IMMIGRATION AND WORKER DISPLACEMENT FROM HIGH IMMIGRATION INDUSTRIES: EVIDENCE USING LONGITUDINAL DATA FROM THE LEHD.

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ABSTRACT

Are native workers "displaced" when the proportion of immigrant workers in their industry increases rapidly? While repeated cross-sectional data from the Census or ACS show that immigrant workers tend to concentrate in specific detailed industries (see Table 1 below), we know little about what happens to the native workers in these industries over time. To answer this question, we use data from the Longitudinal Employer Household Data (LEHD) on over 90 million workers from 30 states to identify 70 4-digit industries with the largest increase in immigrant density between 1995 and 2008. Using this data, we observe the earnings and employment outcomes for native workers in these high-immigration industries. To provide a control group for these workers, we match them to similar workers by gender, age, broad 2-digit industry, state, year, and initial wage quintile. We analyze the wage trajectories of native workers who stay in the industry and those who leave compared to workers in the control group. Finally, we analyze the wage changes of workers who are displaced due to plant closure, comparing the relative impact on workers in high-immigration industries versus a sample of displaced workers in general.

EXTENDED ABSTRACT

There is a contentious debate in the academic literature between those who see the see the effect of immigration on wages and employment as small, if not zero (e.g., Card and Lewis 2005) and those who argue that there is a substantial negative effect for less educated native-workers (Borjas, Freeman, and Katz 1996, 1997; Borjas 2003). This debate has spilled over into the media and mirrors the polarization of the immigration debate in society as a whole (Lowenstein 2006). The key to resolving this debate hinges on our understanding of how the labor market adjusts to an influx of immigrants. Much of the evidence supporting the view that immigration has little effect on natives' wages and employment comes from studies that use spatial differences in immigrant flows to analyze the effect of immigration on changes in wages across metropolitan areas. A criticism of this "spatial approach" is that the local labor market quickly adjusts through the out-migration of native workers away from high-immigration areas or the in-migration of jobs in industries that absorb immigrant labor. As a result of these adjustments it is possible that the negative impact at the local level is quickly diffused throughout the country (Borjas, Freeman, and Katz 1996), and that the length of time between observations in most of the studies—typically the 10 years between censuses—is too long to model the process of adjustment.

In this study, we use a newly available data source, the Longitudinal Employer Household Dynamics (LEHD), to estimate the effect of immigration on the wages and employment of native workers. The LEHD merges individual and firm-level administrative data on the quarterly earnings of workers from state unemployment insurance records with data from the Census Bureau. As a result, the LEHD combines the benefits of the detailed geographic information and large sample size of the decennial census with the strengths of individual longitudinal data sets. With the quarterly data on earnings and geographic location of workers from the LEHD data, we provide an overview of the wages, industry, and migration history of native workers who are displaced by an increase in immigrant workers in their industry or firm.

BACKGROUND AND SIGNIFICANCE

What is the effect of immigration on native workers' labor market outcomes? Consider a simple model: For those native workers who are close substitutes for immigrant workers, because of similar skill and education levels, immigration increases the supply of competing workers and, as a result, lowers wages among native workers. Because recent immigration to the United States has disproportionately consisted of less educated workers relative to the native born population as a whole (in particular, high school dropouts, see Borjas 2003), one would expect to find a sizeable negative effect of immigration on low-skilled native workers. Because this simple theoretical story of negative impacts on less-skilled workers is so plausible and compelling, the most striking result in the literature is how small the empirical estimates of this effect actually are. In a recent meta-analysis of the empirical literature, Longhi, Nijkamp, and Poot (2005) find that the average effect of a 1 percentage point increase in immigrant workers was a 0.1 percent decline in the wages of competing native-born workers. Moreover, the results clustered around zero, a finding consistent with an earlier review of the literature by Friedberg and Hunt (1995). In an earlier summary of the literature, Borjas (1990) argues:

"…the methodological arsenal of modern econometrics cannot detect a single shred of evidence that immigrants have a sizable adverse impact on the earnings and employment opportunities of natives in the United States" (p. 81).

The most commonly used approach to estimate the effect of immigration on wages and employment is to make use of naturally occurring geographic variation in immigrant settlement patterns. The "spatial approach" analyzes the effect of changes in the percentage of immigrants working in education or occupation groups at the local geographic level (usually the metropolitan area) on changes in the wages and employment of native workers in those groups. The majority of studies using this framework find little evidence of negative effects of immigration on the wages on native workers (Friedberg and Hunt 1995; Longhi, Nijkamp, and Poot 2006). An important consideration for the spatial approach is that local demand shocks may increase the demand for labor, pulling in both immigrant and native workers, while simultaneously raising wages. Several recent studies use the preexisting level of immigrants as an instrumental variable for immigrant flows, arguing that because of social networks and cultural affinity this will be correlated with immigration trends but uncorrelated with local demand shocks. The lack of compelling evidence of negative effects from the spatial studies suggests that local labor markets adapt quickly to immigrant flows. The current evidence on labor market adjustment is inconclusive (see, for example, Borjas 2005; Card 2001; Flier 1992; Frey and Liaw 2005), largely because of the use of decennial census data, which, because of the long time-lag between observations, makes it difficult to observe the way in which cities and regions adjust to immigration.

Several authors have pointed out that the existing empirical evidence might be misleading because it is based on comparisons among cities or regions of the same country with different levels of immigration (e.g., Borjas, Freeman, and Katz 1996, 1997; Borjas 2003; Freidberg and Hunt 1995). If local labor markets adapt to the influx of immigrants via the out-migration of native workers or changes in the mix of industries, then the negative impact of immigration on natives' wages may quickly diffuse over a broader geographic area. This hypothesis provides a possible explanation for why estimates of the effect at the national level indicate a much larger negative effect of immigration on the wages of less skilled workers. Borjas (2003) argues that researchers should look for the effect of immigration with data at the national level. His "factor proportions" approach relates changes in the relative size of different education and experience groups to changes in each group's wages over time. Using Decennial Census data from 1970 to 2000, he finds that a 10 percent increase in the number of immigrants decreases wages for competing native workers by 4 percent. Borjas, Grogger, and Hanson (2006) similarly find that a 10 percent increase in immigration lowers the wages of black workers in the same education-experience group by 3.6 percent, and lowers the employment rate by 2.4 percent. These results have not gone uncontested. Card (2005) notes that a problem with the factor proportions approach is that "it lacks a clear counterfactual" in the sense that it is not clear what the wages for less-educated workers would be in the absence of immigration. Other factors, such as skill-biased technological change, may have contributed to changes in wages by educational group. Ottaviano and Peri (2006) find that although the net effect of immigration slightly lowers the wages of high school dropouts it raises the wages of native workers in general.

DATA AND METHODS

Despite considerable public attention and scholarly debate on the effect of immigration on labor market outcomes, the lack of appropriate data has prevented a clear understanding of how immigrant workers are absorbed by local economies and what the overall impact actually is. We use data from the Longitudinal Employer-Household Dynamics (LEHD) data set and the March Current Population Survey (CPS).[1] The LEHD is a new data set from the Census Bureau that combines data for individuals from state unemployment insurance (UI) records with firm-level data collected by the Bureau of Labor Statistics as part of the Quarterly Census of Employment and Wages (Abowd, Stevens, and Vilhuber 2006; McKinney and Vilhuber 2007). By combining available administrative data from these sources, the LEHD has data on NAICS Industry codes and geographic location for firms and quarterly earnings, gender, age, and place of birth information for all employees. As of September 2011, 31 states have been integrated into the LEHD data and permission from 18 more is pending. We can also link individuals in the LEHD to the CPS using the CPS Crosswalk dataset, available at the Census Research Data Centers, which contains a protected information key (PIK) that matches the March CPS to the LEHD and other administrative files.

We will use the LEHD data to construct two aggregate variables based on data from all workers in the available states. First, using the information in the LEHD on the worker's place of birth, county of current residence, and the employer's industry code, we will calculate measures of the density of immigrant workers by industry at the county level. These county level measures will then be aggregated up to multi-county "labor market areas" (LMA) as defined by the 1990 Census. Second, using the state-level employer identification number in the LEHD, we will calculate the percent of workers in the firm who are immigrants. In firms with multiple locations within the state, we will use the worker's residential location to create firm-specific measures by labor market area. With data from the Quarterly Workforce Indicators, a publicly available aggregate version of the LEHD, we will provide changes in employment and wages by industry and geographic area. An advantage of the LEHD is that worker migration can be tracked across state lines using the PIK. As mentioned above, not all states provide UI data to the LEHD program. Therefore, not all interstate migrants can be followed over time. However, this is not critical for our analysis. We are concerned about whether the propensity to migrate—within or across states—is a function of increasing immigrant absorption within the respondent's industry or LMA as a whole. Hence, provided we have a sample of native workers that is randomly drawn with respect to the change in immigrant density, our results should be unaffected by the lack of full national LEHD data.

A reasonable question regarding research on labor market adjustment to immigrant influx concerns the quality of data for immigrant workers. Because the LEHD relies on UI data, and all non-government employers except those in agriculture (or the self-employed) are required to report, the LEHD may provide better employment data on immigrant workers than the Census. An analysis of employment data for Texas indicates a very close match between the Census and the LEHD for immigrants (Census Bureau 2003), using a definition based on employment in the first quarter of the year. Even if a

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[1] We note that we have had access to data housed in the Research Data Centers for over a year and our analyses are well underway.

worker submits an incorrect social security number (SSN), he or she will still be part of the cross-sectional data (invalid SSN's are flagged but still included in the data), hence measures of the proportion immigrant at the firm and LMA level should be unaffected. It is true that it might be difficult to follow undocumented immigrant workers over time, as they may submit different social security cards to different employers, but we don't propose to do this. As described below, we propose to follow native-born workers in models based upon changes in the aggregate proportion immigrant at the LMA-industry or firm level.

In this study, we will provide an overview of the wages, industry, and migration history of native workers who have left high-immigration industries. A key question for this research is how to identify a worker who is "displaced" by immigration. Unlike the literature on displacement due to downsizing, lay-off, or plant closure, there is no discrete event that pushes the worker out of the job. We compare the outcomes of native workers who had a large increase in immigrant employment in their industry (at least a 1.5 per annum percentage point increase in immigrant density over the time period for data in the state) to the outcomes of workers with similar propensity for an increase in immigrant employment but lower actual increases in immigrant employment. We match workers based on gender, race, 2-digit industrial classification, state, and state-level earnings quintile. We account for the changing mix of states in the sample when reporting national level changes. In addition to this analysis of wage changes for matched samples, we also observe the impact of working in a high-immigration industry on workers who were exogenously displaced from their current employer due to a plant closing or a firm-level displacement event.

Table 1: 3-digit Industries with the greatest increase in the use of immigrant workers, 2000-2005 (Industries with at least 100,000 workers in 2000)

3-digit Industry	2000 Employment (1000s)	% 2000 immigrant	% 2005 immigrant	Δ % immigrant, 2000-2005
Bakeries, except retail	148	25.0	37.3	12.2
Support activities for agriculture	106	19.7	31.2	11.5
Landscaping services	788	29.8	38.9	9.0
Services to buildings and dwelling	862	26.3	34.8	8.6
Car washes	135	22.6	31.1	8.5
Cut and sew apparel	361	42.5	50.8	8.3
Animal slaughtering and processing	407	30.7	38.6	7.9
Dry cleaning and laundry services	349	32.4	40.2	7.8
Construction	8,598	15.0	22.5	7.6
Miscellaneous wood products	259	12.3	19.7	7.5
Private households	569	35.9	43.2	7.3
Taxi and limousine service	177	46.3	53.0	6.7
Seafood and other miscellaneous foods	152	19.9	26.5	6.6
Nail salons and other personal car	163	28.7	35.1	6.4

Note: % immigrant in workforce: 13% in 2000, 16% in 2005.
Source: 2000 PUMS, 2005 ACS

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