Immigration and US Labor Market Outcomes

Robert Krol

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Abstract

This paper examines the factors that influence the impact of immigration on native labor market outcomes, laying out how the empirical methodology has evolved over the last 30 years. I discuss the strengths and weaknesses of these papers. My general conclusion is that immigration benefits most Americans. Immigration has a positive impact on wages for skilled native labor. In some cases, the literature finds a modest negative impact on unskilled native workers' wages.

JEL codes: F2, F6, J2, and J6

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Robert Krol

A chief concern among US policymakers is the impact of immigration on native wages and employment. This has been a contentious issue both politically and in research circles.[1] The general conclusion from reviewing the literature on this topic is that immigration has a positive impact on the wages of native workers with some college or on those who have graduated college. However, the impact on the wages of high school dropouts and less-skilled minority groups is often negative. The magnitudes of these wage changes tend to be modest. More recent studies find the impact on native wages at the city or state level tend to be positive. This may be explained by the changing skill mix of immigrants.

The skill mix of immigrants has changed over time. I calculate that for immigrants who entered the United States between 1960 and 2019, 26.3 percent had 12 years or less of formal education.[2] Over the same period, immigrants with a bachelor's degree or more formal education equaled 32.7 percent. This illustrates the U-shaped skill distribution of immigrants who arrived during this period. The skill sets of immigrants were at both the low and high ends of the skill distribution. However, if we look only at immigrants who have arrived since 2014, 18.6 percent had less than 12 years of formal education, while 47.9 percent had a bachelor's degree or more of formal education. This indicates the skill distribution of immigrants is changing, with fewer

[1] There is a very large literature examining the impact of immigration on native workers' labor market outcomes. This paper highlights some of the key results and how this research has evolved over time. See Rachel M. Friedberg and Jennifer Hunt, "The Impact of Immigrants on Host Country Wages, Employment, and Growth," *Journal of Economic Perspectives* 9, no. 2 (1995): 23–44; George Borjas, *Immigration Economics* (Cambridge, MA: Harvard University Press, 2014); Giovanni Peri, "Immigrants, Productivity, and Labor Markets," *Journal of Economic Perspectives* 30, no. 4 (2016): 3–30; National Academies of Science, Engineering, and Medicine, *The Economic and Fiscal Consequences of Immigration* (Washington, DC: National Academies Press, 2017); Ran Abramitzky and Leah Boustan, "Immigration in American History," *Journal of Economic Literature* 55, no. 4 (2017): 1311–45; and Alex Nowrasteh and Benjamin Powell, *Wretched Refuse? The Political Economy of Immigration and Institutions* (Cambridge: Cambridge University Press, 2021), for additional details.

[2] Robert Krol, "The Effects of Immigration on Entrepreneurship and Innovation" (Mercatus Working Paper, Mercatus Center at George Mason University, Arlington, VA, May 2021); *Cato Journal* 41, no. 3 (Fall 2021, in press)

low-skilled and more high-skilled immigrants. For comparison, in 2019 only 6.7 percent of native workers had not graduated high school and 47.9 percent had a bachelor's degree or more in formal education.

From an empirical perspective, older research is likely to see larger labor market outcomes for unskilled native workers. This impact is likely to weaken over time. Greater numbers of high-skilled workers will have a bigger positive impact on US economic growth, benefiting more Americans.

After discussing the economic factors that influence the impact of immigration on labor market outcomes for native workers, I review key empirical papers. I lay out how the empirical methodology evolved over the past 30 years. I point out strengths and weaknesses of these papers. I conclude by offering some suggestions on policy reforms.

1. Economic Issues

In a simple short-run model of the labor market, an increase in immigration reduces wages in a country. This assumes the amount of capital does not change. It also assumes that immigrants are perfect substitutes for native workers. These assumptions are not likely to hold, so the prediction of lower wages in general may not be supported in all cases by the evidence.[3]

There are several economic reasons why immigration may have a positive impact on labor market outcomes for native workers. Immigrants often have a different skill set than native workers in the United States. They often complement each other in production, raising productivity and wages. Immigrants' comparative advantage may lie in manual production and technical fields—with work skills that are not language intensive, which can be used in their home country or abroad. Native residents have a comparative advantage in more language-

[3] Peri, "Immigrants, Productivity, and Labor Markets"; Ethan Lewis, "How Immigration Affects Workers; Two Wrong Models and a Right One," *Cato Journal* 37, no. 3 (2017): 461–72; and National Academies of Science, Engineering, and Medicine, *The Economic and Fiscal Consequences of Immigration*.

intensive jobs such as management and sales. Each set of skills makes the other group more productive.[4] As immigrants increase, native workers adjust and switch to jobs that better fit their skill sets. Of course, this is not to say that there are no immigrants in more language-intensive jobs or native workers in manual or technical fields.

Immigrants not only supply labor to the economy, which could put downward pressure on the wages for some groups, but also consume goods and services produced by native workers.[5] This raises demand for labor and may be the countervailing pressure that causes wages to rise.

Immigrants also invest in new businesses, increasing the capital stock in the economy. This raises the productivity of labor, expands employment opportunities for all workers, and results in higher wages.[6]

Given the higher levels of STEM-related education among the more recent immigrants, they play an important role in innovation in the economy. These positive productivity effects of immigration increase wages. Taking all this into account, it is not surprising that the research does not always find negative labor market effects of immigration for the average American.

2. Empirical Issues

Three types of data are used to examine the impact of immigrant inflows on labor market outcomes for native workers.[7] The most common approach is to define the labor market at the state, city, or Standard Metropolitan Statistical Area (SMSA) level. This gives the researcher multiple labor markets in which to examine the impact of immigrant inflows on wages and employment of native workers.

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[4] Peri, "Immigrants, Productivity, and Labor Markets"; Lewis, "How Immigration Affects Workers"; and Gary C. Lin, "High-Skilled Immigration and Native Task Specialization in U.S. Cities," *Regional Science and Urban Economics* 77 (2019): 289–305.

[5] Gihoon Hong and John McLaren, "Are Immigrants a Shot in the Arm for the Local Economy?" (Working Paper, University of Virginia, 2016). They can also increase the variety of available local services.

[6] Krol, "The Effects of Immigration on Entrepreneurship and Innovation."

[7] Friedberg and Hunt, "The Impact of Immigrants on Host Country Wages, Employment, and Growth"; and Peri, "Immigrants, Productivity, and Labor Markets."

Borjas has pointed out that disequilibrium between regional markets results in movements of workers and capital between markets.[8] This should equalize wages, making it difficult to assess the impact of immigration on wages in one community. If native workers leave the local market in response to immigrant inflows, in this case, the effects of the immigrant inflow spill over into other regions. Lewis and Peri report that the geographic response of native workers to immigrant inflows is small. What we tend to see is native workers shifting to other types of jobs for which they are better suited because of language or other skills.[9]

A second approach uses aggregate or national data on a particular category of native workers. Each category is defined in terms of educational attainment and job experience to proxy the skills of the worker. Using these data, researchers estimate the relative impact of immigrant inflows on native workers' (of a particular skill group) labor market experience at the national level.

Not surprisingly, it turns out that the assumed or estimated substitutability between native workers and immigrants within a skill category or between categories can significantly influence the impact of immigrant inflows. For example, if it is not possible for immigrants to substitute for native workers, the increase in immigrants will have no impact on the native workers' wages or employment. In contrast, if the relationship is complementary, the impact on native workers' wages and employment can be positive.[10]

Finally, a limited number of papers examine the impact of a sudden onetime surge in immigrants. This surge is referred to as a "natural experiment" because it is caused by political or economic events outside the receiving country. An attractive feature of this approach is that

[8] George J. Borjas, "The Labor Demand Curve Is Downward Sloping: Reexamining the Impact of Immigration on the Labor Market," *Quarterly Journal of Economics* 118, no. 4 (2003): 1335–74. Borjas develops his ideas more thoroughly in his book *Immigration Economics*.

[9] Ethan Lewis and Giovanni Peri, "Immigration and the Economy of Cities and Regions," in *Handbook of Regional and Urban Economics*, vol. 5, ed. Gilles Duranton, J. Vernon Henderson, and William J. Strange, 625–85 (Amsterdam, Netherlands: ScienceDirect, Elsevier B.V., 2015).

[10] Lewis and Peri, "Immigration and the Economy of Cities and Regions." This is also an issue in regional studies.

the immigrant inflow is not influenced by the current economic conditions in the receiving country. This approach, however, has three drawbacks. First, it is a single event. Second, it is not clear whether the results can be generalized to a wide range of immigrant inflow situations. Third, it is necessary to identify alternative cities (or areas) like the city of focus to serve as a control group.[11]

Most of the work examining the impact of increased immigration on the labor market outcomes for native workers indicates only a modest impact.[12] Estimated results can be negative or positive or show no statistically significant relationship.[13] The results vary for a variety of reasons: the sample periods can be different, the breakdown of worker data into skill groups varies, the skill mix of immigrants can change over time, the level of data aggregation differs, key explanatory variables can be defined and measured differently, control variables differ, or

[11] For the United States, see David Card, "The Impact of the Mariel Boatlift on the Miami Labor Market," *Industrial Labor Relations Review* 43, no. 2 (1990): 245–57. Card found that the sudden surge in Cuban immigrants that increased Miami's workforce by 7 percent had little impact on the Miami labor market outcomes of native workers. The results have been debated. See George Borjas, "The Wage Impact of the Marielitos: A Reappraisal," *Industrial and Labor Relations Review* 70, no. 5 (2017): 1077–110; Michael Clemens and Jennifer Hunt, "The Labor Market Effects of Refugee Waves: Reconciling Conflicting Results," *Industrial and Labor Relations Review* 72, no. 4 (2019): 818–57; Giovanni Peri and Vasil Yasenov, "The Labor Market Effects of a Refugee Wave: Synthetic Control Method Meets the Mariel Boatlift" (Working Paper, University of California, Davis, 2017); Michael Clemens, "There's No Evidence That Immigrants Hurt Any American Workers," *Vox*, updated August 3, 2017, https://www.vox.com/the-big-idea/2017/6/23/15855342/immigrants-wages-trump-economics-mariel-boatlift-hispanic-cuban; and Lewis and Peri, "Immigration and the Economy of Cities and Regions."

[12] Two empirical methods are used. Reduced-form regression models are applied on either cross-sectional or panel data. In this case, the researcher regresses native wages or employment on a measure of immigrant inflows and a set of control variables to estimate the impact of immigration inflows on the labor market outcomes of native workers. See footnote 14 for a discussion of how researchers identify causal relationships using this approach. Alternatively, researchers set up a production framework, embedded is the assumption from microeconomic theory that profit-maximizing competitive firms equate the wage to the marginal product of the worker in the long run. Recent research has used a nested constant elasticity of substitution production function to capture a relationship between the supplies of different types of labor and the log of the marginal product of a particular type of labor. This relationship allows the researcher to estimate the elasticity of substitution (a measure of the substitutability) between different types of labor. The estimates of the elasticity of substitution between different groups of labor can then be plugged into a separate wage equation that enables the researchers to calculate the impact of an increase in immigrants on the wages of native workers. The elasticity of substitution determines the size of the impact. See Lewis and Peri, "Immigration and the Economy of Cities and Regions," for details of this approach.

[13] Friedberg and Hunt, "The Impact of Immigrants on Host Country Wages, Employment, and Growth"; Peri, "Immigrants, Productivity, and Labor Markets."

the empirical methodology is not always the same. The remainder of the paper will review key papers that focus on the impact of immigrants on labor market outcomes for native workers.[14]

3. Empirical Results

An early paper by Grossman estimated the substitutability between native workers and immigrants using data from 19 SMSAs in 1970.[15] She also estimated the impact of immigration flows on native wages and employment. She found foreign-born and second-generation workers to be a substitute for native workers. This substitutability was stronger for second-generation workers, which makes sense, as second-generation workers have more time to assimilate the culture and society. Grossman found a 1 percent increase in immigrant labor supply reduced wages of native and second-generation workers by a modest, but statistically significant, 0.02 and 0.03 percent amount, respectively.[16]

LaLonde and Topel examined immigrant assimilation and the impact on wages of native unskilled labor using city-level data from 1970 and the change between 1970 and 1980.[17] They

[14] An issue associated with the first two approaches is that it can be difficult to establish a causal relationship between immigration and native labor market outcomes. It is necessary to identify immigration inflows not linked to current economic conditions in the region or economy to avoid biased estimates of the impact of these inflows. For example, if high wages attract immigrants, the observation that wages are higher in areas with immigrants does not reflect the impact of immigration. In this case the association of immigrants and higher wages is said to be endogenous. Researchers solve this problem by finding variables that are correlated with (predict) immigration inflows but are not correlated with (i.e., not endogenous to) current economic conditions that influence labor market outcomes (labor demand growth or technology shocks) in the region. This provides a consistent estimate of the parameter of interest. A consistent estimate means that as the sample size increases, the estimator converges to the true parameter value, which reduces parameter bias. This is called two-staged-least-squares or instrumental variables. It is common to use immigrants as a proportion of the population or labor force in a region in years before the sample period as the prediction variable. Immigrant populations that exist before the sample period are determined by factors other than sample period economic conditions—for example, distance from the port of entry. New immigrants tend to cluster in areas with significant similar immigrant populations. Ann Bartel, "Where Do Immigrants Live?," *Journal of Labor Economics* 7, no. 4 (1989): 371–91. Because these data are from ideally before the sample period, they are not (or less) correlated with economic conditions during the sample period; however, they do have explanatory power to predict immigrant inflows. Jeffrey M. Wooldridge, *Econometric Analysis of Cross Section and Panel Data* (Cambridge, MA: MIT Press, 2010).

[15] Jean Baldwin Grossman, "The Substitutability of Natives and Immigrants in Production," *Review of Economics and Statistics* 64, no. 40 (1982): 596–603.

[16] One drawback of the paper is that it does not differentiate between education and experience endowments of workers.

[17] Robert J. LaLonde and Robert H. Topel, "Immigrants in the American Labor Market: Quality, Assimilation, and Distributional Effects," *American Economic Review* 81, no. 2 (1991): 297–302; and Robert J. LaLonde and

found immigrants assimilate within ten years after entry into the United States. One focus was the impact of immigration on the wages of unskilled Black and Hispanic workers. LaLonde and Topel found that a 100 percent increase in immigrants over the 10-year period lowers the wages of unskilled Black workers by a modest –0.004 to –0.007 percent. The –0.007 estimate is significant at the 10 percent level. The data did not reveal a significant impact of immigration on the wages of unskilled Hispanic workers.

Butcher and Card examined the impact of immigration inflows in 24 major cities between 1980 and 1985.[18] They focused on wages in the 90th and 10th percentiles of the wage distribution. They found little significant impact.

Altonji and Card's important paper introduced the instrumental variable approach (described in footnote 14) of estimating the impact of immigration inflows on labor market outcomes for less skilled native workers.[19] This is important because immigrants may be attracted to growing cities with rising wages. In this case, the estimated impact of immigration on labor market outcomes for native workers may have a positive bias. The instrumental variable approach can solve or at least reduce the bias in immigration impact estimates.

Altonji and Card examined 120 SMSAs for census-year cross sections in 1970 and 1980. The change between 1970 and 1980 was also examined. They included a wide set of control variables in their regression model. They used the fraction of foreign-born workers as a share of the city's population in 1970 as an instrumental variable for immigrant inflows into the city.

Robert H. Topel, "Labor Market Adjustments to Increased Immigration," in *Immigration, Trade, and the Labor Market*, ed. John M. Abowd and Richard B. Freeman, 167–99 (Chicago: University of Chicago Press, 1991).

[18] Kristen F. Butcher and David Card, "Immigration and Wages: Evidence from the 1980's," *American Economic Review* 81, no. 2 (1991): 292–96. They do not report estimated coefficients.

[19] Joseph G. Altonji and David Card, "The Effects of Immigration on Labor Market Outcomes of Less-Skilled Natives," in *Immigration, Trade, and the Labor Market*, ed. John M. Abowd and Richard B. Freeman (Chicago: University of Chicago Press, 1991).

Inflows are strongly correlated with the foreign-born share of a city's population.[20] The regression of the change between 1970 and 1980 removes unobservable fixed differences between cities.[21] Less skilled native workers (high school graduates or less) were divided into four groups: Black males, White males, Black females, and White females. They also included male immigrants already in the United States. Focusing on the 1970–1980 instrumental-variable model, when the four groups were pooled, they found that immigration had a positive impact on employment rates of native workers and a significant negative impact on earnings per week. In other words, more jobs but lower wages. A 10 percent increase in immigrants reduced unskilled native workers' earnings by 1.2 percent and increased the employment rate by 2.3 percent.

Looking at the individual demographic groups, higher levels of immigration had a positive impact on the employment rates of unskilled Black males. The magnitude was about one-half the size of the pooled results. They found that increases in immigration depressed earnings of all four demographic groups. The largest impact was on Black male workers. A 10 percent increase in immigration lowered earnings of unskilled Black male workers by almost 2 percent. Interestingly, they also found that a 10 percent increase in immigration significantly lowered the earnings of male immigrants already in the country by almost 1.5 percent. They concluded that higher immigration inflows have a modest positive impact or no impact on the employment rates of unskilled native workers and a modest negative impact or no impact on unskilled native workers' earnings.

As pointed out earlier, Borjas asserts it is better to estimate the labor market impact of immigration by examining categories of workers within the United States, instead of comparing

[20] It would have been preferable to use foreign-born workers as a share of city population in 1960 as the instrumental variable. This would reduce the chances that it could be influenced by current economic conditions.

[21] Wooldridge, *Econometric Analysis of Cross Section and Panel Data*.

results for regions of the country.[22] His worker classifications were based on both educational attainment and work experience. Because the immigrant and native labor force vary over time, using these aggregate data allows a researcher to examine the impact of immigrants on the employment and wages of native workers with comparable skills.

Borjas, Freeman, and Katz compared the impact of immigration inflows using city-level, state-level, and census-region-level data from 1980 and 1990.[23] Focusing on the change between the two years, they include control variables along with dummy variables for area, age, and education. They found that a 10 percent increase in immigrant supply had an estimated impact on wages at the state and census-region levels of around –.04. They argue that using smaller regions masks some of the adjustment that occurs when native workers move to other areas because of immigrant inflows. More recent work, however, suggests that skill group adjustments by native workers are larger than geographic adjustments. But there may be geographic adjustments that are sufficient to keep wages constant at a local level.

At the national level, Borjas, Freeman, and Katz found that high school dropouts had the largest increase in employment due to immigration. They then calculated the impact of this relative supply increase on the ratio of high school dropouts to all other native workers' wages. They found that the relative wage of high school dropouts declined by 0.039 percent over the period examined.

In his 2003 paper, using aggregate census-year data from 1960 to 1990, Borjas's basic regression estimates of the impact of higher immigration on native workers' relative annual earnings, for different levels of education and experience, range from –0.947 to –2.074 percent.

[22] Borjas, "Labor Demand Curve Is Downward Sloping"; and Borjas, *Immigration Economics*.

[23] George J. Borjas, Richard B. Freeman, and Lawrence F. Katz, "Searching for the Effects of Immigration on the Labor Market," *American Economic Review* 86, no. 2 (1996): 246–51.

These results are mostly significant at the 1 percent level. The high estimate implies that a 10 percent increase in immigration results in about a 2.0 percent decline in relative earnings.

Borjas's simulations found that, on average, a 10 percent increase in immigrants in a skill group reduces native workers' relative wages by –0.003 to –0.089 percent. These results vary by skill group. This impact was larger than that found in much of the previous (and future) work on this topic.[24]

In a review of Borjas's book *Immigration Economics*, which spells out the details of his earlier work, Card and Peri challenge Borjas's findings. They point out that Borjas used the immigrant fraction of the labor force as his measure of the immigrant labor supply. Card and Peri argue that using actual immigrant inflows makes more sense. If inflows are used, Borjas's findings no longer hold.[25] Using actual immigrant inflows changed the results, making the impact of immigration on native workers' relative wages positive instead of negative. This held for empirical estimates with both regional and aggregate data. It makes more sense to use the change in immigration as a measure of immigrant labor inflows rather than the existing stock share of immigrants in a city—a flow rather than a stock measure when examining changes in native workers' relative wages.[26] Another criticism of Borjas's findings is that his simulation work assumes that immigrant and native workers are perfect substitutes for each other within a skill category. This is incorrect. For example, there are language differences.

[24] Friedberg and Hunt, "The Impact of Immigrants on Host Country Wages, Employment, and Growth"; and Peri, "Immigrants, Productivity, and Labor Markets." See footnote 12 for a brief discussion of regression and simulation methodologies. For details see Borjas, *Immigration Economics*.

[25] David Card and Giovanni Peri, "*Immigration Economics*: A Review," *Journal of Economic Literature* 54, no. 4 (2016): 1333–49.

[26] In the theory section in Borjas, *Immigration Economics*, he refers to the change in immigration as the measure of immigrant inflows but then uses the stock share of immigrants in a city in his empirical work.

Like Borjas, Ottaviano and Peri use national-level data to reexamine the issue; their data are from 1990 to 2006.[27] Unlike Borjas, they assume there is some substitutability between native and immigrant workers with similar education and experience.[28] They measure the immigrant inflow as the change in actual immigrants. This measure offers the best insight into the impact of immigration on native workers.

Ottaviano and Peri found that inflows of immigrants increased relative wages for most native worker skill groups by about 0.6 percent. Other recent papers draw similar conclusions.[29]

Interestingly, it appears that the negative impact of immigration centers on individuals who previously immigrated to the United States. Ottaviano and Peri found increased immigrant inflows significantly lowered relative wages of foreign-born workers in the United States by about 6.5 percent. This makes sense as this group is the closest substitute for the more recent immigrants.[30]

Finally, Azoulay et al. found that wages of immigrant firms are 0.7 percent higher than firms created by native workers. This may reflect a larger proportion of immigrant firms in high-tech and other science-related industries.[31]

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[27] Gianmarco I. P. Ottaviano and Giovanni Peri, "Rethinking the Effect of Immigration on Wages," *Journal of the European Economic Association* 10, no. 1 (2012): 152–97; and George J. Borjas, Jeffrey Grogger, and Gordon H. Hanson, "Comment: On Estimating Elasticities of Substitution," *Journal of the European Economic Association* 10, no. 1 (2012): 198–210.

[28] They estimate the elasticity of substitution within and between groups and find evidence to support this assumption. They also try to estimate the total wage effect. This is the impact of an increase in immigration within and between skill groups, called the total wage effect.

[29] David Card, "Is the New Immigration Really So Bad?," *Economic Journal* 115, no. 507 (2005): F300–F323; Gaetano Basso and Giovanni Peri, "The Association between Immigration and Labor Market Outcomes in the United States" (Institute for the Study of Labor, Discussion Paper No. 9436, 2015); and Giovanni Peri, "Did Immigration Contribute to Wage Stagnation of Unskilled Workers?," *Research in Economics* 72, no. 2 (2018): 256–365.

[30] A table in the appendix provides a summary of the results reported in the paper.

[31] Pierre Azoulay, Benjamin F. Jones, J. David Kim, and Javier Miranda, "Immigration and Entrepreneurship in the United States" (NBER Working Paper No. 27778, National Bureau of Economic Research, Cambridge, MA, 2020); and Sari Pekkala Kerr and William Kerr, "Immigrant Entrepreneurship in America: Evidence from the Survey of Business Owners 2007 & 2012," *Research Policy* 49 (2020): 1–18.

The impact of immigration on native workers' wages is mixed. For more educated native workers, the impact tends to be positive. However, some evidence does show a negative impact on unskilled native workers, especially before 2000. Given the more recent change in the immigrant skill mix, more results are showing a positive impact on native workers' wages (see appendix summary table).

4. Conclusions

The research examined in this paper provides evidence that immigration can have a positive impact on wages and expand job opportunities for higher-skilled Americans, accelerating economic growth. There is some evidence that immigration (particularly that of low-skilled workers) can have a negative impact on the wages of some low-skilled native workers. More recent research suggests that the impact on less skilled native workers may be positive. This remains an open empirical question. However, overall, from an economic perspective, expanding immigration would be a desirable policy reform.

Much as with international trade, there is a large net gain that accrues to the country receiving the immigrants.[32] But this does not mean that every American is better off by expanded immigration. The solution is not to stop or place more limits on immigration, but to improve the skill sets of those individuals harmed by immigration. Disproportionally, they are the less skilled members of society.

There is widespread support for changing high school curriculums in order to make the experience more appropriate for individuals with varied interests and more job relevant to students who would otherwise drop out. Not all students have an interest in going to college. Work-based learning programs that combine vocational education training with intern programs at local businesses can provide them with the skills they need to compete in

[32] Michael A. Clemens, "Economics and Emigration: Trillion-Dollar Bills on the Sidewalk?," *Journal of Economic Perspectives* 25, no. 30 (2011): 83–106.

today's labor markets. Large corporations are playing an increasingly important role in upskilling their workers.[33]

There is new evidence that sector-specific training programs can raise the earnings of low-wage, low-skilled workers.[34] Limits on taxes and regulations that discourage firms from hiring low-skilled workers, like payroll taxes and minimum wages, could be reduced or loosened. Reducing uncertainty over these policies will encourage businesses to increase job options for these individuals.[35] In addition, licensing requirements often limit opportunities for individuals without a bachelor's degree from a four-year college. An example is the effort by nurses to require a bachelor of science in nursing for all new registered nurses, even though nurses take on very specific tasks and much of what they learn is through on-the-job experience.[36]

There has been an ongoing political debate surrounding how much immigration the United States ought to allow. Once the benefits are spelled out and the limited costs become more transparent, reform will become more likely, improving the performance of the US economy.[37]

The United States has historically attracted more immigrants than other countries. However, this growth is not guaranteed in the future. The market flexibility in the United States, strong institutions, high economic mobility, and lower taxes have played a role in promoting economic activity. Immigration policies, along with domestic tax and regulatory policies that ensure access to credit, will dictate future growth in immigration. At a minimum, US immigration reforms

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[33] Andrew Soergel, "Companies Invest in Partnerships, Workforce Training to Bridge Skills Gap," *U.S. News & World Report*, February 20, 2020.

[34] Lawrence F. Katz, Jonathan Roth, Richard Hendra, and Kelsey Schaberg, "Why Do Sectoral Employment Programs Work? Lessons from WorkAdvance" (NBER Working Paper No. 28248, National Bureau of Economic Research, Cambridge, MA, 2020).

[35] Robert Krol, "Economic Policy Uncertainty and Small Business Decisions," *Cato Journal* 37, no. 1 (2017): 59–68.

[36] Timothy G. Smith, "A Policy Perspective on the Entry into Practice Issue," *Online Journal of Issues in Nursing*, October 5, 2009.

[37] Pia Orrenius, "Benefits of Immigration Outweigh the Costs," *The Catalyst*, no. 2 (2016): 1–8.

should be directed at attracting immigrants with high skills by expanding the number of H-1B visas issued each year to promote economic growth. Increasing the variety of visas represents an effective way to expand the economy, raise incomes, and generate jobs in the United States.

Appendix: Summary of Labor Market Outcomes

1. Author/Subcategories	2. Geographic Area(s)	3. Years	4. Distinguishes Skill Levels	5. Wages	6. Employment
Grossman (1982)	19 SMSAs	1969	No	1% ↑ immigrant supply	
A. Regression					
Total native workers				**–0.02%**	
Second generation				**–0.03%**	
Immigrants				**–0.24%**	
B. Simulation				10% ↑ immigrant supply (L-run)	10% ↑ immigrant supply (S-run)
Total native workers				–1.0	–0.8
Second generation				–0.8	–0.06
Immigrants				–2.3	–2.2
LaLonde & Topel (1991)	119 SMSAs	1970 & 1970–1980	Yes	100% ↑over 10 yrs.	No results
Black				–0.004% to **–0.007%**	
Hispanic				0.005% to **0.01%**	
Immigrants (<10 yrs.)				**–0.024% to –0.026%**	
Immigrants (11–30 yrs.)				–0.006% to **–0.019%**	
Altonji & Card (1991)	120 major cities	1970, 1980, & 1970–1980	Yes	10% ↑ immigrant supply	
Black males				**–1.91%**	**0.285% to 0.623%**
White males				**–1.103%**	0.086% to 0.109%
Black females				**–1.369%**	0.032% to 0.32%
White females				–0.955%	–0.017% to –0.089%
Pooled 4 groups				**–1.205%**	0.085% **to 0.231%**
Immigrants in United States				**–1.492%**	No result
Borjas, Freeman, and Katz (1996)	Cities, states, & census regions	1980, 1990, & 1980–1990	Yes	10% ↑ immigrant supply	No results
Metro areas				0.0012%	
States				**–0.0369%**	
Census regions				**–0.0432%**	

Continued on next page

1. Author/Subcategories	2. Geographic Area(s)	3. Years	4. Distinguishes Skill Levels	5. Wages	6. Employment
Borjas (2003)	Nation	1960, 1970, 1980, & 1990	Yes	10% ↑ immigrant supply	
A. Basic Regression					
HS dropout				**–0.947%**	
HS grad				**–2.074%**	
Some college				**–1.096%**	
College grad				0.610%	
B. Simulation					
HS dropout				–0.089%	
HS grad				–0.026%	
Some college				–0.003%	
College grad				–0.049%	
Card & Peri (2016)	Cities, states, census regions, & nation	1980, 1990, & 2000	Yes	10% ↑ immigrant supply	No results
A. Basic Regression					
Metro areas				**0.036%**	
States				**0.049%**	
Census regions				0.022%	
Nation				–0.124%	
B. Simulation					
HS dropout				–1.7%	
HS grad				0.9%	
Some college				1.2%	
College grad				0.5%	
Postgrad				–0.1%	
Ottaviano & Peri (2012)	Nation	1990–2006	Yes	10% ↑ immigrant supply	No results
A. US-Born Workers					
HS dropout				**0.6% to 1.7%**	
HS grad				**0.3% to 0.7%**	
Some college				0.3% to **1.3%**	
College grad				0.0% to 0.6%	
Average				0.6%	
B. Foreign-Born Worker					
HS dropout				**–4.8% to –8.1%**	
HS grad				**–7.1% to –12.8%**	
Some college				–1.8% to **–3.6%**	
College grad				–4.6% to **–8.2%**	
Average				**–6.3% to –6.7%**	

Bold number implies significance at the 10 percent level or less.