

## Do Foreign-Born Workers Cause Native-Born Workers to Move or Leave the Labor Force?

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This *Commentary* discusses how the presence of foreign-born workers in a local labor market affects the decisions of native-born workers to leave the labor force or move to another state. We analyze short panels obtained through the Current Population Survey and find that, in the short run, less-educated native-born workers react to a larger stock of foreign-born workers by either moving to a different state or dropping out of the labor force. In terms of magnitude, the effect is small but not insignificant.

The impact of foreign-born workers on the native-born workforce in a local labor market has been investigated in a number of research studies, but the impact and its magnitude are as yet unclear. Many empirical studies have estimated the effect of immigration on wages and unemployment, but the results are inconclusive. Estimates of the effect on unemployment have fallen over a wide range, and most estimates of the effect on wages have been small and negative for less-educated workers (see Blau and Kahn, 2014). However, most studies have focused on only these two possible effects of immigration. Other ways in which the local labor market might adjust to an influx of foreign-born workers, such as native-born workers exiting the labor force or moving to another labor market, have been explored less. Because these other channels of adjustment could partially mute the impact of foreign-born competition on native-born workers' wages and employment, they should be investigated in more depth.

In this *Commentary*, we focus on these other adjustment channels. Using individual-level data, we calculate both the probability of an individual dropping out of the labor force and of migrating to another state as the fraction of the foreign-born population changes, controlling for demographic and local labor market characteristics. In order to account for any remaining omitted variables, we introduce the interaction of state and time as fixed effects that capture potential differences in the local labor markets' business cycles. Given the features of the data we use, we limit our analysis to short-term effects in the local labor market.

Our results indicate that less-educated native-born workers do react to the presence of foreign-born workers in their local labor market. We find that less-educated native-born workers are more likely to either move to a different state or drop out of the labor force in states with higher fractions of foreign-born workers. Though the effects are quantitatively small, they are not insignificant.

### Data

To analyze changes in labor force participation rates, we use data from the monthly matched Current Population Survey (CPS). To analyze changes in interstate migration, we use data from the Annual Social and Economic Supplement (ASEC) of the CPS. The CPS does not follow workers who move across states, but it asks detailed questions about the respondents' previous migration patterns, so we know exactly where respondents have lived in the past year. Consequently, we focus on migrations that occurred within the year preceding the interview.<sup>1</sup>

Table 1 shows descriptive statistics for the sample of prime-age (25–54) male workers used for the migration analysis. Following the literature, we exclude women from the main analysis because women's labor market decisions tend to have a strong nonmarket component (for example, the decision to take care of children).<sup>2</sup> The characteristics of the sample used for the labor force participation analysis are qualitatively the same. The majority of the male workers in the sample are younger than 40, white, and less-educated, where less-educated means having a high school diploma

or less. Most are native-born, healthy, and married. The average unemployment rate in the state in which they worked in the year prior to their interview was 6.6 percent. As for the share of the foreign-born workers in the state, we see a wide variance. The median is 11 percent of the labor force, but the minimum is 1 percent and the maximum is 36 percent.

Table 2 shows other descriptive statistics for the states in which native-born workers lived before and after moving from one state to another. Workers tend to move from states with higher concentrations of foreign-born workers to states with lower concentrations. Similarly, they tend to move from states with higher unemployment rates to states with lower rates.

In the next section, we try to estimate the probability of workers moving across states as well as dropping out of the labor force. To do so, we must restrict our sample to one in which we observe the same household for two periods. In the subsample of households we observe for two periods, close to 5 percent had dropped out of the labor force in the year prior to being interviewed, while about 2 percent had moved from out of state.

### Methodology

We are interested in knowing how the level of foreign-born workers in a state affects the probability of a native-born worker, particularly a less-educated worker, dropping out of the labor force or moving to another state. To calculate these effects, we estimate several linear probability models. We define less-educated workers as those with a high school diploma or less because Card (2009) and Ottaviano and Peri (2012) have found that high school graduates and high school dropouts are very close substitutes from the employers' perspectives.

We control for workers' age, race, gender, marital situation, place of birth (United States versus abroad), health condition, and educational level, as well as the average unemployment duration in the state, the state unemployment rate, and the ratio of foreign-born workers in the state to the state's total population. In order to minimize the effects of individuals who drop out of the labor force for reasons not related to local labor market conditions, we focus our results on prime-aged individuals (25–54 years old). In addition, because women may leave the labor force more often than men for reasons unrelated to local labor market conditions, we focus on men's results. However, results for the overall sample of less-educated workers (men and women) are qualitatively the same. We also eliminate possible omitted variables from characterizing state labor markets by controlling for the interaction of year and state fixed effects.

### Results

Results for the effect of foreign-born workers on labor force participation are presented in table 3. To interpret the results of the type of analysis we did, you must first keep in mind that the results are interpreted relative to a baseline group. The baseline group we chose for comparison is college-educated foreign-born workers. That is, our analysis looks at how much more or less likely a given worker is to drop out of the labor force relative to a college-educated foreign-born worker.

While this seems an odd choice for a baseline, the choice has some benefits. First, this baseline group has a labor force participation rate that is quite high (more than 96 percent) and stable (see Fogg et al., 2012). Hence, the overall fraction of foreign-born workers in the local labor force, which is the variable of interest, is unlikely to affect the labor supply of college-educated foreign-born workers. While our results are

**Table 1. Descriptive Statistics: Internal Migration Sample, Men**

	Mean, percent	Standard deviation
<b>Older (≥ 40yrs)</b>	48.46	49.98
<b>White</b>	71.88	44.96
<b>Black</b>	8.31	27.60
<b>Married</b>	62.28	48.47
<b>Native-born</b>	84.87	35.83
<b>Less educated</b>	42.40	49.42
<b>Poor health</b>	0.84	9.13
<b>Foreign-born</b>	10.71	7.98
<b>State unemployment</b>	6.61	2.09

N=282,590

**Table 2. Descriptive Statistics: Origin and Destination States**

	Mean	Median	St. Dev.	Min	Max
<b>Foreign-born, origin state</b>	10.98	9.29	7.81	0.38	29.87
<b>Foreign-born, destination state</b>	9.39	7.50	6.92	0.38	29.87
<b>State unemployment, origin state</b>	6.75	6.40	2.06	2.20	18.70
<b>State unemployment, destination state</b>	6.65	6.40	2.13	2.20	18.70

N=8,519

relative to this baseline, the fact that the baseline is nearly invariant allows us to get a better sense of the absolute effect. Second, the effect of the baseline is netted out once we compare the results for different groups (for example, college-educated and less-educated native-born workers). Consequently, we can explicitly calculate comparisons across any two groups, choosing different baselines.

All coefficients in table 3 reflect the impact on the different educational groups as the fraction of the local labor force that is foreign born varies. We see that only the coefficient for native-born less-educated workers is significant. Therefore, we can surmise that the effect of changes in the fraction of the local labor force that is foreign born is concentrated on native-born less-educated workers.<sup>3</sup> Using these coefficients, we can calculate that an increase from 10 percent to 20 percent in the fraction of the local labor force that is foreign born would be correlated with an increase of 0.46 percent in the likelihood of native-born less-educated workers leaving the labor force relative to foreign-born college-educated workers ( $0.046 \times 0.1 = 0.0046 \times 100$ ).

Results for interstate migration are presented in table 4. As in table 3, the baseline group is foreign-born college-educated workers. However, in this case, the choice of the baseline group is not as neutral as before. First of all, a foreign-born worker's decision to migrate may depend on the fraction of compatriots who live in the area (see Kritz et al., 2011). Second, all college-educated workers, both foreign- and native-born, are more likely to move across state lines than less-educated workers (see Newbold, 1999). As a result, the migration decisions of college-educated foreign-born workers may vary not only across states but they may also be affected by the fraction of foreign-born workers in the

labor force. In this sense, our results must truly be taken as relative to the baseline. However, the baseline choice is still irrelevant when analyzing whether less-educated native-born workers are more or less likely to move across state lines due to changes in the labor force's fraction of foreign-born workers than more-educated native-born workers. In these comparisons across the two groups, the choice of baseline is kept constant and effectively nets out in the calculations.

Based on our results, we can calculate that a 10 percent increase in the foreign-born fraction of the local labor force is correlated with an increase in the propensity to move across states (compared to the baseline group) of 1.45 percent for college-educated native-born workers and 1.71 percent for less-educated native-born workers. A less-educated foreign-born worker is just 0.26 percent more likely to move in response to a 10 percent increase in the fraction of the labor force that is foreign-born than his college-educated counterpart. These results are in line with the findings of Monras (2015) that show that a large influx of Mexican immigrants due to the Mexican Peso Crisis induced substantial internal relocation.

### Conclusion

We show that the presence of foreign-born workers in the local labor force is correlated with a higher likelihood of native-born less-educated workers dropping out of the labor force or moving across state lines. Our results are robust to the inclusion of industry, year, state, and state×year fixed effects, implying that we control not only for the overall US business cycle and the composition of local industry, but also for possible differences in regional business cycles. In terms of the magnitude of the effects, they tend to be small while still statistically significant.

**Table 3. Linear Probability of Labor Force Exit, (Aggregated Interaction Effects)**

Worker group	Men, all educational levels
Native-born, college-educated	0.005 (0.009)
Foreign-born, less-educated	-0.009 (0.008)
Native-born, less-educated	0.046 *** (0.008)

**Table 4. Linear Probability of Migration, (Aggregated Interaction Effects)**

Worker group	Men, all educational levels
Native-born, college-educated	0.145 *** (0.013)
Foreign-born, less-educated	0.026 *** (0.009)
Native-born, less-educated	0.171 *** (0.019)

Notes: All specifications include year×state fixed effects in order to control for state-specific business cycles. \*\*\* p < 0.01.

Sources: Authors' calculations based on data from the monthly matched Current Population Survey (CPS) and the Annual Social and Economic Supplement of the CPS.

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### Footnotes

1. An unfortunate drawback of this approach it is that we have less information about jobs and wages at the time of the move.
2. Women are more likely to drop out of the labor force to take care of children or an elderly relative. They are also more likely to move to another state because their spouse got a job offer (men are much less likely to follow their wives' careers). We did include women and men in one specification, and the results were qualitatively the same as the men-only results.

### References

- Blau, Francine, and Lawrence Kahn, 2014. "Immigration and the Distribution of Incomes." In *Handbook of the Economics of International Migration: The Impact*, 793–843.
- Card, David. 2009. "Immigration and Inequality," *American Economic Review*, 99: 1–21.

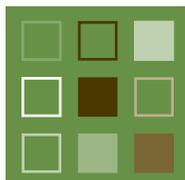
Fogg, Neeta P., and Paul E. Harrington. 2012. "Findings from an Examination of the Labor Force Participation of College-Educated Immigrants in the United States." Center for Labor Markets and Policy Drexel University.

Kritz, Mary M., Douglas T. Gurak, and Min-Ah Lee. 2011. "Will They Stay? Foreign-Born Out-Migration from New US Destinations," *Population Research and Policy Review*, 30.4: 537–567.

Monras, Joan, 2015. "Immigration and Wage Dynamics: Evidence from the Mexican Peso Crisis," unpublished manuscript.

Newbold, K. Bruce. 1999. "Spatial Distribution and Redistribution of Immigrants in the Metropolitan United States, 1980 and 1990," *Economic Geography*, 75.3: 254–271.

Ottaviano, Gianmarco and Giovanni Peri, 2012. "Rethinking the Effects of Immigration on Wages," *Journal of European Economic Association*, 10: 157–192.



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