	Black Non-Hispanic	Asian Non-Hispanic	Hispanic	Other Non-Hispanic	Mexican	Other W. Hemis.	Asian	Other
Panel A: Men, High-school or less									
Change in log of Group-Specific	-0.253**	-0.367	-2.244**	-0.585**	0.038	-0.481***	-1.249***	-0.248	-0.709
Employment	(0.127)	(0.369)	(1.016)	(0.271)	(0.380)	(0.169)	(0.438)	(0.379)	(0.505)
Panel B: Men, Some college or more									
Change in log of Group-Specific	-0.066	-0.295	-0.136	-0.465*	0.416	-0.216	-1.716***	-0.207	-0.373
Employment	(0.115)	(0.292)	(0.638)	(0.260)	(0.521)	(0.376)	(0.636)	(0.327)	(0.281)
Panel C: Women, High-school or less									
Change in log of Group-Specific	0.167	0.038	-1.709	-0.504	-0.358	-0.021	-1.169	0.149	-0.236
Employment	(0.187)	(0.569)	(1.217)	(0.395)	(0.732)	(0.470)	(1.097)	(0.443)	(0.708)
Panel D: Women, Some college or more									
Change in log of Group-Specific	0.376**	0.369	0.282	-0.393	0.534	0.790	-0.695	-0.044	-0.295
Employment	(0.146)	(0.370)	(0.754)	(0.328)	(0.626)	(0.561)	(1.008)	(0.309)	(0.411)

Each listed coefficient represents a separate regression of the pre-Recession change in log(population) from 2000-06 for the relevant group (from the American Community Survey) on the Recession period change in log(group-specific employment) from 2006-10 from County Business Patterns data (using the demographic group's industry mix). All regressions include an intercept term and 95 city observations. Observations are weighted by the inverse of the estimated sampling variance of the dependent variable (see appendix for details). Heteroskedasticity-robust standard errors in parentheses - *** significant at the 1% level, ** 5%, * 10%.

Finally, we consider an unweighted version of the analysis.

Table A-21: Population Response to Labor Demand Shocks - With Enclave and Policy Controls - Unweighted

	Dependent Variable: Change in log of Population								
	Native-Born					Foreign-Born			
	White Non-Hispanic	Black Non-Hispanic	Asian Non-Hispanic	Hispanic	Other Non-Hispanic	Mexican	Other W. Hemis.	Asian	Other
Panel A: Men, High-school or less									
Change in log of Group-Specific Employment	-0.247** (0.118)	-0.220 (0.287)	-2.318** (1.070)	-0.703** (0.278)	0.057 (0.403)	-0.313 (0.192)	-1.145** (0.481)	-0.211 (0.363)	-0.646 (0.542)
Panel B: Men, Some college or more									
Change in log of Group-Specific Employment	-0.037 (0.117)	-0.166 (0.270)	-0.357 (0.674)	-0.502* (0.265)	0.462 (0.531)	0.078 (0.451)	-1.646** (0.669)	-0.318 (0.354)	-0.333 (0.268)
Panel C: Women, High-school or less									
Change in log of Group-Specific Employment	0.169 (0.198)	0.297 (0.459)	-2.091* (1.197)	-0.697* (0.403)	-0.208 (0.658)	0.468 (0.487)	-0.982 (1.134)	0.193 (0.431)	-0.152 (0.683)
Panel D: Women, Some college or more									
Change in log of Group-Specific Employment	0.367** (0.142)	0.513 (0.314)	0.378 (0.710)	-0.521* (0.312)	0.360 (0.658)	0.999 (0.632)	-0.610 (0.995)	-0.290 (0.358)	-0.401 (0.368)

Each listed coefficient represents a separate regression of the change in log(population) for the relevant group (from the American Community Survey) on the change in log(group-specific employment) from County Business Patterns data (using the demographic group's industry mix), with the enclave and policy controls in Column (4) of Table 3. All regressions include an intercept term and 95 city observations. Observations equally weighted. Heteroskedasticity-robust standard errors in parentheses - *** significant at the 1% level, ** 5%, * 10%.

The unweighted results do not exhibit the surprising negative point estimates for less skilled Hispanic native men and foreign-born men from countries other than Mexico. While the main results presented in the paper are robust to the choice of weighting, the results for smaller demographic groups often are not, and hence should be viewed with caution.

In general, the analysis shows that our approach reveals quite robust findings for larger demographic groups such as natives overall or Mexican-born immigrants, but has trouble identifying consistent results for smaller groups. While this does not affect the conclusions of the main analysis, it does make it difficult to determine with certainty how population responses among larger groups compare to smaller groups' responses.

A.10 Robustness and Heterogeneity of Population Response Results

In this section, we return to our primary specification of Table 2 and Table 4 and conduct additional robustness checks, and examine potential heterogeneity.

A.10.1 Dropping California

In order to investigate whether metro areas in California were driving the population responses, Table A-22 replicates Table 4, with the exception of omitting California. Notably, the important contrast between low-skilled Mexican-born men and low-skilled native-born men remains.

Table A-22: Population Response to Labor Demand Shocks - Including Policy and Enclave Controls and Omitting California

	All	Native-Born	Foreign-Born	Mexican-Born	Other Foreign-Born
Panel A: Men, High-school or less					
Change in log of Group-Specific	0.103	-0.0285	0.257	0.613***	-0.168
Employment	(0.0754)	(0.0889)	(0.175)	(0.166)	(0.305)
Panel B: Men, Some college or more					
Change in log of Group-Specific	0.504***	0.459***	0.730***	0.982*	0.684**
Employment	(0.0771)	(0.0902)	(0.236)	(0.542)	(0.263)
Panel C: Women, High-school or less					
Change in log of Group-Specific	0.324	0.0455	0.475	0.0953	0.613
Employment	(0.199)	(0.236)	(0.302)	(0.279)	(0.482)
Panel D: Women, Some college or more					
Change in log of Group-Specific	0.499***	0.437***	0.981***	-0.133	1.140***
Employment	(0.130)	(0.153)	(0.291)	(1.135)	(0.309)

Each listed coefficient represents a separate regression of the change in log(population) for the relevant group (from the American Community Survey) on the change in log(group-specific employment) from County Business Patterns data (using the demographic group's industry mix), with the enclave and policy controls in Column (4) of Table 3. All regressions include an intercept term and 73 city observations, omitting those in California. Observations are weighted by the inverse of the estimated sampling variance of the dependent variable (see appendix for details). Heteroskedasticity-robust standard errors in parentheses - *** significant at the 1% level, ** 5%, * 10%.

A.10.2 Heterogenous Responses

We next consider potentially heterogeneous population responses based on three separate characteristics of cities that are either fixed or measured prior to the start of the recession. We consider this potential heterogeneity for both the Mexican-born and native-born populations. We begin with OLS results and provide IV results using the Bartik instrument for comparison.

Table A-23: Investigation of Heterogeneous Low-Skilled Mexican-Born Male Population Response to Labor Demand Shocks

Dependent Variable: Change in log Population - Mexican-born Men, High-school or less						
	(1)	(2)	(3)	(4)	(5)	(6)
Change in log Employment	0.475***	0.436**	0.471**	0.300	0.964***	0.950***
	(0.172)	(0.179)	(0.231)	(0.231)	(0.248)	(0.248)
Interaction: Change in log Employment			-0.242			
× Enclave Measure			(1.618)			
Interaction:Change in log Employment				0.207		
× Road Distance to the Border				(0.165)		
Interaction:Change in log Employment					-0.442	-0.513
× Above Median Mexican-Born Share					(0.339)	(0.313)
Enclave Measure	-0.041	0.262	0.237	0.265		
(Mexican-born Share of City Population)	(0.166)	(0.224)	(0.305)	(0.236)		
New State Immigrant Employment Legislation	-0.016	-0.035	-0.035	-0.036		0.016
	(0.032)	(0.030)	(0.030)	(0.030)		(0.046)
New State 287g Policy	-0.119**	-0.091*	-0.090*	-0.096*		-0.153***
	(0.051)	(0.049)	(0.049)	(0.051)		(0.053)
Road Distance to the Border (1000 km)		0.043**	0.044**	0.077**		-0.017
		(0.021)	(0.020)	(0.035)		(0.022)
Indicator: Above Median Mexican-Born Population					-0.149**	-0.204**
Share					(0.065)	(0.079)
Constant	0.032	-0.054	-0.051	-0.077	0.158***	0.217***
	(0.045)	(0.069)	(0.073)	(0.074)	(0.053)	(0.077)
R-squared	0.262	0.289	0.289	0.303	0.248	0.323

Each listed coefficient represents a separate regression of the change in log(population) for the relevant group (from the American Community Survey) on the change in log(group-specific employment) from County Business Patterns data (using the demographic group's industry mix). All regressions include an intercept term and 95 city observations. Observations are weighted by the inverse of the estimated sampling variance of the dependent variable (see appendix for details). Heteroskedasticity-robust standard errors in parentheses - *** significant at the 1% level, ** 5%, * 10%.

Column (1) of Table A-23 replicates column (4) of Table 3. Column (2) adds a level effect control for the road distance to the border. Columns (3) through (6) investigate interaction effects. We first use the enclave measure for Mexican immigrants. As shown in column (3), the population responses are somewhat weaker in cities that have historically attracted many Mexican-born immigrants.[72] The negative interaction could reflect the fact that employment prospects are less of a determining factor in location choices for the types of immigrants who are attracted to larger enclaves. We fail to reject the null, however, that population elasticities are the same regardless of a city's enclave size.

We also consider the possibility that population responses may be more elastic for locations that are closer to the Mexican border. In column (4), we interact the change in employment with the shortest road distance to a major border crossing.[73] Contrary to this hypothesis, the point estimate

[72]In order to interpret the magnitude of the interaction, note that the mean and standard deviation of the enclave measure are 0.15 and 0.087 respectively (Table A-4).

[73]To construct this variable, we started with a list of the border crossings with the highest passenger vehicle traffic based on 2010 data using an online database from the Bureau of Transportation Statistics. We then used the stata command "geocode3" to determine the latitude and longitude of each of the 95 MSAs (based on a Google Maps query

suggests that populations are somewhat more elastic in locations farther from the border, although we again fail to reject the null that the interaction term is zero.

Finally, in columns (5) and (6), we interact the labor demand shock with a dummy variable for having larger than the median Mexican-born population share. Column (5) omits the road distance control while column (6) includes it. The motivation for this column is conceptually similar to that of column (3), although this column's results allow for a direct comparison of elasticities within the groups of cities considered separately throughout the smoothing analysis (e.g. in Table 7). Consistent with the results in column (3), we find weak evidence that populations are less elastic in response to shocks in cities with relatively many Mexican-born residents, although, again, there is not sufficient statistical evidence to rule out the null hypothesis that responses are equal in both types of cities.

Table A-24 provides a parallel set of results examining heterogeneity in population responses among low-skilled native-born men. Again, there is no evidence of meaningful heterogeneity in population responses. Notably, natives are *no more* elastic in places with fewer Mexicans where the incidence of local shocks is higher due to relatively lower access to the more mobile factor.

Table A-24: Investigation of Heterogeneous Low-Skilled Native-Born Male Population Response to Labor Demand Shocks

Dependent Variable: Change in log Population - Native-born Men, High-school or less						
	(1)	(2)	(3)	(4)	(5)	(6)
Change in log Employment	0.040	0.039	-0.070	0.017	-0.005	0.015
	(0.071)	(0.074)	(0.127)	(0.113)	(0.114)	(0.115)
Interaction: Change in log Employment			1.231			
× Enclave Measure			(0.939)			
Interaction:Change in log Employment				0.017		
× Road Distance to the Border				(0.077)		
Interaction:Change in log Employment					0.052	0.043
× Above Median Mexican-Born Share					(0.148)	(0.148)
Enclave Measure	0.037	-0.245*	-0.134	-0.249*		
(Mexican-born Share of City Population)	(0.084)	(0.125)	(0.124)	(0.129)		
New State Immigrant Employment Legislation	0.003	0.007	0.011	0.007		0.010
	(0.024)	(0.018)	(0.018)	(0.018)		(0.020)
New State 287g Policy	0.004	-0.017	-0.019	-0.017		-0.008
	(0.021)	(0.017)	(0.018)	(0.017)		(0.019)
Road Distance to the Border (1000 km)		-0.026***	-0.029***	-0.024**		-0.017**
		(0.008)	(0.008)	(0.010)		(0.008)
Indicator: Above Median Mexican-Born Population					0.021	-0.009
Share					(0.021)	(0.026)
Constant	-0.017	0.048**	0.040*	0.047**	-0.025*	0.016
	(0.011)	(0.023)	(0.023)	(0.023)	(0.015)	(0.027)
R-squared	0.010	0.120	0.146	0.121	0.028	0.075

Each listed coefficient represents a separate regression of the change in log(population) for the relevant group (from the American Community Survey) on the change in log(group-specific employment) from County Business Patterns data (using the demographic group's industry mix). All regressions include an intercept term and 95 city observations. Observations are weighted by the inverse of the estimated sampling variance of the dependent variable (see appendix for details). Heteroskedasticity-robust standard errors in parentheses - *** significant at the 1% level, ** 5%, * 10%.

Tables A-25 and A-26 provide a parallel set of results instrumenting for the change in log(employment) with the Bartik IV and for each interaction term with the interaction of the instrument and the

of the first name listed in the official MSA name) and of the 11 Mexican cities on the Mexican side of these border crossings. Using the stata command "traveltime3", we calculated the road distance from each of the MSAs to each potential border city in Mexico. We then saved the shortest possible distance and used this minimum (measured in thousands of kilometers) as our measure of distance to the border.

corresponding independent variable. Again, this set of results reveals so systematic heterogeneity in population responses by any of the included city characteristics.

Table A-25: Investigation of Heterogeneous Low-Skilled Mexican-Born Male Population Response to Labor Demand Shocks: Bartik IV Estimates

Dependent Variable: Change in log Population - Mexican-born Men, High-school or less						
	(1)	(2)	(3)	(4)	(5)	(6)
Change in log Employment	0.992**	0.825**	0.623	0.801	0.832**	0.943**
	(0.468)	(0.417)	(0.436)	(0.512)	(0.361)	(0.403)
Interaction: Change in log Employment			1.355			
× Enclave Measure			(3.487)			
Interaction:Change in log Employment				0.034		
× Road Distance to the Border				(0.220)		
Interaction:Change in log Employment					0.108	-0.078
× Above Median Mexican-Born Share					(0.610)	(0.547)
Enclave Measure	-0.047	0.183	0.325	0.184		
(Mexican-born Share of City Population)	(0.147)	(0.211)	(0.399)	(0.212)		
New State Immigrant Employment Legislation	0.031	0.004	0.002	0.004		0.073
	(0.061)	(0.056)	(0.055)	(0.056)		(0.083)
New State 287g Policy	-0.093*	-0.079	-0.087*	-0.080		-0.150***
	(0.052)	(0.051)	(0.049)	(0.053)		(0.046)
Road Distance to the Border (1000 km)		0.032	0.027	0.038		-0.032
		(0.021)	(0.023)	(0.040)		(0.025)
Indicator: Above Median Mexican-Born Population					-0.051	-0.156
Share					(0.095)	(0.098)
Constant	0.111	0.025	0.007	0.021	0.130**	0.239**
	(0.068)	(0.082)	(0.074)	(0.094)	(0.065)	(0.102)
First-stage partial F statistic	26.98	24.06	6.510	11.87	15.05	15.16
P-value testing shock exogeneity	0.0290	0.114	0.213	0.0843	0.140	0.140

Each listed coefficient represents a separate regression of the change in log(population) for the relevant group (from the American Community Survey) on the change in log(group-specific employment) from County Business Patterns data (using the demographic group's industry mix). All regressions include an intercept term and 95 city observations. Observations are weighted by the inverse of the estimated sampling variance of the dependent variable (see appendix for details). Heteroskedasticity-robust standard errors in parentheses - *** significant at the 1% level, ** 5%, * 10%.

Table A-26: Investigation of Heterogeneous Low-Skilled Native-Born Male Population Response to Labor Demand Shocks: Bartik IV Estimates

Dependent Variable: Change in log Population - Native-born Men, High-school or less						
	(1)	(2)	(3)	(4)	(5)	(6)
Change in log Employment	0.007	0.184*	-0.028	0.203	-0.021	0.147
	(0.090)	(0.099)	(0.145)	(0.157)	(0.099)	(0.127)
Interaction: Change in log Employment			2.021**			
× Enclave Measure			(0.795)			
Interaction:Change in log Employment				-0.015		
× Road Distance to the Border				(0.074)		
Interaction:Change in log Employment					0.121	-0.019
× Above Median Mexican-Born Share					(0.163)	(0.169)
Enclave Measure	0.042	-0.272**	-0.086	-0.270**		
(Mexican-born Share of City Population)	(0.081)	(0.118)	(0.105)	(0.120)		
New State Immigrant Employment Legislation	0.002	0.012	0.017	0.012		0.015
	(0.023)	(0.019)	(0.019)	(0.019)		(0.021)
New State 287g Policy	0.003	-0.016	-0.019	-0.015		-0.010
	(0.020)	(0.017)	(0.018)	(0.017)		(0.018)
Road Distance to the Border (1000 km)		-0.027***	-0.031***	-0.029***		-0.020**
		(0.008)	(0.008)	(0.010)		(0.008)
Indicator: Above Median Mexican-Born Population					0.030	-0.025
Share					(0.025)	(0.031)
Constant	-0.021	0.070**	0.052*	0.072**	-0.027*	0.042
	(0.013)	(0.028)	(0.028)	(0.030)	(0.014)	(0.034)
First-stage partial F statistic	28.93	38.39	21.04	19.14	17.17	16.65
P-value testing shock exogeneity	0.764	0.201	0.368	0.467	0.927	0.564

Each listed coefficient represents a separate regression of the change in log(population) for the relevant group (from the American Community Survey) on the change in log(group-specific employment) from County Business Patterns data (using the demographic group's industry mix). All regressions include an intercept term and 95 city observations. Observations are weighted by the inverse of the estimated sampling variance of the dependent variable (see appendix for details). Heteroskedasticity-robust standard errors in parentheses - *** significant at the 1% level, ** 5%, * 10%.

A.11 Additional IV Results

In the main text, we present two sets of exactly identified IV population elasticity results (Tables 5 and 6) rather than including both instruments simultaneously. We do so because the Local Average Treatment Effects of these two instruments may be different, and it is potentially useful to examine the results separately. A candidate explanation for potential heterogeneity is a difference in the permanence of the demand shocks represented by the Bartik and leverage instruments. If, for example, demand shocks due to household leverage were expected to be shorter lived, then it would not be surprising to find weaker population responses to this instrument. Nevertheless, for completeness, Table A-27 provides overidentified IV versions of the population elasticity results of Table 2 using both instruments simultaneously.

In addition to reporting the IV slope coefficients, the table includes the results of two additional hypothesis tests for each regression. The first p-value listed ("shock exogeneity"), is from a test of the null that the OLS and IV coefficients are the same. For the most part, we fail to reject these null hypotheses, although three of the twenty listed p-values are less than 0.05. Notably, none of these significant p-values occurs in the low-skilled native-born or Mexican-born population groups that we focus on. The second p-value listed ("instrument exogeneity") is from a test of the null that the IV coefficients using each IV separately are the same. This null hypothesis is commonly referred to as a test of instrument exogeneity, although, as discussed above, this interpretation relies on the assumption of equal local average treatment effects from each instrument. Only one of the twenty reported p-values is below 0.05, which means that we cannot rule out the null hypothesis that differences in slope coefficients between Tables 5 and 6 are due to sampling error alone.

Table A-27: Test of Overidentifying Restrictions for Bartik and Leverage IVs
Population Response Regressions 2006-2010

	Dependent Variable: Change in log Population				
	All	Native-Born	Foreign-Born	Mexican-Born	Other Foreign-Born
Panel A: Men, High-school or less					
IV Estimate					
Change in log of Group-Specific	0.127	-0.052	0.333	0.596**	-0.454
Employment	(0.096)	(0.080)	(0.238)	(0.248)	(0.316)
P-value testing shock exogeneity	0.790	0.245	0.776	0.421	0.128
P-value testing instrument exogeneity	0.225	0.492	0.653	0.062	0.323
First Stage					
Predicted Change in log Employment	2.778***	2.910***	2.515***	1.629	3.489***
	(0.643)	(0.643)	(0.825)	(1.188)	(0.685)
Household Leverage	-0.096***	-0.087***	-0.105***	-0.127***	-0.079***
	(0.017)	(0.016)	(0.019)	(0.019)	(0.020)
Partial F Statistic	34.62	35.01	24.34	23.79	62.09
Panel B: Men, Some college or more					
Change in log of Group-Specific	0.392***	0.455***	0.176	-0.423	0.351
Employment	(0.126)	(0.148)	(0.248)	(0.364)	(0.338)
P-value testing shock exogeneity	0.506	0.867	0.035	0.149	0.276
P-value testing instrument exogeneity	0.348	0.774	0.120	0.911	0.097
First Stage					
Predicted Change in log Employment	2.104***	2.188***	2.131***	2.273***	2.104***
	(0.639)	(0.660)	(0.685)	(0.783)	(0.638)
Household Leverage	-0.050***	-0.048***	-0.046**	-0.096***	-0.041**
	(0.017)	(0.017)	(0.019)	(0.016)	(0.020)
Partial F Statistic	23.87	22.37	27.76	36.48	23.67
Panel C: Women, High-school or less					
Change in log of Group-Specific	0.122	-0.079	0.606*	1.151***	-0.611
Employment	(0.127)	(0.195)	(0.361)	(0.323)	(0.579)
P-value testing shock exogeneity	0.021	0.127	0.919	0.147	0.018
P-value testing instrument exogeneity	0.893	0.134	0.244	0.176	0.384
First Stage					
Predicted Change in log Employment	1.286***	1.395***	1.118**	0.425	1.536***
	(0.397)	(0.397)	(0.555)	(0.717)	(0.531)
Household Leverage	-0.052***	-0.054***	-0.048***	-0.066***	-0.028
	(0.012)	(0.012)	(0.016)	(0.015)	(0.020)
Partial F Statistic	47.64	42.95	34.89	25.32	23.67
Panel D: Women, Some college or more					
Change in log of Group-Specific	0.463***	0.568***	0.242	0.832	-0.052
Employment	(0.172)	(0.190)	(0.515)	(0.702)	(0.634)
P-value testing shock exogeneity	0.960	0.353	0.069	0.339	0.150
P-value testing instrument exogeneity	0.158	0.188	0.046	0.629	0.142
First Stage					
Predicted Change in log Employment	0.591	0.634	0.845	0.922*	0.828
	(0.475)	(0.475)	(0.550)	(0.533)	(0.517)
Household Leverage	-0.044***	-0.043***	-0.038***	-0.059***	-0.034**
	(0.012)	(0.012)	(0.014)	(0.011)	(0.016)
Partial F Statistic	11.97	11.62	12.11	32.24	9.065

Each listed coefficient represents a separate instrumental variables regression of the change in log(population) for the relevant group (from the American Community Survey) on the change in log(group-specific employment) from County Business Patterns data (using the demographic group's industry mix). All regressions include an intercept term, 94 city observations, and the enclave and policy controls in Column (4) of Table 3. Observations are weighted by the inverse of the estimated sampling variance of the dependent variable (see appendix for details). Heteroskedasticity-robust standard errors in parentheses - *** significant at the 1% level, ** 5%, * 10%. We use the predicted employment change (based on Bartik (1991)) and average household leverage as instruments for the change in log(group-specific employment). The first-stage coefficient on the instrument and the partial F statistic are reported below the corresponding IV estimate.

A.12 Descriptive Statistics for Smoothing Regressions

Table A-28 provides the mean and standard deviation for the dependent variable used in the smoothing analysis: the change in log(employment/population). Notably, these distributions are remarkably similar for the two sets of cities with above-median and below-median Mexican-born population share.

Table A-28: Descriptive Statistics for Smoothing Regressions

Change in log Employment to Population Ratio

City's Mexican Population Share:	below-median		above-median	
	mean	std. dev.	mean	std. dev.
Sample:				
Less-skilled Men	-0.101	0.048	-0.092	0.043
Native Less-skilled Men	-0.122	0.048	-0.116	0.053
Native High-skilled Men	-0.036	0.023	-0.040	0.023

Each panel provides the mean and standard deviation of change in log(employment to population ratio) (from the American Community Survey) and the change in log(employment) from County Business Patterns data (using the demographic group's industry mix) for a different demographic group of workers (by sex and education level). All statistics are based on a consistent sample of 95 city observations. Observations are weighted by the inverse of the estimated sampling variance of the dependent variable.

A.13 Additional Smoothing Results

As discussed in footnote 49, we investigated whether the above-/below-median split of the cities in the smoothing results (throughout section 4) was too coarse. Table A-29 shows the results of running analogous specifications splitting the cities into quartiles of Mexican-born population share. Panels (a)-(c) consistently show that the relationship between local shocks and local outcomes becomes weaker moving from the first to third quartiles. This pattern then levels off when comparing the third to the fourth quartile. The coefficients in panel (d) are all relatively similar to each other with no apparent pattern across quartiles. These results are consistent with the interpretation that the presence of Mexican immigrants smooths outcomes substantially as long as there is a critical mass of potential workers in the local labor market.

Table A-29: Mexican Mobility Smooths Employment Outcomes:
Change in Low-Skilled Emp/Pop Ratio vs. Change in Payroll Employment

dependent variable: change in log employment/population (ACS)

	City's Mexican population share quartile			
	1 (lowest)	2	3	4 (highest)
(a) dependent variable sample: less-skilled men				
change in log employment for less-skilled men (CBP)	0.677***	0.454***	0.297***	0.341***
	(0.137)	(0.064)	(0.046)	(0.070)
(b) dependent variable sample: native less-skilled men				
change in log employment for less-skilled men (CBP)	0.678***	0.459***	0.308***	0.354***
	(0.147)	(0.063)	(0.046)	(0.084)
(c) dependent variable sample: native less-skilled men				
change in log employment for less-skilled native men (CBP)	0.664***	0.488***	0.329***	0.406***
	(0.147)	(0.066)	(0.051)	(0.089)
(d) dependent variable sample: native high-skilled men				
change in log employment for high-skilled native men (CBP)	0.248***	0.194*	0.290***	0.213**
	(0.041)	(0.106)	(0.036)	(0.094)

Examines the relationship between labor market outcomes (changes in employment probability) and labor demand shocks (changes in payroll employment) separately for cities based on quartiles of Mexican population share to demonstrate the smoothing effect of Mexican mobility. Smaller coefficients indicate more smoothing. Panel (a) examines the relationship between low-skilled employment shocks and low-skilled men's employment probability. Panel (b) examines the relationship between low-skilled employment shocks and low-skilled *native* men's employment probability. Panel (c) examines the relationship between low-skilled *native* employment shocks and low-skilled *native* men's employment. Panel (d) examines the relationship between *high-skilled* native employment shocks and *high-skilled* native men's employment.

Further, as mentioned in footnote 48, we have run a version of the smoothing results that using the Bartik IV to predict the local change in employment. The results of this specification, which are quite similar to those in Table 7 are presented in Table A-30.

Table A-30: Mexican Mobility Smooths Employment Outcomes: Bartik (1991) IV Estimates

dependent variable: change in log employment/population (ACS)

	City's Mexican population share		
	below-median	above-median	difference
(a) dependent variable sample: less-skilled men			
change in log employment for less-skilled men (CBP)	0.685***	0.305***	-0.380***
	(0.119)	(0.071)	(0.138)
(b) dependent variable sample: native less-skilled men			
change in log employment for less-skilled men (CBP)	0.731***	0.283***	-0.448***
	(0.138)	(0.072)	(0.155)
(c) dependent variable sample: native less-skilled men			
change in log employment for less-skilled native men (CBP)	0.736***	0.305***	-0.431***
	(0.131)	(0.077)	(0.152)
(d) dependent variable sample: native high-skilled men			
change in log employment for high-skilled native men (CBP)	0.293***	0.214**	-0.079
	(0.112)	(0.102)	(0.151)

Examines the relationship between labor market outcomes (changes in employment probability) and labor demand shocks (changes in payroll employment) separately for cities with above- and below-median Mexican population share to demonstrate the smoothing effect of Mexican mobility. Smaller coefficients indicate more smoothing. We use the predicted change in log(employment), based on Bartik (1991) and described in the text, as an instrument for the change in log(group-specific employment). Panel (a) examines the relationship between low-skilled employment shocks and low-skilled men's employment probability. Panel (b) examines the relationship between low-skilled employment shocks and low-skilled *native* men's employment probability. Panel (c) examines the relationship between low-skilled *native* employment shocks and low-skilled *native* men's employment. Panel (d) examines the relationship between *high-skilled* native employment shocks and *high-skilled* native men's employment. These specifications omit Brazoria, TX, which is a substantial outlier in the first stage; see appendix section A.8 for details.

In addition, we have run a version of Table 7 that omits cities in California; these results are in Table A-31. The qualitative results are unchanged, which suggests that California alone was not driving the main results.

Table A-31: Mexican Mobility Smooths Employment Outcomes:
Change in Low-Skilled Emp/Pop Ratio vs. Change in Payroll Employment
Omitting California

dependent variable: change in log employment/population (ACS)

	City's Mexican population share		
	below-median	above-median	difference
(a) dependent variable sample: less-skilled men			
change in log employment for less-skilled men (CBP)	0.499***	0.316***	-0.183***
	(0.0511)	(0.0428)	(0.0666)
(b) dependent variable sample: native less-skilled men			
change in log employment for less-skilled men (CBP)	0.517***	0.281***	-0.235***
	(0.0587)	(0.0486)	(0.0762)
(c) dependent variable sample: native less-skilled men			
change in log employment for less-skilled native men (CBP)	0.536***	0.317***	-0.219***
	(0.0617)	(0.0539)	(0.0818)
(d) dependent variable sample: native high-skilled men			
change in log employment for high-skilled native men (CBP)	0.218***	0.243***	0.0254
	(0.0481)	(0.0255)	(0.0546)

Examines the relationship between labor market outcomes (changes in employment probability) and labor demand shocks (changes in payroll employment) separately for cities with above- and below-median Mexican population share to demonstrate the smoothing effect of Mexican mobility. Cities in California are omitted from the analysis. Smaller coefficients indicate more smoothing. Panel (a) examines the relationship between low-skilled employment shocks and low-skilled men's employment probability. Panel (b) examines the relationship between low-skilled employment shocks and low-skilled *native* men's employment probability. Panel (c) examines the relationship between low-skilled *native* employment shocks and low-skilled *native* men's employment. Panel (d) examines the relationship between *high-skilled* native employment shocks and *high-skilled* native men's employment.

Finally, as discussed in footnote 51, a potential concern with the smoothing analysis is that cities with a larger Mexican-born populations may have less rigid wage structures. Recall that under this hypothesis, wage changes should be more strongly correlated with employment changes in cities with greater Mexican concentrations. Table A-32 shows that, in fact, the opposite is true. Instead, this figure is consistent with the interpretation that Mexican mobility smoothed both employment and wage outcomes for natives. Note, however, that the difference in slopes for the two sets of cities is not statistically significantly different from zero, which implies that the smoothing in employment rates documented in the main text is the primary effect.

Table A-32: Mexican Mobility Smooths Employment Outcomes:
Change in Low-Skilled Wages vs. Change in Payroll Employment

dependent variable:change in mean log wage (ACS)

	City's Mexican population share		
	below-median	above-median	difference
(a) dependent variable sample: less-skilled men			
change in log employment for less-skilled men (CBP)	0.377***	0.216***	-0.161
	(0.121)	(0.053)	(0.132)
(b) dependent variable sample: native less-skilled men			
change in log employment for less-skilled men (CBP)	0.425***	0.297***	-0.127
	(0.128)	(0.086)	(0.154)
(c) dependent variable sample: native less-skilled men			
change in log employment for less-skilled native men (CBP)	0.442***	0.306***	-0.137
	(0.131)	(0.097)	(0.162)
(d) dependent variable sample: native high-skilled men			
change in log employment for high-skilled native men (CBP)	0.296***	0.148*	-0.149
	(0.092)	(0.083)	(0.124)

Examines the relationship between changes in average log(wage) and labor demand shocks (changes in payroll employment) separately for cities with above- and below-median Mexican population share. Smaller coefficients indicate more smoothing. Panel (a) examines the relationship between low-skilled employment shocks and low-skilled men's wages. Panel (b) examines the relationship between low-skilled employment shocks and low-skilled *native* men's wages. Panel (c) examines the relationship between low-skilled *native* employment shocks and low-skilled *native* men's wages. Panel (d) examines the relationship between *high-skilled* native employment shocks and *high-skilled* native men's wages.

A.14 Propensity Score Reweighting

Table A-33 provides the results of the probit specifications used to reweight the native population for the results described in section 6.2. Recall that these are probit specifications predicting whether an individual observation is a Mexican-born immigrant, with the sample limited to native-born and Mexican-born men with at most a high school degree. The specification in column (1) includes a dummy variable for whether the individual completed less than a high school degree. Column (2) includes a series of dummy variables, one for each age. Column (3) includes a dummy variable for renting one's home rather than owning it. Column (4) includes dummies for 20 family status types, one for each combination of a dummy for "married, spouse present" and dummies for the number of children (one each for every category from zero to "9+"). Column (5) includes all covariates together. The weights based on columns (1)-(5) are then used to run the regressions reported in columns (3)-(7), respectively, of Table 11.

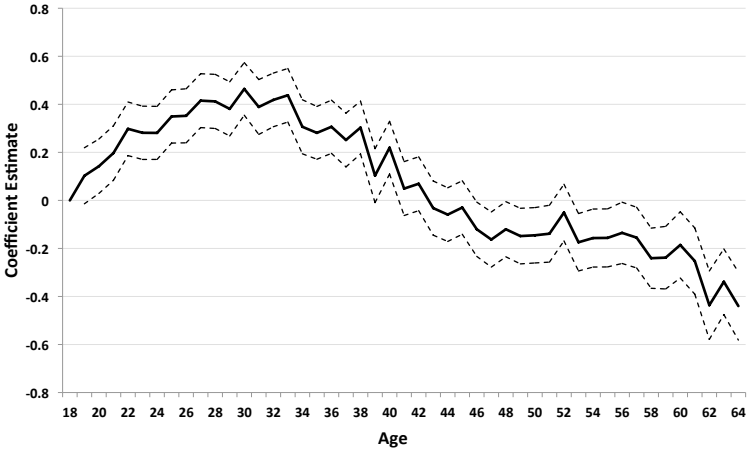
Column (1) reveals that those without a high school degree more likely to be Mexican-born. Similarly, column (3) shows that renters are more likely to be Mexican-born. The coefficients for the age dummies and family type (from column (5)) are shown in Figures A-9 and A-10 respectively. Conditional on skill and home ownership, younger men (roughly those under the age of 40) are more likely to be Mexican-born while older men are more likely to be native-born. Larger family sizes typically predict a greater likelihood of being Mexican-born, although the coefficients become fairly imprecise in the smaller cell sizes representing families with seven or more children.

Table A-33: Probit Regressions Predicting Mexican Nativity (2006)

dependent variable: indicator for Mexican nativity					
	(1)	(2)	(3)	(4)	(5)
High school dropout indicator	1.196***				1.165***
	(0.010)				(0.011)
Age indicators		X			X
Renter indicator			0.530***		0.428***
			(0.009)		(0.011)
Interactions of married spouse present indicator and number of children indicators				X	X

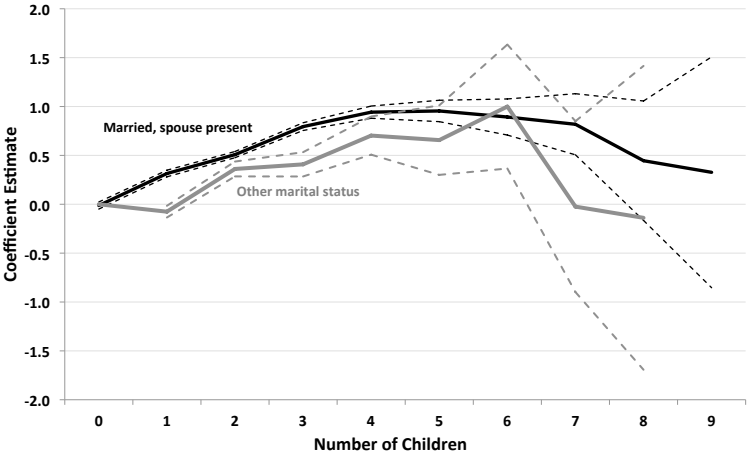
Results are coefficient estimates of a probit regression predicting whether an observation is a Mexican-born immigrant. The sample includes native-born and Mexican-born men observed in the 2006 ACS with at most a high school degree who meet individual sampling criteria and live in the 95 cities used throughout the results. The coefficients marked with an "X" are displayed in subsequent tables. Heteroskedasticity-robust standard errors in parentheses - *** significant at the 1% level, ** 5%, * 10%.

Figure A-9: Probit Coefficients Predicting Mexican Nativity (2006)



This figure shows coefficient estimates (solid line) and the associated 95 percent confidence interval for age dummies (one for each year) from the probit regression reported in column (5) of Table A-33. The reference category is 18 year olds, which is denoted in the figure with a coefficient of zero without a standard error. The sample includes native-born and Mexican-born men observed in the 2006 ACS with at most a high school degree who meet individual sampling criteria and live in the 95 cities used throughout the results.

Figure A-10: Probit Coefficients Predicting Mexican Nativity (2006)



This figure shows coefficient estimates (solid lines) and the associated 95 percent confidence interval for dummies for the number of children interacted with a dummy variable for being married with a spouse present from the probit regression reported in column (5) of Table A-33. The omitted category is men without a spouse present with no children in the household, which is denoted in the figure with a coefficient of zero without a standard error. The gray line shows coefficients for men without a spouse present, but with children in the household; the black line shows analogous results for men with spouses present. The regression was run without a "main effect" for marital status. Thus each coefficient compares the denoted group to the omitted category. The sample includes native-born and Mexican-born men observed in the 2006 ACS with at most a high school degree who meet individual sampling criteria and live in the 95 cities used throughout the results.

Table A-34 and Figures A-11 and A-12 provide analogous results for similar probit regressions limited to Mexican-born immigrants and native-born men living outside of their state of birth. The results reveal qualitatively similar relationships between the covariates and the likelihood that an observation is Mexican-born.

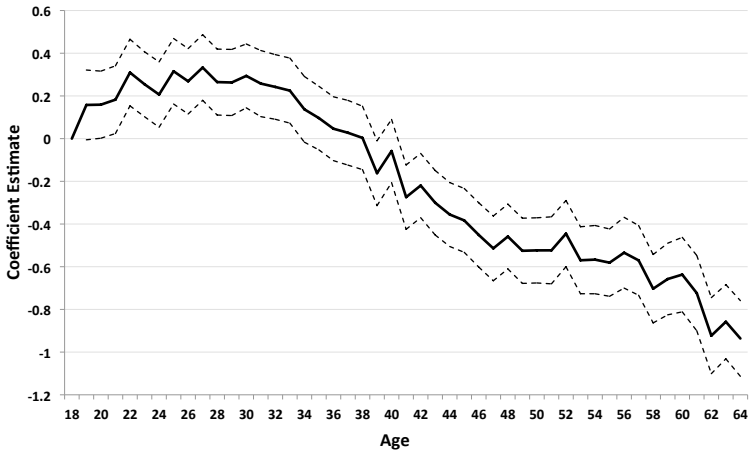
Table A-34: Probit Regressions Predicting Mexican Nativity (2006)
Natives Not Living in State of Birth

dependent variable: indicator for Mexican nativity

	(1)	(2)	(3)	(4)	(5)
High school dropout indicator	1.287***				1.275***
	(0.013)				(0.014)
Age indicators		X			X
Renter indicator			0.493***		0.309***
			(0.012)		(0.014)
Interactions of married spouse present indicator and number of children indicators				X	X

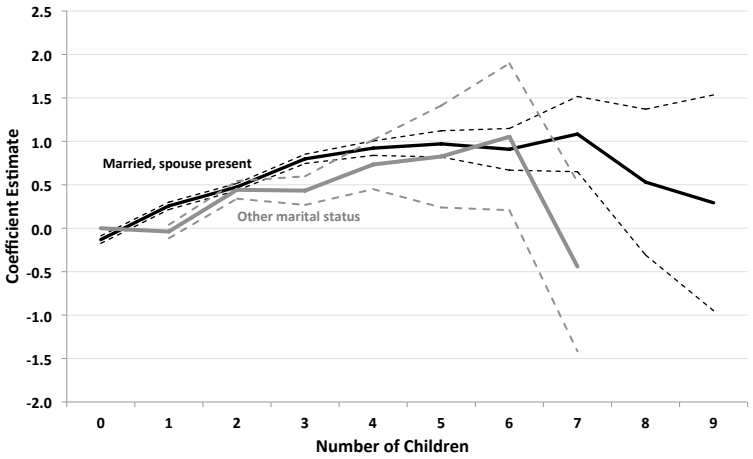
Results are coefficient estimates of a probit regression predicting whether an observation is a Mexican-born immigrant. The sample includes native-born *living outside their state of birth* and Mexican-born men observed in the 2006 ACS with at most a high school degree who meet individual sampling criteria and live in the 95 cities used throughout the results. The coefficients marked with an "X" are displayed in subsequent tables. Heteroskedasticity-robust standard errors in parentheses - *** significant at the 1% level, ** 5%, * 10%.

Figure A-11: Probit Coefficients Predicting Mexican Nativity (2006)
Natives Not Living in State of Birth



This figure shows coefficient estimates (solid line) and the associated 95 percent confidence interval for age dummies (one for each year) from the probit regression reported in column (5) of Table A-33. The reference category is 18 year olds, which is denoted in the figure with a coefficient of zero without a standard error. The sample includes native-born *living outside their state of birth* and Mexican-born men observed in the 2006 ACS with at most a high school degree who meet individual sampling criteria and live in the 95 cities used throughout the results.

Figure A-12: Probit Coefficients Predicting Mexican Nativity (2006)
Natives Not Living in State of Birth



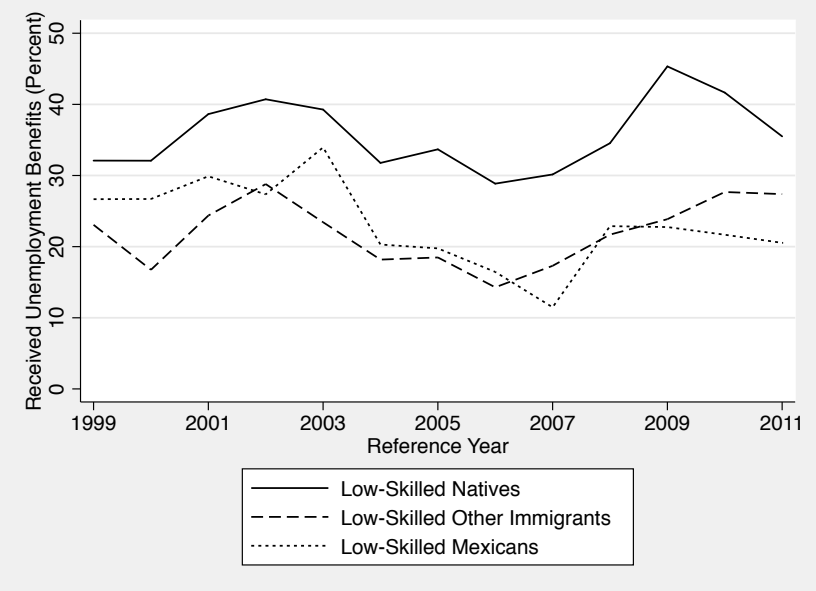
This figure shows coefficient estimates (solid lines) and the associated 95 percent confidence interval for dummies for the number of children interacted with a dummy variable for being married with a spouse present from the probit regression reported in column (5) of Table A-34. The omitted category is men without a spouse present with no children in the household, which is denoted in the figure with a coefficient of zero without a standard error. The gray line shows coefficients for men without a spouse present, but with children in the household; the black line shows analogous results for men with spouses present. The regression was run without a "main effect" for marital status. Thus each coefficient compares the denoted group to the omitted category. The sample includes native-born men *living outside their state of birth* and Mexican-born men observed in the 2006 ACS with at most a high school degree who meet individual sampling criteria and live in the 95 cities used throughout the results.

A.15 CPS descriptives

The following section uses Current Population Survey data that we reference in Section 6 when examining why the less-skilled Mexican-born respond so much more strongly than similarly skilled natives.

Figure A-13 shows UI participation rates by nativity groups for low-skilled men among those who had a spell of unemployment in the previous year. The patterns across groups for high-skilled men are broadly similar, although the high-skilled are less likely to claim benefits in general.

Figure A-13: Unemployment Benefit Receipt by Nativity 2000-2011

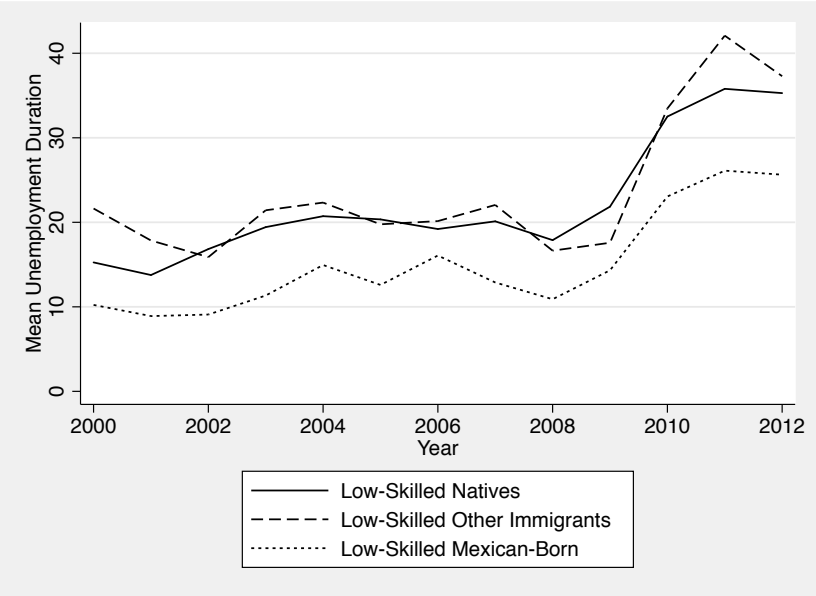


Source: Authors' calculations from Current Population Survey data. Sample includes men ages 18-64, not in school, not in group quarters, with at most a high school degree.

Figure A-14 shows average unemployment duration among those who are unemployed in the reference month, separately by nativity. The results show that Mexican-born workers have markedly shorter unemployment durations than natives.

Table A-35 is based on a question from the March supplement to the Current Population Survey asking recent movers why they moved. We report summary statistics for less skilled men who moved across county lines or internationally in the past year. The Mexican-born are especially likely to report moving to look for work or because they lost a previous job. In fact, among all possible answers, this category is the most common response among the Mexican-born (23.6 percent). Note that these numbers include individuals arriving from abroad. Nearly two thirds of Mexican-born arrivals from abroad report one of the job related reasons. Among internal migrants, the Mexican-born are still twice as likely to report moving to look for work or because of a lost job as are natives or other immigrants.

Figure A-14: Unemployment Duration (Among Unemployed) by Nativity 2000-2012



Source: Authors' calculations from Current Population Survey data. Sample includes men ages 18-64, not in school, not in group quarters, with at most a high school degree. Average duration calculated among those who are unemployed in the reference month.

Table A-35: Stated Reasons for Moving Among Cross-County Movers, 2001-2010

	Native-Born	Mexican-Born	Other Immigrant
Attend/leave college	1.7%	1.1%	1.7%
Change in marital status	6.6%	3.2%	5.1%
Change of climate	1.3%	0.2%	1.1%
For cheaper housing	5.2%	4.3%	4.0%
For easier commute	4.5%	4.3%	4.4%
Health reasons	1.9%	0.7%	0.4%
Natural disaster	0.3%	0.2%	0.1%
New job or job transfer	**16.3%**	**17.1%**	**15.1%**
Other family reason	16.7%	12.4%	16.3%
Other housing reason	6.9%	4.8%	6.5%
Other job-related reason	3.4%	4.7%	4.4%
Other reasons	4.5%	2.1%	8.0%
Retired	0.7%	0.0%	0.2%
To establish own household	7.0%	5.0%	5.0%
To look for work or lost job	**5.3%**	**23.8%**	**10.3%**
Wanted better neighborhood	3.3%	3.6%	2.9%
Wanted new or better housing	8.9%	9.6%	9.0%
Wanted to own home, not rent	5.7%	2.9%	5.5%

Source: Authors' calculations from March CPS data, 2000-2010. Sample includes men ages 18-64, not in school, not in group quarters, with at most a high school degree who are living in a different county in the survey year than in the previous year.