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The Impact of Immigration on American Workers and Businesses

By Ethan Lewis

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Immigration policy has become a vigorously debated topic in Washington. Strident demands for more restrictive policies and criminalization of illegal immigration are clashing with proposals to expand the number of temporary work visas and preserve America's traditional openness to immigration. In the meantime, surveillance along the Mexican border has been substantially increased. Farmers, many of whom depend heavily on undocumented Mexican labor, are understandably nervous and claim that the border crackdown is already leading to labor shortages.¹

This article describes what role immigrants play in the U.S. economy and what economic impact they have on the United States. It examines immigration broadly, but because of its importance to the farm sector, special attention is given to Mexicans, who make up one-third of recent immigrant arrivals and over half of farm sector labor. Economists' research suggests that workers, consumers, and businesses likely benefit from higher immigration, but this is traded against potentially adverse distributional consequences for low-skilled Americans. However, most estimates suggest that the harm to low-skilled Americans is small. One reason for this seems to be that employers are able to adapt their production techniques to the types of workers that are available.

1. For example, a recent *Wall Street Journal* article featured a lettuce farm on a border town in Arizona, which claimed it was unable to fully harvest its crop as a result of the border crackdown (Jordan, 2005) and a recent *Associated Press* headline asserted directly, "U.S. Farmers Facing Labor Shortages" (Johnson, 2007).

Immigrants in the U.S. Economy

A factor likely contributing to clashes over immigration policy is the rapid growth in the sheer volume immigration, particularly from Mexico. Figure 1 shows the number of immigrants coming to the United States in each year of the post-war period and the proportion who are from Mexico.² Since the 1970s, Mexican immigration has dominated these inflows. Migrants from Mexico, many undocumented, now represent one-third of new immigrants.

Immigrants, and especially Mexican immigrants, tend to be less skilled compared to native-born Americans. One way to illustrate this is with their levels of education. Table 1 shows that one-third of all immigrants, and over two-thirds of Mexicans, never complete high school (many Mexicans, in fact, never attend high school), compared to only 16% of native-born Americans. Nevertheless, many other immigrants are also highly skilled; a larger proportion of immigrants than natives have advanced degrees.

Mexicans' skills are also reflected in the sectors in which they work. According to the Census, a disproportionate share of Mexicans (compared to natives) work in agriculture, construction, manufacturing, and retail (mostly restaurants). From the point of view of the industry, Mexicans are most important to agriculture. Table 2 shows that roughly half of all workers and three quarters of new hires in agriculture were undocumented Mexican immigrants.³ In California, the numbers are even starker: 93% of new hires are undocumented Mexican immigrants. It is understandable, therefore, that farmers would

2. These figures are from the Census, which a number of studies have shown capture most illegal immigrants (e.g., Van Hook and Bean, 1998), in addition to legal immigrants.

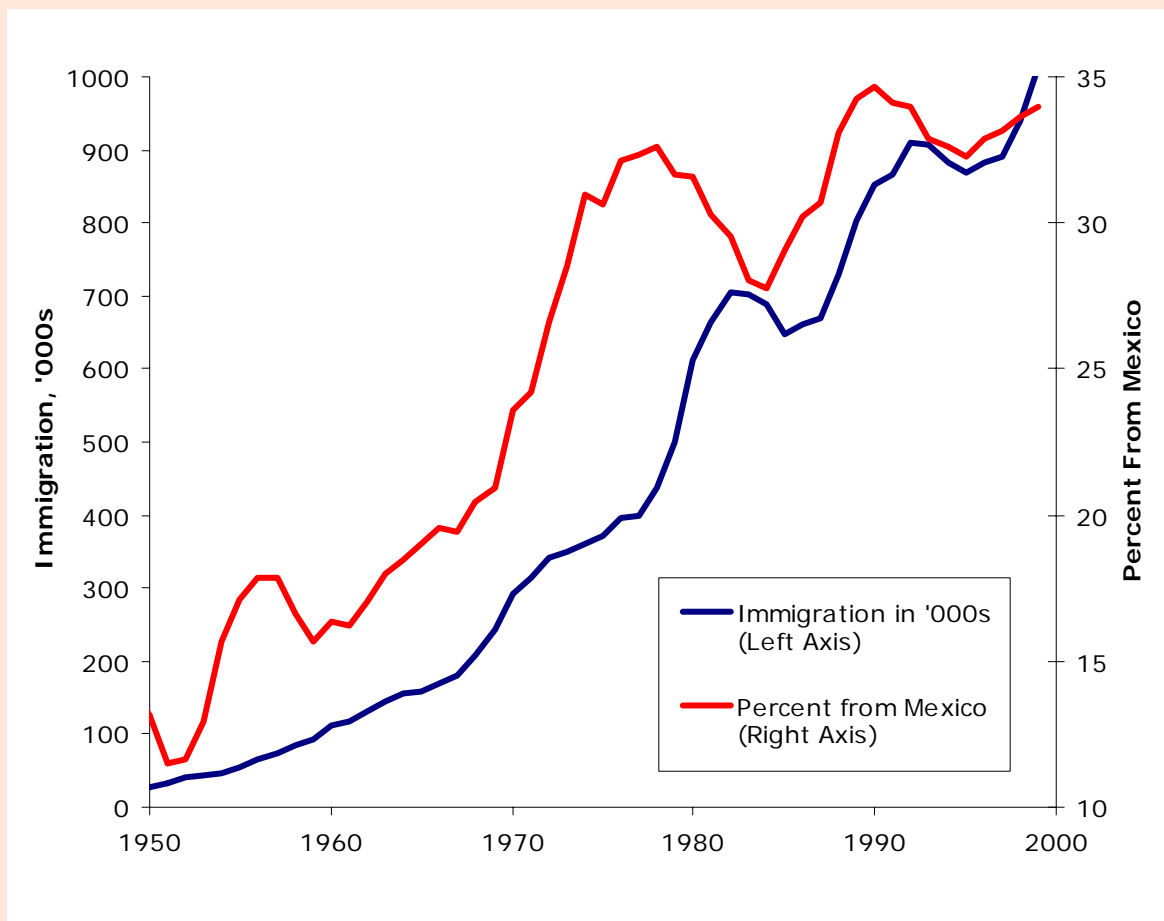


Figure 1. Number of immigrants and percent from Mexico by year of arrival (from 2000 Census of Population, based on five-year moving average).

be concerned about an increase in border enforcement.

Another feature of recent immigration, which may contribute to policy clashes, is the dispersion of immigrants to parts of the country that have little recent experience with immigration. Some markets, especially in the Southeast and West, have experienced rapid changes in their ethnic mix as they have gone from being places that receive virtually no

immigration to being new major immigrant destinations. In a recent paper, David Card and Ethan Lewis (2005) showed Mexican immigration has experienced a similar geographic dispersion, as fast job growth in the Southeast and other parts of the West have lured Mexicans away from traditional strongholds.⁴ Traditionally, over 60% of Mexicans have settled in

California, but since 1990, it has been less than half.

Along with the migration out of California, this paper showed Mexicans have shifted significantly out of agriculture towards construction. This sector shift recently received attention when thousands of Mexicans showed up in the Gulf Coast, a traditionally low immigration area, looking for hurricane reconstruction-related employment, but it is actually part of an ongoing shift of Mexicans out of agriculture.⁵ The trend implies that farmers may find it increasingly difficult to recruit Mexican labor regardless of U.S. immigration policy.

3. New hires are highlighted because they are likely to be more vulnerable to a border crackdown. Each year, 5-10% of farm workers are new hires.

4. For example, during the 1990s, the number of Mexican immigrants in Phoenix, Las Vegas, Atlanta, Denver, Austin, Portland (WA), Raleigh-Durham, Greensboro, Salt Lake City, and Seattle grew over 300% (Card & Lewis, 2005).

Table 1. Education mix of native- and foreign-born workforce, 2000 (from 2000 Census of Population).

Education Level	Native-Born	All Immigrants	Mexican Immigrants
High School Dropout	11.6%	33.7%	66.8%
High School Graduate	28.3%	19.3%	17.9%
Some College, <4 years	33.0%	20.7%	11.2%
4-Year College Degree	17.9%	15.1%	2.7%
Advanced Degree	9.2%	11.2%	1.4%

Table 2. Sources of U.S. farmworkers, 2000-2002 (from the National Agricultural Workers Survey).

	Mexico-Authorized	Mexico-Unauthorized	Other (including U.S.)
All U.S. Farms			
All Farmworkers	24.2%	50.4%	25.5%
New Hires	3.1%	76.2%	20.7%
California Farms			
All Farmworkers	42.8%	50.3%	6.9%
New Hires	2.6%	93.1%	4.3%

Overall Labor Market Impacts

What are the consequences of immigration for the United States? Are we economically better or worse off as a result of immigration? A misconception of some policymakers (or perhaps a position they take for rhetorical convenience) is that each immigrant who gets a job displaces one U.S.-born worker.⁶ Because the scale of the U.S. economy is not fixed, however, this extreme position is unwarranted. Immigrants are not just workers after all, but consumers, and immigrant demand for products and services expands employment.

The story would end there if immigrants had skills in the same proportions as U.S. workers. Because immigrants are disproportionately low skilled, however, Americans ben-

efit from immigration. Economic theory says that immigration makes other inputs into production – like skilled labor and land – relatively “scarce,” and therefore raises their market value. To put it into concrete terms, if there are more low-skilled workers per acre of land, farmers can harvest more crops per acre of land, so their land is more valuable. U.S. consumers also benefit to the extent that immigrants drive down the cost of goods and services which use a lot of low-skilled labor, such as household production (maids and nan-

nies). In a recent study, Cortes (2005) studied the impact of immigration on prices in 25 large U.S. metropolitan areas. She found that a 10% increase in immigration lowered the price of “low-skilled intensive” goods and services by 1%. The overall benefits to the U.S. economy are probably not trivial. A 1997 study by the National Research Council estimated that in the mid-1990s, Americans gained between \$1 and \$10 billion per year from immigration’s labor market impacts alone.

Not everyone benefits from immigration. Just as with international trade, the net benefit is positive, but there are both winners and losers. In this case, immigration’s benefits derive from reducing wages in the less-skilled jobs that immigrants take. While the average American will not be harmed by this – relatively few Americans work in low-skilled jobs – immigration may reduce the earnings of some low-skilled Americans. Determining the magnitude of these distributional consequences is the subject of a vigorous ongoing academic debate.

Distributional Consequences

Although simple economic theories say that immigration will push down the wage of less-skilled Americans compared to other types of workers, it does not say how much wages will decline. This is an empirical question.

A large body of research attempts to evaluate immigration’s impact on wages. The most common approach exploits the fact that immigrants are geographically clustered. (For example, 80% of Mexicans historically settled in either California or Texas). These studies compare the labor market outcomes of U.S. natives in markets with more and less immigration.

5. *There have been several recent news stories on Mexican labor in the Gulf Coast area, and at least one Associated Press story made the explicit link to hiring difficulties in agriculture (Minor, 2006).*

6. *For example, in a 2004 Senate hearing Tennessee Senator Lamar Alexander asked “If we have 8.4 million unemployed, according to our official statistics, and if 6 million illegal immigrants are working, are these 6 million taking the jobs that the 8.4 million want? Also, if these 6 million were not here, would we suddenly have virtually full employment?” (Congressional Record, 2004).*

There have been a large number of studies that have taken this approach. These studies typically examine groups of workers who might plausibly be expected to take similar types of jobs as low-skilled immigrants (for example, African-American high school dropouts). These studies also typically find that the impact of immigration is quite small. A 1995 summary of this research by Rachel Friedberg and Jennifer Hunt concludes, "Most empirical analysis . . . finds that a 10% increase in a fraction of immigrants in the population reduces native wages by at most 1%." One concern could be that wages cannot adjust because of minimum wage laws or union contracts. However, these same studies tend to find immigration does not have much effect on unemployment.

Studies since this 1995 summary have attempted to find narrower groups of Americans whose wages are affected by immigration. A 2001 study by David Card found immigration had a slightly larger impact on the relative wages of natives working in similar types of occupations as immigrants. Cortes (2005) found that the relative wages of native-born Hispanics with low English proficiency were lowered by immigration, but, as in previous studies, African-Americans' wages were not. Many studies (including Card, 2001; Peri & Ottaviano, 2006) find immigration lowers the wages of other immigrants.

The area analysis approach has been criticized as potentially understating immigration's impact due to the fact that immigrants may choose to live in cities with higher wages (or higher wage growth). That is, immigration does not make wages lower in high immigration cities than in low immigration cities; it makes wages

lower than they otherwise would have been in high immigration cities, something which is difficult to assess. One of the more interesting and credible ways researchers have addressed this problem is by examining areas affected by large waves of refugees. Since refugee immigration is arguably not driven by the economics of the markets where the immigrants settle, these events arguably provide good "natural experiments" with which to evaluate the impact of immigration. Card's (1990) evaluation of the impact of the Mariel boatlift on Miami's less-skilled workers was the first to employ this approach. Despite the magnitude of the event – the boatlift increased the number of low-skill workers in Miami (relative to other types) by over 10% in less than a year – Card found little evidence of even any short-run adverse consequences for Miami's low-skilled workers.⁷

Harvard University's George Borjas criticizes the area analysis approach for another reason. He argues that because the U.S. economy is highly integrated geographically, immigration's impact is not limited to the particular areas where immigrants settle, but rather is dispersed throughout the country. As a result, he argues, immigration's impact cannot be evaluated through cross-market comparisons. Instead of

comparing across geographic markets, Borjas examines the U.S. as a whole and exploits variation over time and across skill groups in the volume of immigration.

In a widely-cited 2003 paper studying immigration in general, and in a 2005 paper with Larry Katz focused on Mexican immigration, Borjas combines data from several decennial censuses and divides workers into education-work experience-year "cells" (categories). For example, the highest immigration cell in Borjas (2003) is high school dropouts with 16-20 years of experience in 2000 (50% foreign-born); the lowest immigration cell is high school graduates with 1-5 years of experience in 1960 (1.2% foreign-born). Comparing across cells rather than across regions of the country, he finds that native-born workers in cells that experienced larger increases in immigration, also experienced a relatively slower wage growth. His estimates imply an immigration-induced 10% increase in the supply of low-skilled workers reduces low-skilled wages by 4%.

Borjas's approach is not without problems. Bohn and Sanders (2005) find his estimates are sensitive to removing a small number of data points. In essence, the estimated impact appears to largely derive from the fact that there was a decline in the wages of high school dropouts between 1980 and 2000, at a time when many high school dropout immigrants were coming to the United States. It is tempting to link the two events, as Borjas's estimates do, but researchers have identified a number of other phenomena that may also have contributed to the decline, including technological change, increasing trade with the developing world, and a large decline in the real value of the minimum

7. *Findings from other refugee studies since have confirmed these results. For example, Kugler and Yuksel (2006) found that Latin American refugees displaced by Hurricane Mitch in 1998 had little impact on the markets in which they settled. Similarly, Hunt (1992) found that a wave of Algerian refugees had little impact on the French labor market.*

wage. Borjas does not control for any of these other macroeconomic forces, and his estimates imply that most of the decline in the wages of high school dropouts was due to immigration. In addition, Raphael and Ronconi (2005) show that many of the high immigration experience-education groups are populated by Americans with high incarceration rates (young high school dropouts), which also harms average earning in those cells. Raphael and Ronconi show that once the effects of incarceration are taken into account, the estimated effects of immigration on wages are small.⁸

A different problem for Borjas' finding is that there is little evidence of immigration's impact being geographically dispersed in the way he describes. Two mechanisms underlie the geographic dispersion in Borjas' argument: the movement of people and intercity trade. The idea that these movements should, in the long run, make wages the same in all markets. Empirically, though, neither mechanism appears to be a major source of local labor market adjustment to immigration. Although a recent study by Borjas (2006) shows that native-born Americans expected to compete with immigrants avoid high immigration areas, an earlier study (Borjas, Freeman, & Katz,

1997) found similar estimates were sensitive to what was controlled for. Studies by Card and DiNardo (2000) and Card (2001) find little evidence that intercity migration of American workers dissipates local immigration shocks. The idea that the impact of immigration is geographically spread by native flight is also difficult to square with the simple fact that high-immigration areas tend to have more unskilled workforces.

Lewis (2003) and Card and Lewis (2005) also find little evidence that local immigration shocks are transmitted to the rest of the country through intercity trade. The theory behind the idea is that if immigration pushed down low-skilled wages in one market (say, Los Angeles), then employers in low-skilled industries that make goods that can be traded between markets (like apparel) would flock to that market and bid up wages for low-skilled workers. In fact, changes in industry mix are virtually uncorrelated with immigration flows. Both papers found that movements of industries across metro areas account for less than 10% of immigration-induced skilled mix shocks.

Then How Do Labor Markets Adjust to Immigration?

Although economic theory does not specifically say how much immigration should affect low-skilled wages – only that it should push them down – the small estimates coming out of studies that compare across markets is nevertheless somewhat surprising to many economists. In fact, the size of immigration's impact depends on how similar U.S. and immigrant workers are and on how the economy is able to adapt to immigration.

One reason the impact of immigration might be small is that immigrants and native-born workers, even

in narrow education-experience groups, tend to work in different kinds of jobs. Trejo (1998) shows minimum wage immigrants and natives work in different jobs.⁹ Peri and Ottaviano (2006) show that the overlap in the occupations of immigrant and native-born high school dropouts is no more similar than the overlap in the occupations native-born high school dropouts and native-born high school graduates. Still, the lack of occupational overlap could just reflect the fact that immigrants have displaced natives from certain types of jobs.

Another reason the impact of immigration may be small is that the economy might adjust to immigration in ways economists' models typically do not allow. For example, most models assume the same technology is used in all labor markets, and, related to this, machinery is assumed to be equally useful in substituting for work done by skilled and unskilled workers. In fact, research since Griliches (1969) suggests that machinery substitutes are better for low-skilled tasks than skilled tasks. Models in which technology and the stock of machinery are allowed to adjust more freely to immigration predict a smaller impact of immigration on wages.

To find out how important this is, Lewis (2005) examined the effect immigration has on employers' use of different production technologies and machinery. The paper focused on the use of automation technologies, like robotics, which were first used in U.S. factories during the 1980s. The paper found that in areas where immigration made less-skilled

8. *On the other hand, Borjas and Abdurrahman Aydemir obtain similar results in Canada and Mexico, countries which have had very different immigration experiences from the United States. In Mexico, in fact, variation comes from workers emigrating to the United States rather than immigration. In Canada, immigrants are disproportionately high skilled, rather than low-skilled.*

9. *Trejo found, for example, many of the minimum wage jobs immigrants take were in agriculture.*

labor abundant, plants used significantly less automation technology and less machinery generally than similar factories elsewhere. Similar sorts of adjustments occur in other sectors. Low-skilled immigration also appears to depress the adoption of computers (Doms & Lewis, 2006).

Possibilities for substitution of capital and technology for workers are likely to exist in agriculture as well. Researchers sometimes speculate that the abundance of Mexican labor forestalls greater mechanization (for example, Palerm, 1991). Examples are easy to think of: the Australian wine industry tends to rely on automatic harvesters to harvest their grapes, while California relies heavily on Mexican labor.¹⁰ Future research may uncover exactly how adaptable the farm sector is to shifts in labor mix, but it does seem likely that farmers have some capacity to adapt if the level of Mexican immigration falls either because of increased border enforcement or because Mexicans are moving to other sectors of the economy.

Summary

A boom in immigration to the United States has raised urgent concerns over what our immigration policy should be. In this context, it seems important to understand the consequences of higher levels of immigration for the United States. While the pro-immigrant aphorism “immigrants do jobs natives won’t do” is overstated, it is true that few Americans work in the low-skilled

jobs that immigrants, especially Mexican immigrants, disproportionately take, such as in agriculture. As a consequence of this, most Americans benefit from immigration. Immigration may reduce the wages of some low-earning American workers who compete with immigrants for jobs, but evidence suggests U.S. labor markets are sufficiently flexible to absorb immigrants without greatly depressing low-skilled Americans’ earnings. One reason for this seems to be that employers are able to adapt their production methods to the available work force, which portends well for their ability to adapt to looming changes in immigration policy.

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10. This is not to say that the reduced mechanization is a bad outcome; on the contrary, it makes more economic sense to harvest crops with labor-intensive methods when labor is abundant.

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- Ethan Lewis is Assistant Professor (ethan.g.lewis@dartmouth.edu), Department of Economics, Dartmouth College, Hanover, NH.*

