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# The Economics of International Migration

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UC Davis

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# Dedication

To Claudia, Fabio and Dante;

who will make the world a better place.

## Preface

As I am writing this preface to the book *The Economics of Immigration* the first pages of European newspapers have been covered for the last months with news on the “Syrian refugee crisis” and the US presidential campaign has been ignited with promises of “building a wall” and deporting millions of undocumented immigrants to Mexico. As it happens periodically the potential economic costs and benefits of immigration are hot news. The temptation to motivate the importance of the economic analysis of immigration with the currency of newsworthiness is high. The view emerging from the analysis of this book is, however, different. Immigration has been and is a very powerful and fundamental force that modifies the demographic and economic structure of countries whose effects are only apparent over decades. Most of all, immigration is an extraordinary economic opportunity for developed countries and for the migrants themselves. Understanding the economic motivation of migrants and the economic impact they have on the receiving economy is a very important input in building the best policies to manage migration flows. The ability of rich countries to manage immigration flows for growth and productivity will be one extremely important factor determining their economic success in the next decades.

During the last decades when international migration, and especially migration from poor to rich countries, increased substantially, the research on the economic determinants and effects of migrations blossomed too. Together with several coauthors I have been part of this revival in the economic analysis of migration. Our research agenda helped renew research in the area and pushed economists to look at different aspects and different economic implications of immigration. First, we understood that the “canonical model” with a homogeneous labor factor supplied by natives and immigrants was too simplistic to understand some crucial interactions

in the labor markets between natives and immigrants. Second we explored the possibility that immigration stimulates responses in native workers and firms that may affect productivity and growth. Third we emphasized the importance of long-run analysis and possibly growth effects of high skilled immigrants. Finally we started to focus on the importance of understanding immigration policies and estimating their impact on immigration.

This volume collects our seminal and most relevant papers on these topics written and published during the last seven years plus a brand new introductory chapter, written for this volume, that emphasizes the fundamental correlations in the data between immigrants and labor market outcomes in the US. Together these papers provide a multifaceted analysis of the effect of immigrants on wages, employment, productivity considering the US, Europe and OECD countries as receiving economies and analyzing state, city and country level economies over years and decades. The picture emerging is that important adjustments take place in the receiving economies and while potential cost for some groups may exist, immigration generates significant gains for the natives especially in the long run. As immigration is relatively slow and adjustments take place at a comparable pace as immigrants are integrated in the receiving economy the resulting effects on natives are mainly positive. While certainly some disagreement still exist among economists on the specific effects of immigration, the research presented in this volume has indicated approaches and methodologies that seem to have become mainstream in this literature. I hope that reading these papers collected in one volume will inspire young economists to continue and advance research in migration economics.

I am grateful to my several brilliant coauthors in these papers, some of which I had the fortune of having as classmates and friends for a while such as Gianmarco Ottaviano and Frederic Docquier. Others are graduate advisees turned into coauthors and collaborators such as Chad Sparber, Greg Wright and Kevin Shih. All of them, including Francesc Ortega, Francesco D'Amuri, Caglar Ozden and Ilse Ruyssen have been excellent collaborators and coauthors. Without them I would certainly not have been able to write the papers and learn much from doing that. Certainly this book is only and intermediate step, as I am still actively working with these coauthors in the field of migration economics and I hope to continue contributing to its development in the next decades.

Giovanni Peri

*October 20, 2015*

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Rethinking the Effect of Immigration on Wages

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Immigration, Jobs and Labor Market Institutions: Evidence from Europe

*European Economic Association*, Volume 12, Issue 2

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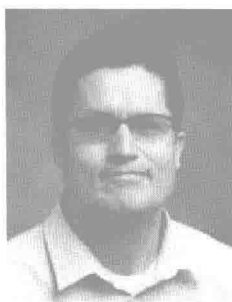
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## About the Editor



Giovanni PERI is Professor of Economics and Director of the Migration Cluster at UC Davis. He is also a Research Associate of the National Bureau of Economic Research in Cambridge, Massachusetts, IZA affiliate, and Editor of *Regional Science and Urban Economics*. He is in the Editorial Board of the *Journal of the European Economic Association* and the *Journal of Population Economics*. He has published in several academic journals including the *American Economic Review*, *The Review of Economic Studies*, the *Review of Economics and Statistics*, *The Economic Journal* and the *Journal of the European Economic Association*. He has done research on human capital, growth and technological innovation. Recently, he has focused on the impact of international migrations on labor markets, housing markets, productivity and innovation of the receiving countries, and on the determinants of international migrations. His research has been featured on *The New York Times*, *The Economist*, *The Washington Post*, and several popular blogs and newspapers.

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## INTRODUCTION

# The Association between Immigration and Labor Market Outcomes in the U.S.

*With G. Basso*

### Abstract

In this introductory chapter we present important correlations between immigration and labor market outcomes of native workers in the US. We use data on local labor markets, states and regions from the Census and American Community Survey over the period 1970–2010. We first look at simple correlations and then we use regression analysis with an increasing number of controls for observed and unobserved factors. We review the potential methods to separate the part of this correlation that captures the causal link from immigrants to native labor outcomes and we show estimates obtained with 2SLS method using the popular shift-share instrument. One fact emerging from all the specifications is that the net growth of immigrant labor has a zero to positive correlation with changes in native wages and native employment, in aggregate and by skill group. We briefly review the channels and the mechanisms that allow local economies to absorb immigrants with no negative (and possibly positive) impact on the labor demand for natives.

## 1. Introduction

The labor market and, more generally, the economic impact of immigrants in the United States are highly researched topics. Several influential articles have been written since the 1980's on immigration and native wages and employment (Grossman 1982, Card 1990, Borjas *et al.* 1997, Friedberg and Hunt 1995, Friedberg 2001). There has been some disagreement on whether the association between immigrant and wages is negative, positive or null (e.g. Borjas 2003, Card 2009, and Ottaviano and Peri 2012). The economics of how immigrants affect native wages and employment can be framed in a very simple labor demand and labor supply model for homogeneous workers.

Such a basic canonical model with a negatively sloped labor demand curve implies that in the short run an increase in supply due to immigration, keeping everything else constant, produces a decline in wage and/or in employment for native workers. In the long run as capital adjusts this model predicts no effect on native wages and employment.

There are many reasons, however, to believe that the simple canonical model described above is a gross oversimplification as it omits aspects that are crucial for the issue at hand. Immigrants are not homogeneous to natives, technology and capital adjusts in response to labor, firms create jobs in response to incentives, there are complementarity across different workers, more workers allow for specialization and division of labor that could enhance efficiency, and so on. All these factors imply that the marginal product of *native* labor may change when the supply of *immigrant* changes, and it may change in a direction that offsets or overturns the negative effects implied by the canonical model. In other words, the change in supply of immigrant workers may correspond to an ambiguous change in the *demand* for native workers. It could be positive or negative depending on the relative strength of competition and complementarity/productivity effects.

A second issue limiting the relevance of the “supply shift with-everything-else-constant” paradigm is that we rarely observe “sudden and short lived” changes in immigration rates. The usual scenario is one in which a slow but persistent increase in immigration rates shapes, over decades, the labor markets of the receiving countries. In this context several adjustments take place concurrently with the immigrant inflow. Even the more remarkable examples of immigration “booms” entailed net inflows only around 0.5 to 1% of the population each year. One of these immigration episodes took place in Israel during the period 1990–2000, due to Jewish immigrants from the ex-Soviet Union: in that episode, the share of foreign-born increased by 10 percentage points (pp) of the population in a decade. In another episode, from 1995 to 2008, the share of foreign-born in Spain increased by 11pp due to immigration. By comparison, the period of largest US immigration, namely the years 1990–2010, experienced an increase in the share of foreign-born by 5pp, hence an average of 0.25% of the population each year. Most of the other countries have had much smaller yearly rates for a period of few decades.<sup>1</sup> It is more useful, therefore, to think of a

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<sup>1</sup>There have been some episodes of large refugee migrations in a short amount of time such as the Bosnians in the mid 1990’s, but their flows were not too large.

framework in which the inflow of immigrants changes the long run equilibrium in the labor markets over decades. As both labor demand and labor supply change in the long-run and immigration may affect both dynamics, there is no clear prediction of the sign of the effects.

For these reasons it is useful to go to the data to learn about the long-run correlations between changes in immigrant population and native wages and employment without a pre-conceived expectation about their sign. We analyze these correlations for the US over the period 1970–2010, considering several different dimensions pertaining geographical areas and skill groups in section 2 of this chapter.

There are reasons to think that in the long run the correlation immigrant-native demand can be negative if forces of competition, crowding and decreasing returns prevail. But there are as many reasons to think that a positive correlation will prevail if agglomeration economies, labor and capital complementarity, specialization and skill externalities prevail. By analyzing the long-run correlations between these variables we obtain a picture of their joint movements in equilibrium. While correlations *per se* cannot reveal what is their driving force, and hence they cannot identify the causal effects of immigration, they may suggest some scenarios and rule out others, especially if they are consistent across decades and across geographical units. Moreover, other important long-run forces driving changes in the labor market, such as technology, change in demographic groups and changes in schooling attainments are, at least in part, observable. Thus, we can absorb their variation and only distill the correlation that survives such controls to better approximate the causal link between immigrants and native wages.

With these caveats in mind, we will estimate a series of basic regressions that progressively absorb the variation of confounding (observable and unobservable) factors so as to isolate a partial correlation between immigrant supply and native wages and employment. Overall we find correlations that are positive or not significantly different from 0 and rather stable across different periods, geographical units and specifications. These correlations reveal that, unless specific unobserved factors systematically offset the crowding and competition effects by immigrants, the identified correlations do not support the existence of negative and significant effects of immigration on native labor demand. We present this analysis in section 3.

Even the more sophisticated regression analysis, however, cannot really ensure that we are fully identifying causation from immigration to native

labor demand. While the positive correlations are suggestive, and the robustness to controls is encouraging, we need to have a more systematic way to separate the causal link between exogenous changes in immigrant labor supply and native wages and employment. In section 4 we discuss the frequently used method of instrumental variables estimation, and the popular instruments in this context, defined as “shift-share” (or “enclave-based”). That method aims at isolating supply-driven changes in immigrants. We apply this instrumental variable technique to our regression analysis and observe only a small change in the point estimates of the correlation between immigrants and average native wages. The precision of the estimates, however, deteriorates significantly. We also discuss in that section more recent and promising methods that leverage policy changes and their variation across regions or the discontinuity over time of migratory flows as source of exogenous variation of immigrant labor supply. While those methods are interesting and promising, it is hard to find policy changes and push-episodes for all countries and years. Hence the shift-share instrument may still have an important role and it needs to be constructed accurately, paying attention to important details.

Finally, acknowledging that most of the simple and sophisticated correlations and 2SLS correlations between immigrant labor supply and native wages are positive or null, in section 5 we review the literature that identifies channels and mechanisms allowing absorption of immigrant labor with positive effects on native labor demand. This is a good way to lead into the rest of the volume. The first part of the book includes four papers devoted to analyzing the specific channels and mechanisms that can explain the zero or positive effects of immigrants on native labor demand. Then the second part of this volume focuses on the specific effect of immigrants on productivity and efficiency, emphasizing externalities and spillovers. Section 6 concludes this introduction and briefly connects it to the rest of this volume.

## **2. Basic Aggregate Correlations**

We first consider simple correlations between the growth of the foreign-born population and the growth of wages and employment of natives. We aggregate US Census data for 1970 (2% sample), 1980, 1990 and 2000 (5% samples) and the 2008–2012 American Community Survey, which create a 5% sample around 2010 that we use for that year. As main

geographical unit of analysis we use 722 Commuting Zones (CZs) that encompass the 48 adjoining US states and are defined as to comprise the same residents and workers within themselves. They approximate local labor markets. We use the definition of Commuting Zone, and the concordance over time, as developed by Autor and Dorn (2013). Alternatively, we use 50 US states or 9 US Census regions as units of analysis. The samples that measure population in working age include all individuals between 18 and 64 years old not residing in group quarters, while those measuring employment only include individuals who worked a positive amount of weeks in the previous year. Finally, the samples constructed to measure wages include working individuals who received strictly positive wage income. We use the logarithm of weekly wages that we define as total income from wages divided by weeks worked in the previous year.<sup>2</sup>

Let us define as  $FB_{it}$  the number of foreign-born in working age in location  $i$  and Census year  $t$ . We then define as  $USB_{it}$  the number of US born people in working age in the same location and Census year. Our measure of the increase in immigrants (foreign-born) over an inter-Census decade (for  $t = 1970, 1980, 1990, 2000$ ) is the change in the number of foreign-born standardized by the initial population:  $\Delta(immi_{i,t}) = (FB_{i,t+10} - FB_{it}) / (FB_{it} + USB_{it})$ . This variable captures the increased number of immigrants relative to the local population in working age. Correspondingly, we define as  $\Delta \ln(wage_{i,t})^{USB}$  the inter-Census change in the logarithm of average weekly wages of native workers and as  $\Delta(empl_{i,t})^{USB}$  the inter-Census change in native employment as share of the population in working age in Census year  $t$ . These variables capture the change in native workers' labor market outcomes over the considered decades measured as percentage points of the initial value. Figure 1 shows the variation of  $\Delta(immi_{i,t})$  across US CZs considering the whole 1970–2010 change and indicating with darker shades of grey the CZs with larger increase of immigrants. Several CZs in California, Texas and Florida, but also on the East Coast and in the Central States, show the largest values. Parts of the Midwest and some Mountain States show the smallest increases. Figure 2 shows the geography of the variable  $\Delta \ln(wage_{i,t})^{USB}$  across CZs also considering

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<sup>2</sup>The detailed description of the samples, variables and their constructions using the IPUMS Census and ACS data (Ruggles *et al.* 2015) is in the Data Appendix. In general, we have used the same definitions of samples and variables as used in the book *Immigration Economics* by George Borjas (2014). All the dollar amounts are expressed in \$ as of 1999 adjusted using the BLS CPI-U All Items.



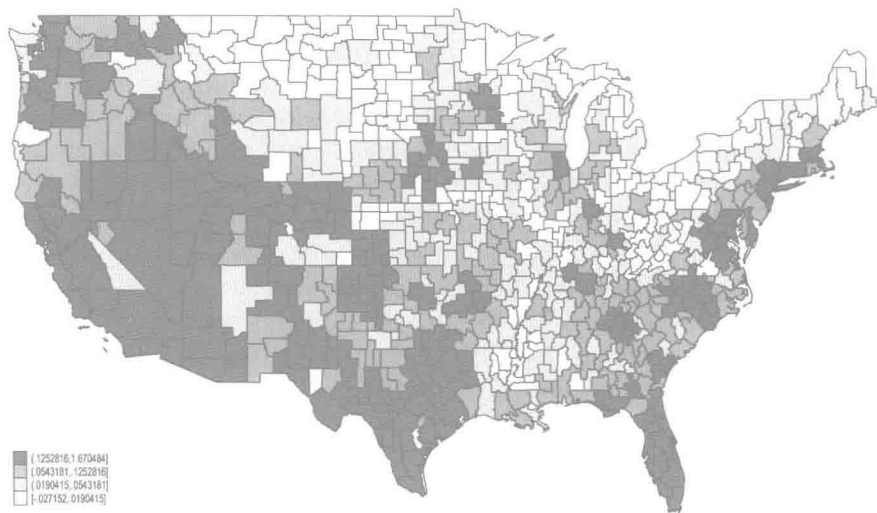


Fig. 1 Change in foreign-born as share of initial population: Commuting Zones, changes 1970–2010.

*Note:* Our calculations based on Census and ACS data from Census 1970, 80, 90, 2000 and 2010. The definition of the variable represented is given in the text. Units are 722 Commuting Zones.

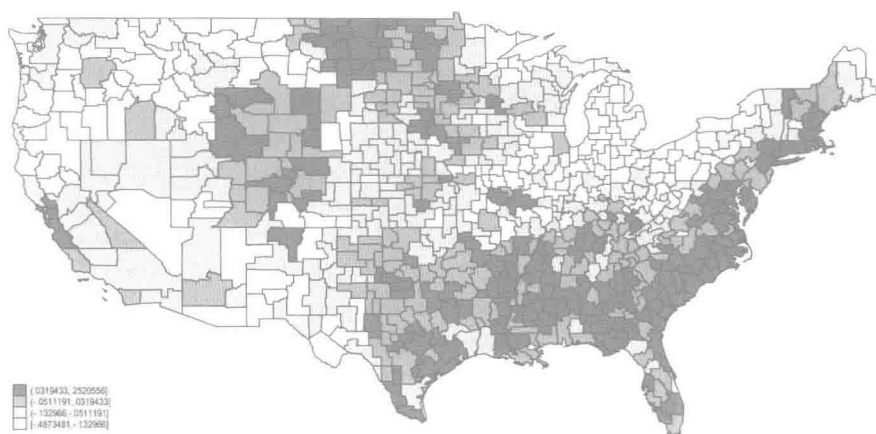


Fig. 2 Change in the logarithm of weekly wages of natives: Commuting Zones, changes 1970–2010.

*Note:* Our calculations based on Census and ACS data from Census 1970, 80, 90, 2000 and 2010. The definition of the variable represented is given in the text. Units are 722 Commuting Zones.