Economic Brief

July 2022, No. 22-27

The Impacts of Immigration: A Conference Recap

By Abhimanyu Banerjee

What role does immigration policy play in economic growth? How does the quality of college-educated workers differ across country? Do firms that hire more skilled immigrants perform better than firms that do not? These were among the questions addressed by economists during a recent Richmond Fed research conference.

Economists from the Richmond Fed, research universities and other institutions met in Richmond for a conference in June. Researchers presented papers on topics related to immigration, including its effect on firms, human capital and productivity. This *Economic Brief* summarizes those presentations.

The Global Distribution of College Graduate Quality

College-educated workers play a critical role in promoting a nation's economic growth. However, not all college graduates are the same: The college a worker attends is an important indicator of that worker's human capital.

For this reason, colleges often play a crucial role in immigration policy as countries seek to attract the immigrants with the highest human capital. While there are readily available data on the quantity of college-educated workers across countries, there are less data available on college quality and the distribution of quality across countries.

Todd Schoellman of the Minneapolis Fed presented research that attempts to address this gap by measuring college-graduate quality, or the average human capital of a college's graduates. This research appears in the paper "The Global Distribution of College Graduate Quality," which is co-authored by Paolo Martellini of the University of Wisconsin-Madison and Jason Sockin of the University of Pennsylvania.

They implement a three-step approach to determine college-graduate quality:

1. They use the earning changes of migrants to estimate country fixed effects.
2. They construct a human capital measurement as the earnings adjusted by country for all workers.
3. They estimate a regression using the human capital measurement to estimate college-graduate quality through the country fixed effects.

The researchers use data from Glassdoor on earnings and resumes. Since these data do not necessarily constitute a representative sample due to Glassdoor being a sample of convenience, the researchers validated the data by comparing moments with other publicly available data. They did not find significant evidence of bias and were thus able to use Glassdoor's data on about 2 million workers (including 76,000 migrants) from over 3,000 colleges.

The researchers find that there are significant differences in college-graduate quality: Graduates from top colleges have 40 percent to 60 percent more human capital, and graduates from rich countries enjoy a similar advantage over those from poorer countries. The authors find that migration reinforces these differences: Poorer countries not only lose a higher share of their skilled workers, but they tend to lose those who have more human capital.

Furthermore, they find that college-graduate quality is a predictor for the share of graduates who become entrepreneurs, innovators and executives. Thus, college quality is important when considering a nation's growth and development.

The Global Race for Talent

The migration of high-skilled workers remains a topic of debate in both academic and policy circles. While high-skilled migration can benefit both the origin country (through knowledge transfers by emigrants) and the host country (by bringing in valuable talent that can increase economic growth), there are also potential fears: The origin country may fear the effects of a "brain drain" in which its most talented workers leave the country in large numbers, while the host country may fear the effects of immigration on native workers.

This leads to questions about both the aggregate effect of migration on these countries and how migration affects worker productivity, collaboration and knowledge spillovers on locals. It also raises the question of the roles of tax and migration policies in affecting economies through these channels.

Marta Prato of the University of Chicago discussed her paper "The Global Race for Talent: Brain Drain, Knowledge Transfer and Growth (PDF)," in which she develops a new theoretical framework to help to answer these questions.

Prato introduces a two-country, innovation-based growth model that allows for microlevel migration decisions and learning from endogenous interaction networks, with these networks changing with migration. A key insight is that the effect of migration in the short and long run is ambiguous in this model for both countries. Prato notes that, unlike previous models in which either the microlevel migration flows or the macroeconomic environment is given, her model takes a global perspective that can analyze the effect of policy on both countries jointly. She also proceeds to calibrate the model using empirical data and finds that the model fits both targeted and non-targeted moments before studying policy counterfactuals.

Her model shows that more skilled workers tend to move to areas where there is higher total factor productivity. Once there, they are better able to learn and grow as part of that network, which further raises their ability and thus the total factor productivity of the region, attracting even more skilled workers. From the analysis of policy, she found that policies intending to change migration flows produce many different effects and have to the potential to backfire. She also found that knowledge spillovers tend to have very large effects on the outcome of policy.

Migrating With or Without Families

Due to the cost of labor mobility, many migrants may leave their families behind and remit part of their income back to support them. The cost of migrating with family depends in part on institutional restrictions: Temporary worker agreements, restricted access to public services and differences in visa policies between work and family purposes can all increase the cost of migrating with family.

Joan Monras of Universitat Pompeu Fabra presented research dedicated to examining the consequences of promoting individual migration as opposed to family migration. His paper "Floating Population: Consumption and Location Choices of Rural Migrants in China" was co-authored by Clement Imbert of the University of Warwick, Marlon Seror of Universitè du Quèbec à Montrèal and Yanos Zylberberg of the University of Bristol.

The researchers examine the migration of rural workers in China. They developed a location choice model in which workers are born in either rural or urban areas. The workers born in rural areas can decide if and where they would like to move. These workers can also decide to move with or without their families. Within the model, the workers make choices based on utility function where they gain utility from consumption and from sending remittances (which is considered as consumption at the origin).

The authors find that incorporating Chinese-style immigration policies into their model leads to an increase in immigration without family, primarily to high-wage, high-rent areas. On the other hand, migration with family decreases, but the effect isn't enough to offset overall migration, which still increases. The authors note that this is in line with the data on Chinese migration.

Moreover, there is lower wage inflation in high-wage cities and higher rent inflation in high-rent cities. This leads the authors to preliminarily conclude that discouraging family migration would lead to an increase in adult migration to high-nominal-income, high-rent locations while lowering wage growth and increasing rent growth in large urban centers.

Immigrants and Competitive Performance: Evidence From European Football Clubs

Classical economic research on immigration tends to focus on the effect of an influx of workers on macroeconomic issues, such as how they shape labor markets, affect productivity, or alter innovation and growth. Relatively less research focuses on the effect on firms of hiring skilled immigrant labor. Nevertheless, a growing literature has emerged showing that immigrants may meaningfully affect firm employment structure, investment choices, and innovation and productivity.

Britta Glennon of the Wharton School at the University of Pennsylvania presented her research that aims to provide empirical evidence on the effects of immigrants on firm performance. The paper she presented, "Does Employing Skilled Immigrants Enhance Competitive Performance? Evidence from European Football Clubs," was co-authored by Francisco Morales of the Universidad Diego Portales, Seth Carnahan of the Washington University in St. Louis and Exequiel Hernàndez of the Wharton School.

To determine the effects of hiring more skilled immigrants, the authors look at the effect of hiring foreign players in European football leagues. The data needed to conduct their analysis were readily available: the country of birth of each player, their career quality and organizational performance, among others. Also, many sources of heterogeneity are implicitly controlled for as every team must play under the same rules. Crucially, European football leagues also offer strong options for instrumental variables to tackle the endogeneity problem that organizations do not hire immigrants at random. Namely, some rule changes regarding the hiring of foreign players would impact how teams are able to sign non-native players but would not have a direct impact on teams' on-field performance, outside of the direct impact of the foreign players signed.

To perform their analysis, the authors construct an instrument using a gravity model and perform a two-stage least squares regression. They find that being allowed to have more foreign players significantly increases both the probability of winning and the goal differential.

Furthermore, the authors provide preliminary analysis of the mechanism as to how skilled immigrants improve their organizations. Through regression-based analysis, they find that immigrant workers are likely to contribute to organizations by superior talent and also by improving connectedness on the team and strategic richness.

Firm Heterogeneity and the Impact of Immigration

Most studies on immigration tend to assume the existence of a single representative firm. However, firms tend to be quite heterogenous, both across industries and within them. Given the important role that firms can play in immigration — for example through employer sponsorship — it raises the question of whether firm heterogeneity can impact the gains from immigration.

In his presentation, Nicolas Morales of the Richmond Fed presented research from his paper "Firm Heterogeneity and the Impact of Immigration: Evidence from German Establishments," co-written by Agostina Brinatti of the University of Michigan.

The authors develop a model in which firms are able to hire both foreign and domestic workers with a fixed cost for each additional country from which a firm hires (an assumption based on empirical evidence) and in which firms are heterogenous based on size. They find that large firms are immigrant intensive. Furthermore, they show that ignoring the heterogeneity of firms biases estimates of the gain from immigration.

They then estimate the model quantitatively by using LIAB, a matched employer-employee dataset from Germany containing a representative sample of firms between 2003 and 2011. After estimating the model, they find that once heterogeneity is taken into account, welfare gains are 11 percent higher than expected when assuming a representative firm.

The authors also determine that these gains are caused by reallocation. In particular, immigrants crowd out natives from immigrant-intensive firms, which causes the natives to move to other firms. When this occurs, natives begin to specialize and in general become less substitutable. Models that do not account for this reallocation will have systematic bias in their estimates of the benefits of immigration.

The Effect of Low-Skill Immigration Restrictions on U.S. Firms and Workers

There is often concern about the potential negative effects of an influx of low-skill immigrants on a host economy and native workers. However, despite this concern, there is limited evidence that such an influx has a significant effect on the labor market. Indeed, there is some reason to believe that without this source of labor, businesses would see growth slow or even stop, limiting the hiring of native workers.

Michael A. Clemens of the Center for Global Development presented his ongoing research examining the effect of low-skilled immigrant labor on firm revenue and U.S. workers. His forthcoming paper "The Effect of Low-Skill Immigration Restrictions on U.S. Firms and Workers: Evidence From a Randomized Lottery" is co-authored by Ethan G. Lewis.

The researchers examine survey data from businesses that participated in the H-1B visa lottery. This lottery randomly assigns a letter to a business' application, which roughly determines the order in which applications for visas are considered: Businesses assigned "A" typically go before businesses assigned "B," and so forth. Businesses that go first have a higher likelihood of having their applications approved, while businesses that go later may have to rely on supplemental visas.

The researchers then run ordinary least squared and two-stage least squared regressions to determine the effect of foreign workers on both business revenue and on U.S. temporary worker employment. They determine that foreign workers have a significant positive effect on revenue and do not have a statistically significant effect on U.S. workers.

They also examine how these effects differ for various subgroups. They find that firms that are small, face high competition, are in rural areas or are in lower-populated areas tend to benefit most from foreign workers. They also find that firms that are small or in rural or lowly populated areas tend to see a larger positive effect on the hiring of U.S. temporary workers from hiring foreign workers.

Abhimanyu Banerjee is an intern in the Research Department at the Federal Reserve Bank of Richmond.

To cite this Economic Brief, please use the following format: Banerjee, Abhimanyu. (July 2022) "The Impacts of Immigration: A Conference Recap." *Federal Reserve Bank of Richmond Economic Brief*, No. 22-27.

Subscribe

Contact Us

RC Balaban

(804) 697-8144