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Immigration in American Economic History†

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The United States has long been perceived as a land of opportunity for immigrants. Yet, both in the past and today, US natives have expressed concern that immigrants fail to integrate into US society and lower wages for existing workers. This paper reviews the literatures on historical and contemporary migrant flows, yielding new insights on migrant selection, assimilation of immigrants into US economy and society, and the effect of immigration on the labor market. (*JEL* J11, J15, J24, J61, N31, N32)

1. *Introduction*

The United States has long been perceived as a land of opportunity, a place where prospective immigrants can achieve prosperity and upward mobility.[1] Yet, both in the past and today, US natives have expressed concern that immigration lowers wages and that new arrivals fail to assimilate into US society. These fears have influenced historical immigration policy and are echoed in contemporary debates.[2]

In this essay, we address three major questions in the economics of immigration: whether immigrants were positively or negatively selected from their sending countries; how immigrants assimilated into the US economy and society; and what effects immigration may have had on the economy, including the effect of immigration on native employment and wages. In each case, we present studies covering the two main eras of US immigration history—the Age of Mass Migration from Europe (1850–1920) and the recent period of renewed mass migration from Asia and Latin America.

Reviewing the historical and contemporary evidence side by side yields a number of insights. First, the nature of migration selection appears to have changed over time. Whereas in the past, migrant selection patterns were mixed, with some migrants

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[1] Ellis Island in New York Harbor served as the entry point for millions of immigrants arriving from Europe in the late nineteenth and early twentieth centuries. The Statue of Liberty, which has come to be a symbol of the country's openness to new arrivals, was extolled in Emma Lazarus's 1883 poem, "A New Colossus," for beckoning "world-wide welcome."

[2] Jencks (2001) describes the parallels between historical and contemporary immigration debates, writing that "America's current immigration debate often sounds a lot like the debate that raged early in the twentieth century. Once again many American workers see immigrants as an economic threat. … Once again the great majority of Americans would prefer to keep the country homogeneous."

positively and others negatively selected from their home countries on the basis of skill, migrants today are primarily positively selected from source-country populations, at least on observable characteristics.[3] The rise in income inequality in the United States can help explain the increasingly positive selection of immigrants seeking to take advantage of the high returns to skill in the United States. But the fact that recent immigrants are not negatively selected—even from destinations that are more unequal than the United States, as would be predicted by the classic Roy model of self-selection—may be explained by the growing selectivity of US immigration policy over time, or by rising costs of (often undocumented) entry due to strict immigration restrictions.

Second, both in the past and today, the evidence is not consistent with the common perception of the "American dream," whereby immigrants arrived penniless and eventually caught up with US natives. Long-term immigrants in both periods have experienced occupational or earnings growth at around the same pace as natives. As a result, immigrants who held lower-paid occupations than natives upon arrival to the United States did not catch up with natives over a single generation. The major difference between the past and present is that, circa 1900, typical long-term immigrants held occupations similar to the native born, even upon first arrival, whereas today the average immigrant earns less than natives upon arrival to the United States. Smaller earnings gaps in the past are consistent with the fact that immigrants primarily hailed from European countries that, though poorer than the United States, were not as dissimilar in development to the United States as are sending countries like Mexico and China today.[4] However, there was a substantial degree of heterogeneity in immigrants' skills and earnings across sending countries, including some immigrant groups that outearned natives from the outset. We also argue that, when evaluating the pace of immigrant assimilation, methods matter. Studies based on cross-sectional data, which are less well-suited to studying assimilation than are panel data, often provide an overly optimistic sense of immigrant convergence.

Third, both then and now, immigrants appear to reduce the wages of *some* natives, but the evidence does not support the view that, on net, immigrants have negative effects on the US economy. Instead, new arrivals created winners and losers in the native population and among existing immigrant workers, reducing the wages of low-skilled natives to some degree, encouraging some native born to move away from immigrant gateway cities, and either spurring or delaying capital investment. In the past, these investments took the form of new factories geared toward mass production, whereas today immigrant-receiving areas have slower rates of skilled-biased investments (e.g., computerization).

The main goal of this paper is to review the historical evidence on key issues of concern to the economics of immigration today. We explicitly address the set of topics covered in Borjas's (1994b, 2014) reviews of the literature, which include immigrant selection and assimilation and the effect of immigrants on native workers, and we add in each case the insight that comes from comparison with the historical evidence. Our focus is on the labor and applied microeconomics research, rather than on more macroeconomic approaches

[3] We discuss exceptions to this broad pattern in the corresponding section.

[4] US GDP per capita is over five times higher than Mexico or China today, whereas the United States had GDP per capita that was only two to three times higher than European sending countries circa 1900.

to this topic. Hatton and Williamson (2005) and Ferrie and Hatton (2014) provide complementary reviews of the role of immigration in global economic history. There are a number of important historical topics that we do not cover here. These include internal migration within the United States,[5] the involuntary migration of slaves,[6] migrations to destinations outside of the United States,[7] or the effect that out-migration might have on sending countries.[8] Furthermore, our coverage of the literature on the modern period is only partial.

2. *Immigration Regimes in US History*

The history of immigration to the United States has been shaped both by changes in the underlying costs and benefits of migration and by substantial shifts in immigration policy. The high cost of crossing the Atlantic in the seventeenth and eighteenth centuries gave rise to a long period of indentured immigration (c. 1600–1800).[9] With revolutions in shipping technology[10] and a growing reliance on a network of migrant finance,[11] migration costs declined in the mid-nineteenth century, ushering in a sustained Age of Mass Migration from Europe. This period ended with the imposition of a literacy test for entry in 1917 and strict immigration quotas in 1921, which were modified (although not eliminated) in 1965. Most recently, the relaxation of immigration quotas has allowed for

[5] Classic references on internal migration in US history are Steckel (1983), Hall and Ruggles (2004), and Ferrie (2005). Collins and Wanamaker (2014) use linked census data to evaluate the selectivity and returns to migration for black and white migrants leaving the US South before 1930. Boustan (2009) and Boustan, Fishback, and Kantor (2010) study the effect of internal migrants on existing workers in destination areas. Molloy, Smith, and Wozniak (2011) address the more recent decline in the rates of internal migration in the United States.

[6] Curtin (1972); Menard (1975); Fogel (1994); and Eltis, Lewis, and Richardson (2005) discuss effects of the slave trade on US population and markets. Nunn (2008) considers the effect of slave trade on the source countries.

[7] Hatton and Williamson (1994) include chapters on migration to Argentina, Australia, and Canada, the three largest receiving countries in the period outside the United States. Green, MacKinnon, and Minns (2002) compare British migrants who chose to settle in the United States versus Canada, and Balderas and Greenwood (2010) compare the determinants of migration to Argentina, Brazil, and the United States. Green and Green (1993), Green and MacKinnon (2001), and Dean and Dilmaghani (2016) study the assimilation of European immigrants into the Canadian economy. Fares to Australia and New Zealand were higher than to other destinations in this period, and information about these economies was scarcer (McDonald and Shlomowitz 1991). Hudson (2001) discusses these effects of these impediments on migration to New Zealand. Pérez (2017) constructs panel data to study the selection and assimilation of immigrants to Argentina during the Age of Mass Migration.

[8] There has been surprisingly little work done on the effect of emigration on the sending regions considering the dramatic rates of out-migration from Europe during the Age of Mass Migration. Boyer, Hatton, and O'Rourke (1994) and Hatton and Williamson (1998, chapter 9) study the labor-market effects of out-migration in Ireland and Sweden. Karadja and Prawitz (2015) study the effect of emigration on local political development in Sweden.

[9] The majority of voluntary migrants who settled in the American colonies before 1775 arrived on indentured servants' contracts (Smith 1947; Tomlins 2001). Indenturing arose as a solution to the high costs of migration in the seventeenth and eighteenth centuries (Galenson 1981a, 1981b, 1984). Most indentured servants were young men from the United Kingdom or Germany (Gemery 1986). Servants worked for a defined period of time, often seven years, in exchange for passage from Europe to the New World (Grubb 1985, 1986, 1988). The market rewarded servants who arrived with more skills in the form of shorter periods of indenture (Galenson 1981a, 1981b). Abramitzky and Braggion (2006) suggest that, relative to the West Indies, the mainland American colonies appeared to have attracted servants with higher levels of human capital.

[10] As wooden hulls and paddle wheels were replaced by iron sides and compound steam engines, trans-Atlantic travel time declined from one month in the mid-eighteenth century to eight days by 1870 (Hugill 1995; Cohn 2005). On the industrial organization of the steamship industry at its height, see Keeling (1999).

[11] See Grubb (1994) on the relationship between migrant financing and the decline in indentured servitude. The demise of indenturing in the United States may also have been tied to the growth of the slave population (Galenson 1984). Indeed, indenturing was widely used to transport Asians, primarily from India and China, after the abolition of slavery in the Caribbean sugar islands and South America in the 1830s (Engerman 1986).

a period of constrained mass migration, primarily from Asia and Latin America.[12]

The rise of mass migration was associated with the shift from sail to steam technology in the mid-nineteenth century, and a corresponding decline in the time of trans-Atlantic passage. As travel costs fell and migrant networks expanded from 1800 to 1850, the number of unencumbered immigrants entering the United States increased substantially.[13] Annual in-migration rose from less than one per 1,000 residents in 1820 to 15 per 1,000 residents by 1850 (panel A of figure 1).[14] Throughout the Age of Mass Migration, about 55 million immigrants left Europe, with the United States absorbing nearly 30 million of these arrivals (Hatton and Williamson 1998).[15] As a result, the foreign-born share of the population rose from 10 percent in 1850 to 14 percent in 1870, where it remained until 1920 (panel B of figure 1).[16] Another notable feature of this era is the fluctuation of migration flows with the business cycle; annual in-migration rates varied between 0.4 and 1.6 percent of the population. Spitzer (2015) explains this pattern in the context of a dynamic model in which prospective migrants optimally time their moves to the New World; in this case, high migration rates during economic booms can generate follow-on migration via migrant networks, thereby augmenting business cycle swings.

Alongside this growth in migrant numbers, falling migration costs also facilitated a shift in the typical mix of sending countries toward poorer countries on the European periphery (figure 2). In 1850, over 90 percent of the migrant stock hailed from Northern and Western Europe, particularly from Great Britain, Ireland, and Germany. The share of migrants from Southern and Eastern Europe began to rise in 1890; by 1920, 45 percent of the migrant stock was from the "old" sending countries, while 41 percent was from the "new" regions. Immigrants from Southern and Eastern Europe were, on average, younger, more likely to be male and unmarried, and less likely to settle permanently in the United States (Hatton and Williamson 1998). According to official statistics on return migration, first collected in 1908, around 30 percent of European migrants returned to their home countries (Gould 1980; Wyman 1993); recent work by Bandiera, Rasul, and Viarengo (2013) suggests that the return rates from certain countries may have been much higher.[17]

Immigrants clustered by region in the United States (Dunlevy and Gemery, 1977). Figure 3 uses the complete count of the 1920 census to map the most numerous country-of-origin group among the

[12] We borrow this periodization in part from Chiswick and Hatton (2003).

[13] Shorter trans-Atlantic voyages reduced the cost of migration in part by lowering the mortality risk of the journey. In the 1840s, the mortality rate during the crossing was one in one hundred (Cohn 1984). Mortality risk was especially high for children (Cohn 1987). Once migrant communities were established in US cities and rural areas, many prospective migrants were able to travel on prepaid tickets financed by friends or family, thereby lowering borrowing costs (Hatton and Williamson 1998; Carrington, Detragiache, and Vishwanath 1996). See also Kobrin (2012) on the role of immigrant banks in facilitating migration.

[14] To compare immigration flows over time, note that Figure 1A does not include undocumented immigrants, which represented an additional 650,000 entrants per year during the first decade of the 2000s (Hanson 2006). Adding undocumented immigrants would double contemporary immigrant in-flows, making immigration rates more comparable today to the Age of Mass Migration.

[15] Other important receiving countries were Argentina, Canada, and Brazil.

[16] Migrants represented a larger share of the labor force than the population during the Age of Mass Migration (20 percent versus 14 percent). Today the gap between the foreign-born share of the population and the labor force is smaller (13 percent versus 16 percent).

[17] Bandiera, Rasul, and Viarengo compare the counts of migrant inflows from newly digitized passenger manifests to the stock of foreign-born residents in the census and attribute the difference to return migration. This method implies that 60–75 percent of migrants returned to Europe in the 1900s and 1910s.

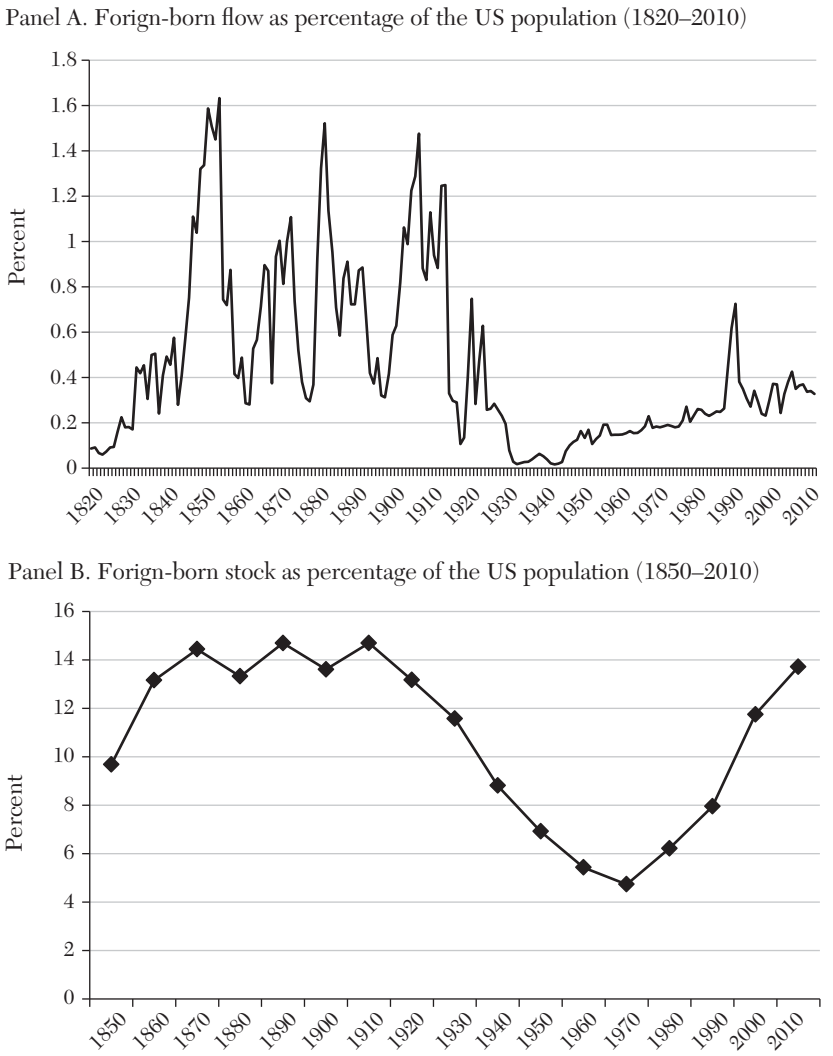


Figure 1.

Note: Immigrant flows in panel A include only legal entrants, leading to an undercount, particularly after 1965.

Sources: Authors' calculations based on US Historical Statistics (panel A) and Integrated Public-Use Microdata Series (IPUMS) samples of US census (Ruggles et al. 2010) (panel B).

foreign born by county. The map illustrates some well-known patterns in US history: Scandinavians were the largest foreign-born group in the upper Midwest; German-speaking migrants represented the largest share of the foreign born in the lower Midwest; Italians were prevalent in New York, New Jersey, and Pennsylvania. Migration within the Americas was also sizeable, with Canadians representing the largest country-of-origin group in Maine and along parts of the northern border, and Mexicans

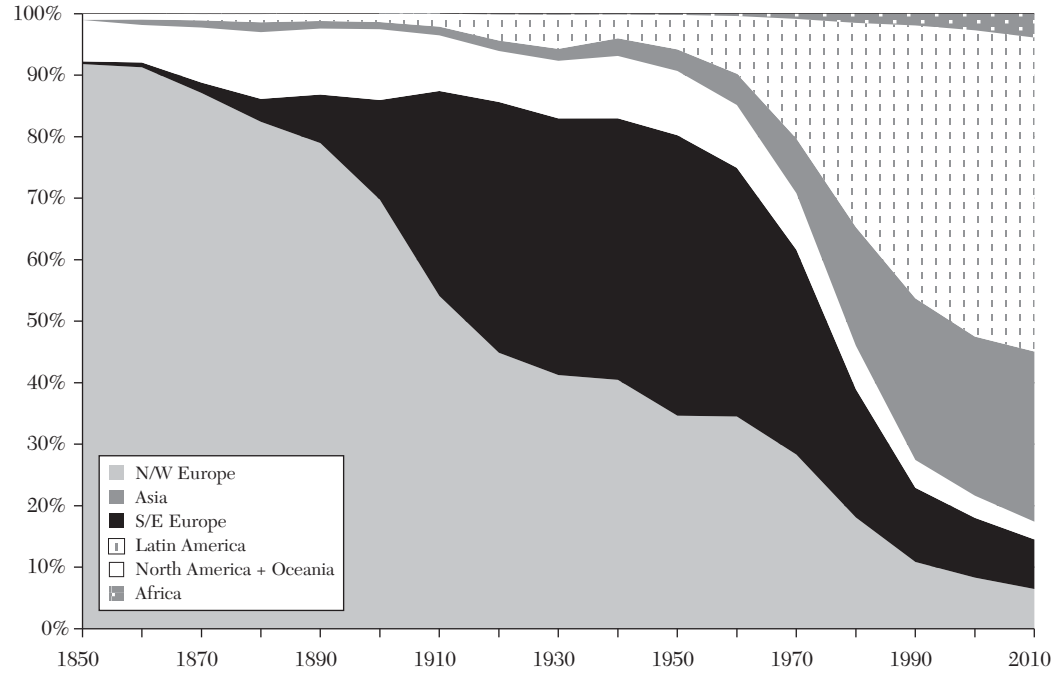


Figure 2. Sending Regions within the Foreign-Born Population, 1850–2010

Sources: Authors' calculations based on IPUMS samples of US Census (Ruggles, et al., 2010).

dominating through most of Texas, Arizona, New Mexico, and Southern California. Settlement patterns in the south were far less cohesive, primarily reflecting the fact that the immigrant share of the population in southern counties was very low.

Immigrant enclaves are easier to observe in figure 4, which presents the share of the county's population in 1920 made up of immigrants from particular sending countries. For illustration, we consider three groups—Austrians and Germans, Italians, and Norwegians. The largest clusters of German immigrants (as a share of the total population) were in Wisconsin, central Minnesota, and Iowa, and in Pennsylvania and Texas. Italians represented over ten percent of the population in certain counties in Connecticut, Rhode Island, and Upstate New York. Norwegians were equally numerous in the northern tip of Minnesota and in much of North Dakota.

Rising migrant numbers and, especially, the shift towards new sending countries, contributed to the growing political pressure to restrict immigrant inflows.[18] Congress

[18]The anti-immigration movement scored early victories with targeted bans against smaller immigrant groups, including the 1882 Chinese Exclusion Act, restrictions against the criminal and the "insane" in 1891, and the 1908 Gentleman's Agreement limiting immigration from Japan. In 1880, there were around 100,000 Chinese immigrants in the United States (representing 3 percent of foreign-born males between the ages of eighteen and sixty-five). These

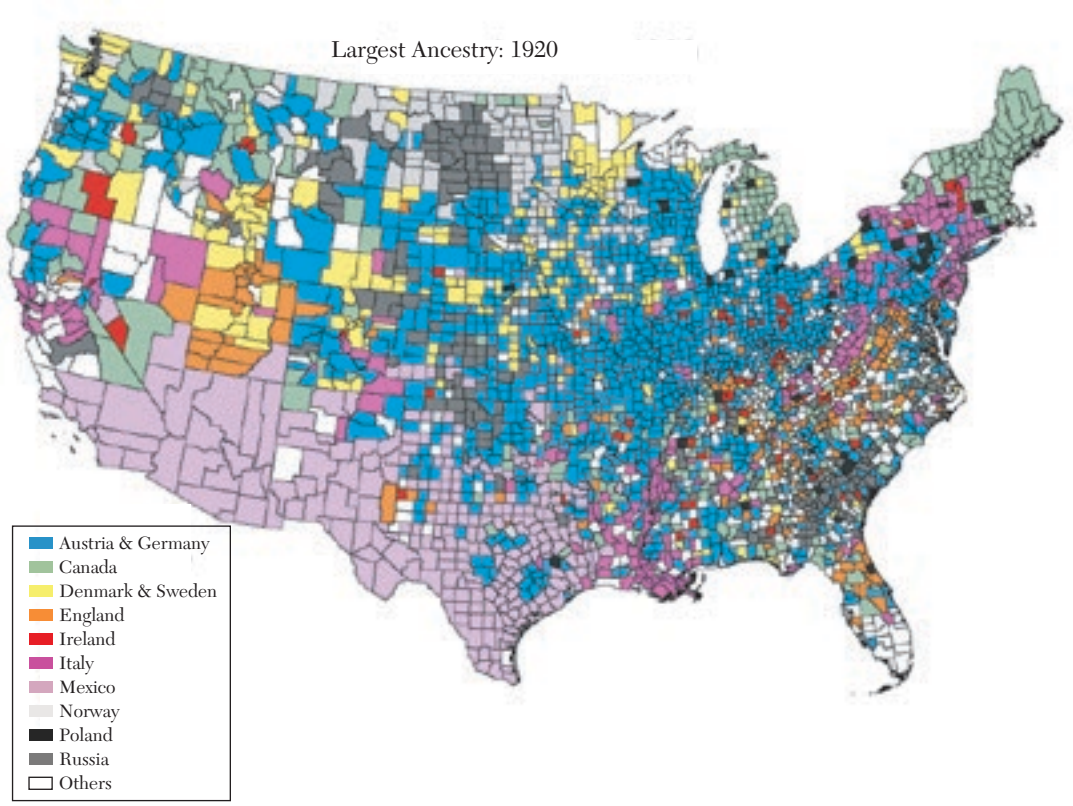


Figure 3. Largest Country-of-Origin Group among Foreign Born by County, 1920

Source: Authors' calculations from complete-count data of 1920 Census.

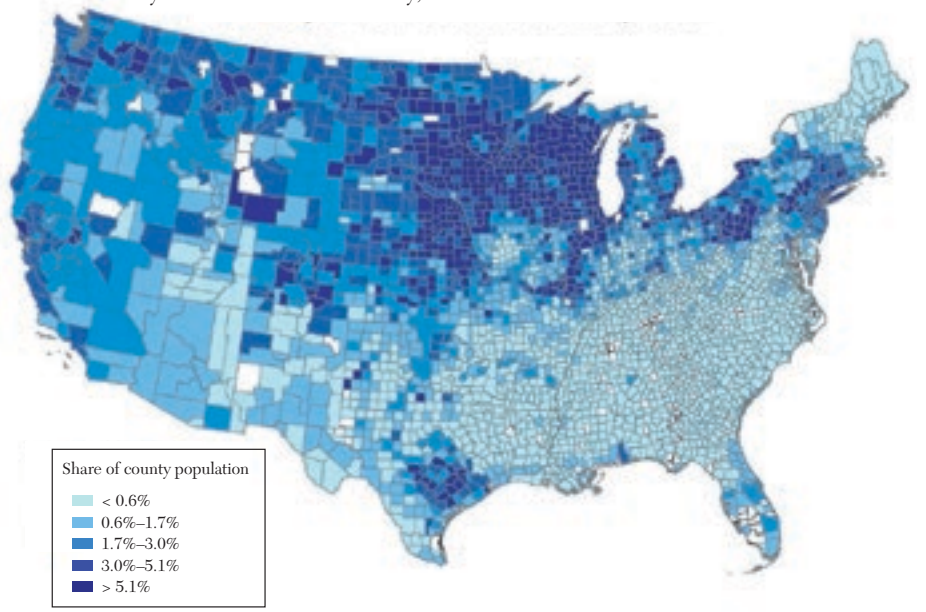
convened the Dillingham Commission in 1907 to study the effect of immigration on the US economy and society. The commission's report, published in 1911, advocated for a set of additional regulations, including limits on the number of immigrant arrivals, quotas by county of origin, and restrictions against immigrants who were illiterate or penurious. All but the wealth requirement were passed over the next decade and the era of open borders came to an end.

A literacy test for entry into the United States was passed over President Wilson's veto in 1917. In 1921 (amended in 1924), a set of country-specific immigration quotas were imposed. From over a million annual entrants in the late 1910s, immigrant arrivals were capped at 150,000 by 1924. Allocation of quota slots was based on the size of migrant stocks from each country of origin in 1890 (King 2000).[19] This early benchmark favored

pre-Exclusion Act migrants formed ethnic enclaves (Chinatowns) in many American cities (Carter 2013). After the immigration ban, many Chinese immigrants instead settled in South America and the Caribbean.

[19] Legislation passed in 1921 limited immigrant arrivals to 357,000 and allocated slots on the basis of migrant stocks

Panel A. Ancestry Share: Austria and Germany, 1920



Panel B. Ancestry Share: Italy, 1920

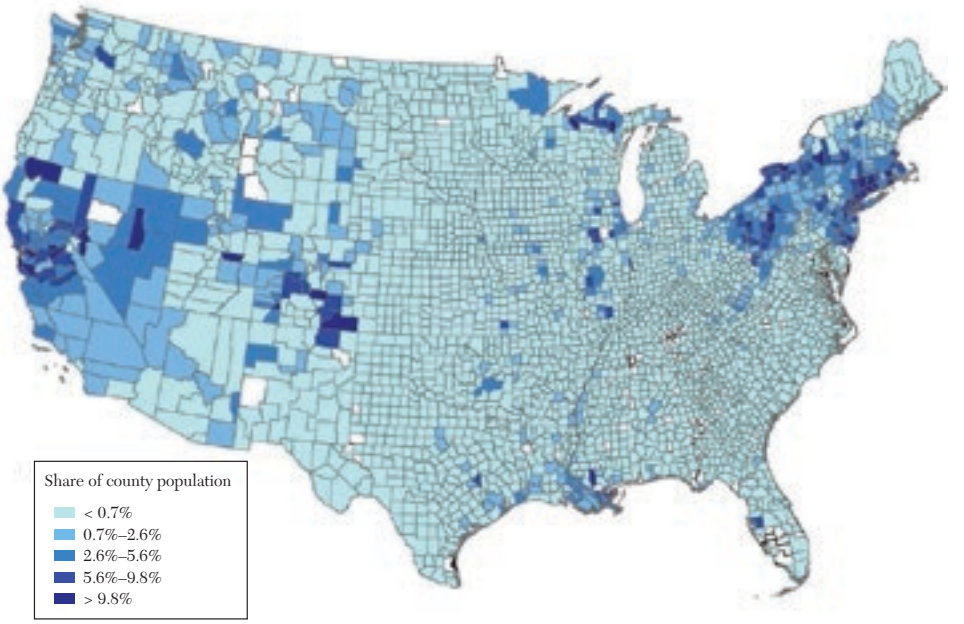


Figure 4. Share of County Population from Particular Countries of Origin, 1940

(Continued)

Panel C. Ancestry Share: Norway, 1920

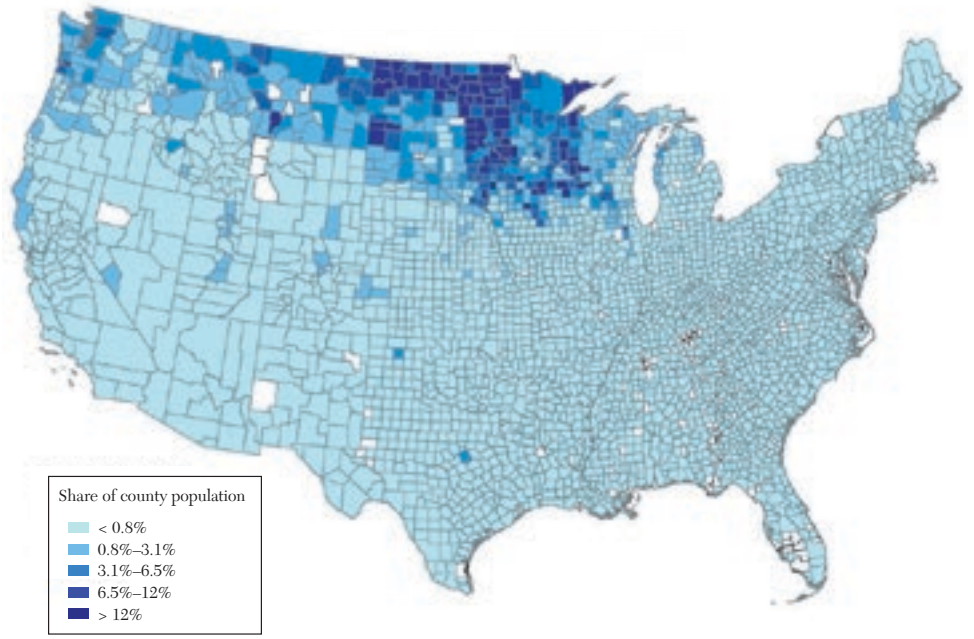


Figure 4. Share of County Population from Particular Countries of Origin, 1940 (*Continued*)

Source: Authors' calculations from complete-count data of 1920 Census.

countries in northern and western Europe, especially the United Kingdom, over the "new" sending countries from southern and eastern Europe.[20] Support for immigration restriction was based on concerns about labor-market competition, as well as xenophobia and antipathy toward new immigrant arrivals (Goldin 1994).[21] A shift in the Southern vote away from open immigration was decisive in allowing Congress to override the presidential veto.[22]

Following the imposition of strict immigration quotas, the foreign-born share of the US population declined from 14 percent in 1920 to 5 percent in 1970 (see panel B of figure 1). The flow of low-skilled immigrants dropped substantially after 1921, due to both

in the 1910 census. These restrictions were tightened in 1924 and further amended in 1929.

[20] Swings in US immigration regimes mirror similar policy shifts in immigrant-receiving countries over time. Timmer and Williamson (1998) document a general shift toward restrictive border policy in many immigrant-receiving countries in the early twentieth century, which Williamson (1998) attributes in part to the political pressure of low-skilled native voters.

[21] Goldin (1994) finds that congressional districts with mid-sized immigrant communities (as opposed to large or small concentrations of the foreign born) and districts facing stagnant wages were the most likely to support restriction. Nationally, organized labor and residents of rural areas were the most consistent supporters of immigration restriction. Rural voters may simply have been xenophobic or may have worried about the competition that immigrants posed for their children, many of whom were moving to urban areas. On the role of nativism in depressing immigration flows in the 1850s, see Cohn (2000). Higham (2002 [1955]) is the classic reference on nativism in US history.

[22] Few immigrants moved to the South. Indirectly, immigration affected southern interests by providing a steady supply of workers in northern factories, which may have forestalled the move of southern black workers to northern cities (Collins 1997).

a change in the country-of-origin mix and to increased selectivity within sending countries (Massey 2013). Specific immigrant groups, including Jewish refugees during World War II and Eastern Europeans allowed entry by the Refugee Relief Act of 1953, contributed to this shift in migrant selection (Blum and Rei 2015). The imposition of quotas also reduced the phenomenon of temporary migration, especially among unskilled and agricultural workers (Greenwood and Ward 2015). An exception is the temporary migration of more than four million Mexican farm laborers authorized by the Bracero program (1942–64) (Massey and Liang 1989).

Immigration quotas remained in place until the 1960s. The Immigration and Nationality Act of 1965, passed in the midst of the civil rights movement, eliminated the country-specific quota system and increased the immigration cap from 150,000 to 270,000 entrants per year.[23] The country-specific allocation was replaced by preferences for close family members of US citizens or legal permanent residents and for individuals with specific skills and employment sponsorship. Another route to legal migration, albeit in small number, is through refugee or asylum-seeker status. Currently, the global immigration quota is 620,000.[24]

The foreign-born share of the population increased from 5 percent in 1970 to 14 percent in 2010, returning to a level last seen during the previous Age of Mass Migration. In 2010, 51 percent of the migrant stock was from Latin America and 28 percent was from Asia. Given that demand for immigration to the United States now outstrips available slots, the number of "illegal" or "undocumented" immigrants living in the United States increased, reaching 27 percent of the total stock of immigrants by 2011 (and a larger share of the annual flow). In the first decade of the 2000s, estimates suggest that around 650,000 undocumented immigrants arrived each year, mainly from Mexico (Hanson 2006).[25]

Policy makers have attempted to counteract undocumented migration by expanding the policing of the southern border; expenditures on border control rose tenfold from the 1980s to the 2000s (Gathmann 2008).[26] Since 2001, Congress has repeatedly introduced (but failed to pass) the DREAM Act to create a path to permanent residency for the children of undocumented immigrants.[27] In 2012, the Obama administration passed an executive order to offer temporary work permits to such children and expanded this deferred-action program to other undocumented immigrants in 2014. An immigration reform bill passed by the Senate in June 2013 (but not brought to a vote in the House) offered a "tough but fair" pathway to citizenship for the estimated 11 million undocumented immigrants living in the United States. The reform was intended to provide a wider set of employment and educational opportunities to immigrants and their children, and at the same time set stronger enforcement tools to prevent more illegal immigrants from coming to the United States. Immigration reform was a

[23] King (2000, p. 247) argues that the 1965 policy change was "not designed to open the United States to increasing numbers of immigrants but simply to end inequities in the selection of immigrants" (on this point, see also Massey and Pren 2012).

[24] The assignment of immigration slots by hemisphere ended in 1978, in favor of a single, worldwide quota.

[25] See facts at http://pewhispanic.org/files/reports/126.pdf

[26] Policing the border has an ambiguous effect on the total number of undocumented migrants living in the United States; fear of apprehension reduces the inflow of new undocumented migrants, but also discourages existing migrants from returning home (Angelucci 2012b; Gathmann 2008; Hanson and Spilimbergo 1999).

[27] Woolston (2015) compares the educational attainment of undocumented immigrants who arrived in the United States as young children with their younger siblings who were born in the United States and shows that US citizenship has a positive effect on educational outcomes.

central topic in the 2016 presidential campaign and has been a signature issue for the Trump presidency.[28]

3. *Migrant Selection*

International migration is a selective process, with some residents choosing to leave their country of birth and others choosing to stay. Who moves depends on the costs and benefits of migration, which can vary across individuals for both systematic and idiosyncratic reasons. In a simple Roy model in which migration costs are assumed to be the same for everyone, prospective migrants possessing skills that are highly valued in the destination economy can expect the highest return to migration and are thus most likely to move. Specifically, if the destination country offers higher labor-market rewards for skill relative to the sending country, the migrant flow will be positively selected on the basis of skill. If, instead, the destination economy offers lower rewards for skill relative to the sending area, the migrant flow will be negatively selected on the basis of skill.[29] By positive (or negative) selection, we mean that migrants have more (less) productive skills than residents who stay behind in the source country. In practice, skills can be indexed by observable attributes (like education) or premigration wages, which provide a measure of otherwise unobserved skills rewarded in the labor market.

Selection patterns during the Age of Mass Migration are consistent with a basic Roy model. Migration to the United States was positively selected from some European countries and negatively selected from others, with differences in selection lining up with differences in the relative returns to skill across sending countries. In the recent period, migrants to the United States from many sending countries appear to be positively selected on the basis of education and other observable dimensions of productivity. Such positive selection may be a result of immigration policy that favors education and skill.

3.1 *Migrant Selection in the Past*

Given available information on the income distribution of European sending countries in the mid-nineteenth century, an application of the Roy model would predict neutral selection from western Europe and negative selection from the European periphery. At this time, the United States exhibited a similar income distribution to many western European countries, in which case we would expect neutrally selected migration from countries like Great Britain (Lindert 2000; Lindert and Williamson 2014).[30] Although evidence on the income distribution in other European counties is limited, scattered data suggest that the United States was more equal than countries on the European periphery in the late nineteenth century.[31] In these cases,

[28] Contemporary survey evidence finds that low-skilled workers are less favorable toward an open immigration policy than their higher-skilled counterparts, although the underlying cause of this association—whether concerns about labor-market competition or an association between skill level and nativist attitudes—is unclear (Scheve and Slaughter, 2001; O'Rourke and Sinnott, 2006; Hainmueller and Hiscox, 2007). See Citrin et al. (1997) for an alternative reading of the survey evidence.

[29] This logic is drawn from Roy's (1951) model of self-selection into occupations, as applied to the migration decision by Borjas (1987); see Borjas (2014, pp. 8–25) for a useful summary of this application.

[30] Lindert and Williamson's (2014) new inequality estimates for the United States in 1860 are based on "social tables," or counts of the population in one-digit occupations, matched with information on labor and property income by occupation category.

[31] See Abramitzky, Boustan, and Eriksson (2012) for a comparison of the US and Norwegian income distributions in 1900. Atkinson and Piketty (2007) and Atkinson, Piketty, and Saez (2011) provide a broader set of cross-country comparisons. We caution that the Atkinson et al. series begin circa 1920 and focus on the share of income earned by workers at the top of the income distribution, both of which may reduce the applicability to the Age of Mass Migration.

low-skilled workers would have the most to gain from moving to the United States and we would expect negative selection.

Indeed, as a basic Roy model would predict, historical evidence suggests that migration from western Europe to the United States was neutrally selected. Passenger lists of emigrants leaving the German region of Hesse-Cassel in the 1850s reveal that mid-skill-level artisans were overrepresented in the migrant flow, as opposed to poor laborers or rich farmers (Wegge 2002). British immigrants in the 1860s and 1870s were also more likely to have been raised by a father in a semi-skilled profession, as opposed to an unskilled or white-collar father; Long and Ferrie (2013a) observe this pattern in census data matched between the United States and the United Kingdom.[32]

In contrast, migrants to the United States from countries in the European periphery (including Ireland, Norway, and Italy) appear to have been negatively selected. Irish migrants from the pre-famine and famine periods held lower-paid occupations than men who remained at home and were more likely to report a round-numbered age; such age heaping is often used as a proxy for a lack of numeracy (Mokyr and Ó Gráda 1982; Cohn 1995). Norwegian migrants in a linked census sample were more likely than nonmigrants to be raised by fathers who did not own land and who held lower-paid occupations (Abramitzky, Boustan, and Eriksson 2012). Abramitzky et al. also find a higher return to migration within pairs of brothers than in the population as a whole, suggesting that naïve estimates of the return to migration are biased downward by negative selection for men leaving urban areas. Spitzer and Zimran (2017) compare the stature of Italian migrants entering the United States, logged in Ellis Island arrival records, with the stature of Italian males conscripted into the armed forces as a proxy for childhood health conditions. Migrants were negatively selected on the basis of height from the overall Italian population, due entirely to higher migration rates from the poorer southern provinces.[33]

The direction of migrant selection is closely related to the motivations of prospective migrants. An extensive literature in economic history studies the determinants of aggregate migration flows, drawing either on national time series (e.g., Hatton 1995 for the United Kingdom; Hatton and Williamson 1998 for Ireland) or provincial differences in emigration rates (e.g., Hatton and Williamson 1998 for Ireland and Italy; Sanchez-Alonso 2000 for Spain).[34] In general, the size of the migration flow increases with the relative wage and employment rates in the destination country, as well as with the size of the migrant network, suggests that prospective migrants are aware of and responsive to economic conditions.[35] Improvements in relative economic opportunities in the destination country are also associated with more positive migrant selection (Covarrubias, Lafortune, and Tessada 2015).

The Roy model implicitly assumes that migrants are seeking to optimize lifetime income, but in some cases, migration may also be prompted by flight from persecution or pursuit of political and social freedoms.

[32] Cohn (1992) instead finds that, during the antebellum period, British migrants were drawn from both the richest occupations (farmers) and the poorest (laborers), with the skilled artisans underrepresented in the migrant flow.

[33] Kosack and Ward (2014) use heights to assess the selection patterns of Mexican migrants into the United States at the beginning of the twentieth century. Their results suggest positive selection: migrants from Mexico were, on average, four to five centimeters taller than Mexican conscripts. See also Greenwood (2007, 2008) on migrant selection by age and gender.

[34] Hatton (2010) provides a thorough review of this literature (see p. 942–49).

[35] See Moretti (1999) on the role of social networks on migration from Italy during the Age of Mass Migration.

There has been less work done on the role of noneconomic factors such as political upheavals or persecution in driving migration flows during the Age of Mass Migration. Boustan (2007) and Spitzer (2015) show that Jewish out-migration from the Russian empire reacted to anti-Jewish violence (pogroms), but that economic fundamentals continued to drive much of the migration patterns in this case. Research into other cases, including the German revolutions of 1848, the Irish struggles for independence, and the role of various famines and natural disasters, could prove rewarding.

3.2 *Migrant Selection in the Present*

Unlike in the past, recent empirical evidence on migrant selection to the United States appears to be at odds with predictions from the basic Roy model. In particular, migrants to the United States from many sending countries are positively selected in their education and other observable skills, regardless of the differentials in returns to skill between destination and source (Jasso et al. 2004; Feliciano 2005; Kennedy, McDonald, and Biddle 2006; Grogger and Hanson 2011).

The case of Mexican immigrants has been analyzed most closely. A high level of income inequality in Mexico suggests that the migrant flow out of Mexico should be negatively selected. Instead, early work found that migrants were drawn from the middle of the educational distribution (Chiquiar and Hanson 2005; Orrenius and Zavodny 2005).[36] More recent work based on Mexican panel data finds some evidence of negative selection from Mexico, in the sense that migrants earned less than nonmigrants in the period before their trip (see Fernandez-Huertas Moraga 2011; Ambrosini and Peri 2012; Kaestner and Malamud 2014). Differences in the two sets of studies could be due to under-enumeration of undocumented Mexican immigrants in the US census (Ibarraran and Lubotsky 2007) or to differential selection patterns by observed skill (education) versus labor-market productivity (wages).[37]

The common finding of positive selection in contemporary migration flows has led to various attempts to adapt the standard Roy model framework, including modifying the utility function and incorporating individual variation in migration costs. Grogger and Hanson (2011) argue that positive migrant selection can be rationalized with the use of a linear (rather than logarithmic) utility function. In this case, the migration decision depends on absolute rather than percentage wage differences. Hence, given that rich countries tend to exhibit larger absolute differences between the wages of low- and high-skilled workers, immigrants that move from developing to developed countries will tend to be positively selected in terms of skills.

Alternatively, the costs of migration (and not only the benefits) may vary by skill level. First, skilled workers may find it easier to adapt to the new location, for example, by learning a new language, navigating bureaucratic hurdles at entry, and searching for housing and employment in the destination. Second, the low skilled may have a harder time accessing credit to finance their move, "pricing out" the poor from migration opportunities. Finally, under the existing immigration regime, highly educated workers

[36] Caponi (2011) uses a structural approach to estimate the skill distribution of Mexican immigrants into the United States. He finds that Mexican immigrants into the United States are positively selected in terms of ability.

[37] Gould and Moav (2008) argue that patterns of migrant selection can differ across skill categories. Education, in particular, may reflect "general" skills, while other labor-market skills may be "country-specific." They show that Israeli emigrants are positively selected in terms of education but are drawn from the middle of the distribution of unobserved skills, as proxied by residual wages.

may have greater access to legal avenues of immigration, such as employer sponsorship, leaving lower-skilled migrants to face the high costs of illegal entry.[38]

3.3 *History Can Inform Current Debates on Migrant Selection*

Changes in the economic environment would predict the observed shift over time toward positive migrant selection. The divergence in absolute income between the United States and the developing world and the widening of the US income distribution might increasingly attract high-skilled migrants seeking to take advantage of the high returns to skill in the United States. However, a puzzle remains: why is there positive selection today, even from sending countries that are *more* unequal than the United States (e.g., Nigeria and Brazil)?

Historical evidence can help adjudicate between proposed explanations for the positive selection puzzle. Some explanations for this puzzling fact are not consistent with the negative selection of migrants from some European sending countries in the past. For example, if the higher-skilled are simply better able to navigate the migration process and adapt to a new culture, we would expect positive selection in both the past and the present. Similarly, a model of linear, rather than logarithmic, utility, as in Grogger and Hanson (2011), predicts that migrants from poorer to richer countries would have been positively selected in the past, which is contrary to evidence from Ireland, Italy, and Norway.

In a basic Roy model, the cost of migration is the same for everyone. If, instead, restrictive immigration policy renders migration costs particularly high today for the low skilled, migration costs could help explain the positive selection puzzle. Today, around 20 percent of entry slots in the United States are reserved for immigrants sponsored by an employer; these openings tend to be filled by high-skilled immigrants. Legal immigrants are then able to sponsor family members to join them through family reunification. Jasso, Rosenzweig, and Smith (2000) document that the average skills of new green-card holders have been increasing relative to the native born since the 1970s and attribute these changes to an increasing preference for skilled workers over time.[39] Furthermore, even as travel costs have declined, the actual cost of entering the United States for many low-skilled workers, often illegally with the help of a smuggler, has increased.

Immigrants from Europe in the Age of Mass Migration did not face legal barriers to entering the United States and, perhaps as a result, were negatively selected from their home-country population in some cases. Today, a few immigrant groups are able to migrate to the United States without restriction, including residents of US territories like Puerto Rico.[40] Puerto Rico is more unequal than the United States (compare a Gini coefficient of 0.55 in Puerto Rico and 0.48 in the US mainland) and thus, according to a basic Roy model, we would expect migration from the island to be negatively selected. Indeed, Puerto Ricans who move to the mainland are negatively selected on

[38] Members of different skill groups may also have different valuation of US-specific amenities, including cultural diversity and political freedoms like the right to vote (see Vigdor 2002 for one application of this idea).

[39] Jasso and Rosenzweig (2008) and Antecol, Cobb-Clark, and Trejo (2003) compare the immigrant selection system in the United States to those used in Australia and Canada.

[40] Selection patterns of internal migrants who can move at will also shed light on migrant selection in the absence of policy restrictions. Molloy, Smith, and Wozniak (2011) and Malamud and Wozniak (2012) find that college graduates are more likely to move across state lines; this pattern would be consistent with the Roy model if these highly skilled migrants tend to settle in states where the return to skill is high (Dahl 2002). See also Robinson and Tomes (1982); Borjas, Bronars, and Trejo (1992); and Abramitzky (2009).

the basis of educational attainment and earnings ability (Ramos 1992; Borjas 2008).[41]

The role of migration costs in generating positive selection need not imply that the poor are priced out of migration because of a lack of credit or financing for their trip. Both in the past and the present, there is evidence that immigrant networks can alleviate such financial constraints. Wegge (1998) compares "networked" migrants in 1850s Germany who shared a surname with other migrants from their village with their "non-networked" counterparts. Networked migrants held substantially less wealth at departure, suggesting that migrant networks served as an effective substitute for self-financing. Further evidence that financing was not a barrier to migration can be found in Norway. In 1900, when mass migration was already underway, individual wealth was a deterrent to (rather than a facilitator of) migration (Abramitzky, Boustan, and Eriksson 2013). Men who grew up in households with assets, particularly those who could expect to inherit their family's land by virtue of birth order and sibling composition, were less likely than others to migrate.[42] A similar pattern holds today: Mexican migrants from communities with strong migration networks are less wealthy than are migrants from communities with weak migration networks (McKenzie and Rapoport 2007, 2010).[43]

In addition to underlying changes in the costs of migration, some of the observed differences in selection patterns across time could be due to measurement issues. First, there is a wide array of measures of skills used in the literature, including literacy, years of schooling, proxies for numeracy, earnings, wealth, unobserved ability, health, and height. Although these measures are most likely correlated, this relationship might be weak in some cases. Second, historical work is more likely to measure the *flow* of new migrants into the United States using passenger lists, whereas the contemporary literature often analyzes the *stock* of immigrants observed in the US census at a point in time (e.g., Chiquiar and Hanson 2005). These two methods need not produce the same answer if return migration is also selective (existing evidence suggests that this is the case; see, for example, Lubotsky 2007; Abramitzky, Boustan, and Eriksson 2014; Ward 2017).

3.4 *Future Research Directions*

Despite our speculation that shifts in immigration policy may explain changing selection patterns over time, there is little work directly assessing the relationship between migrant selection and prevailing immigration restrictions. We view the connection between immigration policy and migrant selection to be a crucial area of future research, especially given the ongoing political debates about immigration reform. Shifts in the immigration regime also encourage the involvement of different institutions in the immigration process—including immigrant banks and immigrant aid societies in the past and universities and firms as the sponsors of student or worker visas today. Little is known about the role that these institutions have played in shaping both migrant selection and assimilation.

A recent explosion in the availability of historical census micro data from a number of European sending countries, including Ireland, Norway, Sweden, and the United Kingdom, opens up the possibility for new

[41] In contrast, migrants from the Federated States of Micronesia (FSM), an associated state of the United States, are positively selected on educational attainment and premigration earnings, despite moving from a more unequal sending location (Akee 2010).

[42] In contrast, Angelucci (2012a) finds that an exogenous increase in wealth induced by the Mexican program *Oportunidades* increased the probability of migrating to the United States.

[43] Relatedly, Spitzer (2015) argues that migrant networks helped Jews flee waves of anti-Jewish violence in the Russian empire.

work on the role of local conditions in shaping migrant selection. To date, most work on migrant selection has analyzed national trends, but there may be substantial variation in who leaves from different regions of sending countries. Micro data also allow for the analysis of international migration alongside internal migration within sending countries from rural to urban areas. Building new panel data sets is particularly important to the study of both contemporary and historical migration flows.

Finally, we emphasize that a proper understanding of migrant selection is necessary for generating unbiased estimates of the economic gains to migration. Abramitzky, Boustan, and Eriksson (2012); and McKenzie, Stillman, and Gibson (2010) have made this point for historical and contemporary immigration flows, respectively. A comparison of their estimates suggests that the return to migration has increased substantially over time, perhaps as a result of quotas that artificially restrict the supply of immigrant workers. However, these studies are based on very specific cases—migration from Norway to the United States and from Tonga to New Zealand, respectively—and so additional estimates of the economic returns to migration for larger migration flows and at various points in time would be welcome.

4. *Immigrant Assimilation in the United States*

How do immigrants perform in the US labor market? Do newly arrived immigrants fare worse than the native born and, if so, do they catch up with natives over time? We might expect immigrants to earn less than the native born if they start out with fewer productive skills than natives or if they are discriminated against at the workplace. Immigrants held back by an initial lack of US-specific skills may be able to close their earnings gap with natives by investing in the skills necessary to succeed in the United States (see, for example, Borjas 2014 for a clear formalization of this idea). Immigrants facing discrimination in the labor market may still be able to catch up with the native born if they can "pass" as natives—for example, by changing their names or losing their accents.

Both during the Age of Mass Migration and today, immigrants experienced some earnings convergence with natives as they spent more time in the US labor market, but this convergence process is slow. As a result, immigrants do not experience complete catch-up in a single generation, either in the past or the present.

4.1 *Earnings Convergence between Immigrants and Natives*

4.1.1 *Contemporary Patterns and Methodological Developments*

Much of the contemporary literature on immigrant assimilation has been focused on solving methodological issues in order to properly measure changes in immigrant earnings with time spent in the United States. In early work on this topic, Chiswick (1978) found that immigrants in the 1970 census earned less than natives upon first arrival, but rapidly caught up and were able to overtake natives after spending fifteen to twenty years in the United States. A smaller earnings gap between natives and immigrants who have spent more time in the United States in a single cross-section may reflect immigrants' earnings growth, but may also be driven by declining skill levels of immigrants across arrival cohorts and negatively selected return migration. By following immigrant arrival cohorts across census waves, Borjas (1985) documents that around half of the convergence observed in a single cross section can be attributed to declining skills across arrival cohorts. The extent of convergence is smaller yet in panel datasets that follow individual

immigrants over time, thereby controlling for selective return migration (Lubotsky 2007).[44] Figure 5 provides a succinct graphical illustration of the conceptual issues associated with inferring earnings convergence from cross-sectional data and the benefits of using panel data in this context.

In recent years, initial earnings gaps and the speed of convergence between immigrants and natives have varied by arrival cohort. Earnings at entry relative to natives have fallen from a gap of around 20 log points in the arrival cohort of 1965–69 to a gap of around 35 log points for the arrival cohort of 1985–89, before stabilizing or improving slightly (Chiswick 1986; Smith 2006; Borjas and Friedberg 2009). Newer cohorts also experience slower earnings growth across census waves (Borjas 2015). The decline in immigrants' relative earnings can be attributed, in part, to a general widening of the income distribution, which has adversely affected earnings of the low skilled (Lubotsky 2011). Immigrants in recent arrival cohorts may also be suffering from lower levels or slower acquisition of US-specific human capital, particularly English language, or from a declining transferability of skills across countries (Duleep and Regets 2002; Borjas 2015).[45]

Earnings patterns also vary by immigrant country of origin. Mexican immigrants have earned less than natives in every year since 1910 and this disparity has increased over time, reaching a 40 percent earnings disadvantage by 1990 (Feliciano 2001). Some of the decline in relative earnings for Mexican immigrants can be attributed to a widening gap in educational attainment with the native born. Furthermore, Hispanic immigrants experience slower-than-average rates of earnings convergence with natives, suggesting that the earnings gap is likely to persist over at least one generation (Lubotsky 2007). In contrast, Chinese and Japanese immigrants enjoyed similar labor-market outcomes to natives in the 1970 census (Chiswick 1983). More recent evidence suggests that first-generation Asian immigrants fare worse than comparable whites, but this difference vanishes in the second generation (Duleep and Sanders 2012; Arabsheibani and Wang 2010; see also Hilger 2017).

Less is known about the earnings assimilation of highly educated immigrants who work in the high-tech industry or pursue graduate degrees and stay in the United States upon graduation. Parey et al. (2015) show that German college graduates who settle in the United States, relative to other destination areas, are positively selected, consistent with predictions from the Roy model. Even among this positively selected pool, the most successful of US-educated foreign PhDs tend to remain in the United States (Grogger and Hanson 2015). Highly skilled immigrants are more likely to start companies than natives with a similar degree of education, and they tend to earn higher wages, and to patent and publish more (Hunt 2011), although these outcomes depend on country of origin.[46]

4.1.2 *Immigrant–Native Convergence during the Age of Mass Migration*

As for the current period, studies of immigrant assimilation during the Age of Mass Migration also find evidence

[44] Other panel analyses of immigrant assimilation using data from various countries include Borjas (1989); Hu (2000); Edin, LaLonde, and Aslund (2000); Duleep and Dowhan (2002); Constant and Massey (2003); Eckstein and Weiss (2004); and Kim (2003).

[45] The more rapid assimilation of cohorts arriving in the 1960s, when the foreign-born share of the labor force was small, is consistent with the idea that immigrants compete more readily with other immigrants. Assimilation may be slower in periods of mass migration.

[46] Mattoo, Neagu, and Ozden (2008) argue that, unlike educated immigrants from Asian countries and Western Europe, educated immigrants from Latin America and Eastern Europe do not hold jobs commensurate with their skill level. They attribute this pattern to differences in the quality of education across sending countries.

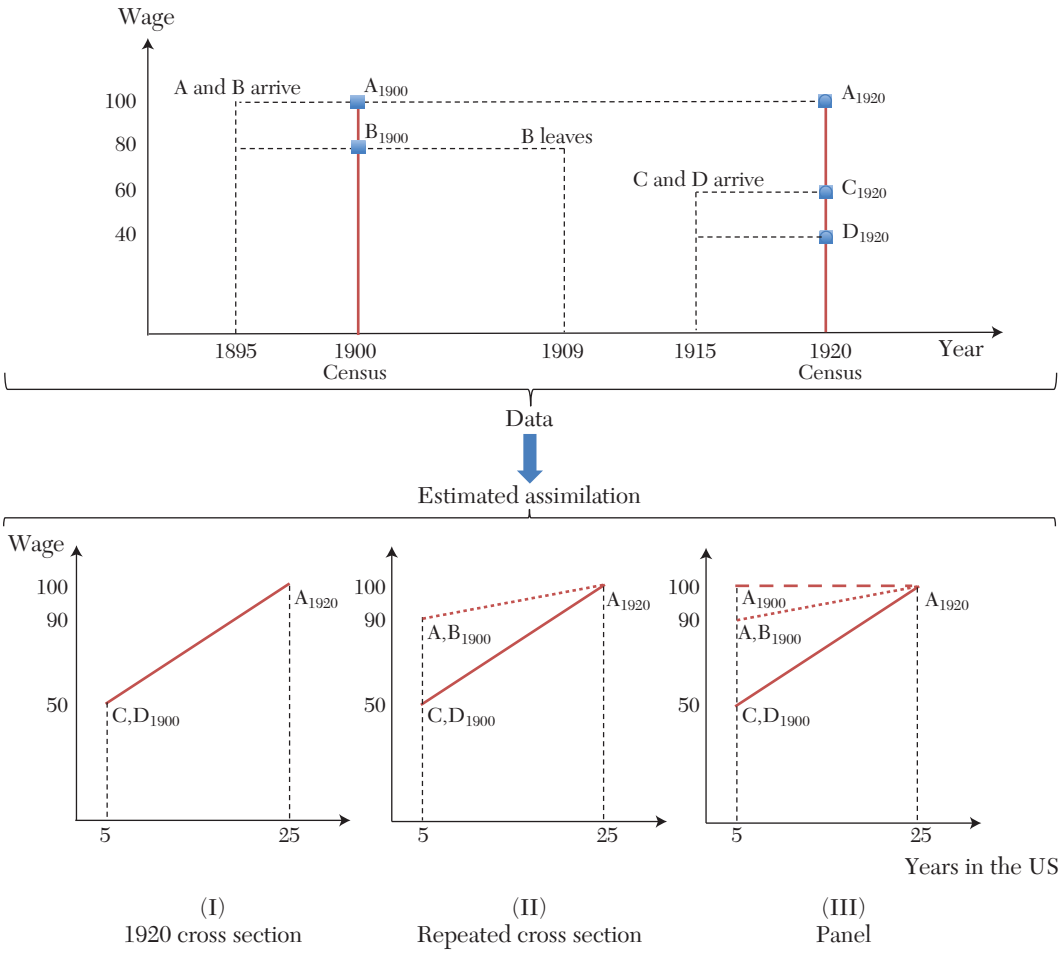


Figure 5. Inferring Assimilation from Cross-Sectional and Panel Data

Notes: The top graph depicts the earnings of four hypothetical migrants. For illustrative purposes, we assume that natives earn 100 in every year. Migrants A and B arrived in 1895 and earn 100 and 80 respectively. Migrant B returns to his home country in 1909. Migrants C and D arrived in 1915 and earn 60 and 40 respectively. The bottom row of graphs depicts inferred assimilation profiles from a series of hypothetical datasets containing subsets of these migrants. With a single cross-section of data (say, the 1920 census), a researcher would compare the earnings of immigrants C and D (who arrived in 1915) to the earnings of immigrant A (who arrived in 1895) and infer that immigrants fully close the earnings gaps with natives after 25 years in the United States. With repeated cross sections, a researcher would follow the cohort that arrived in 1895 (immigrants A and B), say between the 1900 and 1920 census. As immigrant B leaves the United States, the average earnings of the cohort increase despite the fact that, by construction, they are constant over time for each individual immigrant. A panel dataset allows researchers to measure the true pace of earnings growth over time.

of substantial earnings convergence between immigrants and natives in cross-sectional data, but produce more tempered conclusions in new panel datasets.[47] Using published tabulations from the Dillingham Commission reports, initial work in this area documented that, circa 1900, the average immigrant earned substantially less than the average native-born worker (Higgs 1971; McGouldrick and Tannen 1977; Blau 1980).[48] In cross-sectional sources, immigrants appear to make up all or most of this gap within a generation (studies by Eichengreen and Gemery 1986 and Hanes 1996 are exceptions). Hatton (1997) and Hatton and Williamson (1998) analyze surveys of workers in particular industries in Michigan and California and find that immigrants enjoyed faster wage growth than natives. Minns (2000) uses the 1900 and 1910 censuses—which allow him to control for changes in the average skills of different arrival cohorts—and finds that, outside the farm sector, immigrants moved up the occupational ladder at a faster pace than natives.[49]

Cross-sectional data overstates the convergence of immigrants to natives in the past, both because of declines in the skill levels of arrival cohorts and because immigrants who returned to Europe were less skilled than those who stayed in the United States. Abramitzky, Boustan, and Eriksson (2014) build a panel dataset of natives and immigrants from sixteen sending European countries from 1900 to 1920. The average long-term immigrant in the panel data held similarly paying occupations to the native born upon first arrival and moved up the occupational ladder at the same rate, neither converging with nor diverging from the native born.[50] This pattern is at odds with a view commonly held today that, in the past, European immigrants who arrived with few skills were able to invest in themselves and succeed in the US economy within a single generation.[51]

The labor-market performance of a "typical" immigrant in the United States masks substantial heterogeneity by sending country. Immigrants from sending countries with real wages above the European median, such as England and France, held significantly higher-paid occupations than US natives upon first arrival, while immigrants from sending countries with below-median wages (e.g., Norway, Portugal) started out in equal or lower-paid occupations (Abramitzky, Boustan, and Eriksson 2014).[52] Yet, immi-

[47] Immigrants experienced a notable degree of upward mobility in the antebellum period. Ferrie (1994, 1997, 1999) links passenger lists from ship registers to the censuses of 1850 and 1860. More than half of immigrants who arrived in unskilled occupations moved up the occupational ladder over twenty years. Immigrants' wealth also increased by an average of 10 percent with each year spent in the United States. Ferrie does not compare immigrants to natives directly.

[48] Hannon (1982) finds a similar pattern in individual-level earnings data from the copper mining industry in Michigan.

[49] Moving into farming was a more frequent avenue of upward mobility for natives than for immigrants (Abramitzky, Boustan, and Eriksson 2014). Hence, excluding the farm sector can bias the results toward finding faster relative income growth for immigrants.

[50] However, the average immigrant in the cross-sectional data, which included many temporary migrants, did earn less than the native born, consistent with the general finding of lower immigrant earnings in this period.

[51] Contemporary studies have data on individual earnings, whereas studies using historical census data rely on occupation-based earnings measures. We replicated the analysis in Abramitzky, Boustan, and Eriksson (2014) using the 1970–90, 1980–2000, and 1990–2010 census repeated cross-sections and document two facts: First, the initial occupational earnings penalty faced by immigrants is not fully closed in the repeated cross-section in any of the periods. Even after more than twenty years in the United States, the average immigrant earns about 5–10 percent less than the average native. Second, this initial difference has been growing, from 10 percent in the 1970s to more than 15 percent in the most recent sample.

[52] Chiswick (1991, 1992) argues that Jewish immigrants faced an initial disadvantage in occupational status in this period, but were able to catch up with the native born after around fifteen years in the United States; this convergence rate is typical of what is commonly found using cross-sectional data.

grants from all sending countries converged with natives slowly or not at all, thereby maintaining existing gaps between immigrants and natives for at least a generation.

4.1.3 *Convergence across Generations*

Differences between immigrants and the native born can persist into the second generation if children inherit ability or skills from their parents, or from their broader ethnic environment.[53] However, we would expect these gaps to diminish across generations, both due to regression to the mean and because, unlike their parents, many children of immigrants are educated in US schools and exposed to US cultural norms. Studying the children and grandchildren of migrants who arrived during the Age of Mass Migration is especially useful for gaining insight into the process of intergenerational convergence, given that enough time has gone by for multiple generations to be observed into adulthood.

During the Age of Mass Migration, immigrant advantage (or disadvantage) relative to natives persisted across generations. Abramitzky, Boustan, and Eriksson (2014) find that if first-generation immigrants from a sending country outperformed natives (e.g., immigrants from England or Russia), so too did the second generation, whereas if the first generation held lower-paid occupations than natives (e.g., immigrants from Norway or Portugal), the second generation did as well. Yet, the partial convergence in the past was faster than intergenerational convergence for some country-of-origin groups today. Mexican immigrants are converging more slowly than did southern and eastern Europeans across generations, in large part because their rates of educational attainment have lagged behind those of the native born (Perlmann 2005).

[53] See Borjas (1992) on the concept of "ethnic capital."

Broader analyses of immigrant outcomes across two or three generations find stability in the degree of correlation between immigrant fathers and sons over time. Borjas (1994a and Card, DiNardo, and Estes (2000) estimate intergenerational correlations between cohorts of immigrant parents and their native-born children over two periods (1940–70 and 1970–2000). Borjas (1994a) extends this analysis to three generations, using the censuses of 1910, 1940, and 1980. These papers find that intergenerational correlations in earnings are strong (around 0.4) and remarkably stable across immigrant cohorts. The relationship between the earnings of fathers and sons is mediated, in part, by educational attainment; controlling for education reduces the correlation between the earnings of father and son cohorts to around 0.15.

4.2 *Investments that Facilitate Labor-Market Assimilation*

Immigrants work toward earnings convergence with natives by making investments in US-specific skills, including English fluency. Bleakley and Chin (2004, 2010) find a large return to knowing English in the contemporary period, both in the labor market and along other dimensions of assimilation (e.g., marriage, fertility). They identify the effect of English fluency by comparing immigrants from English- and non-English-speaking countries who arrived in the United States at different ages. Ward (2015) estimates a smaller return to knowing English in the early twentieth century using a similar research design. This pattern is consistent with the agricultural and manufacturing base of the historical economy; Chiswick and Miller (2010) find that English has lower returns today in occupations that rely more heavily on manual rather than communication-based skills.

In the past, immigrant parents appear to have learned English from their children, who are more adept at learning lan-

guages, but current immigrants are more likely to rely on their children to navigate the English-speaking world (Kuziemko and Ferrie 2014; Kuziemko 2014). School curriculum can influence children's ability to learn English. Some states passed laws in the 1910s and 1920s requiring that public-school classes be taught in English only.[54] Lleras-Muney and Shertzer (2015) find that this language policy had modest effects on the literacy of children of non-English-speaking parents.[55]

Choosing a labor market or a neighborhood with greater access to employment offers another opportunity for immigrants to increase their earnings potential. Upon first arrival, many immigrants settle in ethnic enclaves. Immigrant–native residential segregation remained stable and modest from 1910 to 1950, with a dissimilarity index of around 40; thereafter, segregation between immigrants and natives rose (dissimilarity = 55 in 2000) (Cutler, Glaeser, and Vigdor 2008).[56] In theory, living in an enclave could enhance employment opportunities if immigrants receive job referrals or other assistance from their compatriots (Munshi 2003; Lafortune and Tessada 2013). However, immigrant neighborhoods could also limit employment opportunities if residents are isolated from information about the broader labor market.[57] In that case, moving to a more integrated neighborhood could be a form of labor-market investment. To our knowledge, economic historians have not studied how residential segregation affected the labor-market outcomes of immigrants in the past.[58] Contemporary data suggest that immigrants who choose to live in immigrant neighborhoods have lower earnings capacity but that, correcting for this selection, living in an enclave can improve labor-market performance.[59]

Investments in US-specific skills may have a limited effect on earnings growth if immigrants face discrimination in the labor market.[60] However, in this case, immigrants may be able to mitigate discrimination by changing their self-presentation to de-emphasize their foreign roots. Immigrants change their own names and choose less foreign names for their children as they spend more time in the United States (Carneiro, Lee, and Reis 2015; Abramitzky, Boustan, and Eriksson 2016). Biavaschi, Giulietti, and Siddique (2013) find that immigrants who changed their names between filing their first and second papers for naturalization in the 1920s experienced more occupational upgrading, perhaps because Americanized names shielded them from discrimination. Likewise, children of immigrants who

[54] Bandiera et al. (2015) show that compulsory schooling laws were first introduced in US states that received more immigrants from countries that lacked compulsory schooling rules.

[55] Today, policy makers debate the benefits of teaching immigrant children in English immersion classrooms or in separate bilingual settings; Chin, Daysal, and Imberman (2013) find that English-language learners are equally well served by both methods, but bilingual education benefits native English speakers by limiting their contact with non-English-speaking peers.

[56] The dissimilarity index can be interpreted as the share of immigrant households that would need to move such that each neighborhood would reflect the overall immigrant share in the population. In the context of racial segregation, a dissimilarity index of 35 is considered low, while an index value of 55 is considered moderate.

[57] Beaman (2012) argues that members of an ethnic network face a trade-off: network members may provide job referrals to new arrivals, but they also may compete with each other over employment in an occupational niche.

[58] Collins and Margo (2000) study the effect of segregation on a number of socioeconomic outcomes for African Americans from 1940 to 1990. They find little or no evidence of negative effects of segregation prior to 1980.

[59] Edin, Fredriksson, and Aslund (2003) and Damm (2009) analyze refugee settlement policies in contemporary Sweden and Denmark, respectively, in which residential location is quasi-randomly assigned. See also Cutler, Glaeser, and Vigdor (2008) on the effect of living in an immigrant enclave.

[60] Moser (2012) exploits a change in attitudes toward a particular immigrant group—German Americans after the outbreak of World War I—to evaluate the effect of discrimination on immigrants' economic opportunities. She shows that, during (but not before) the war, men of German ancestry were more likely to be excluded from seats on the New York Stock Exchange.

received less foreign-sounding names enjoyed better labor-market outcomes, although the disparity is likely picking up differences in family background (Abramitzky, Boustan, and Eriksson 2016; Goldstein and Stecklov 2016).

4.3 *Beyond Labor-Market Assimilation*

Both in the past and the present, public support for immigration restriction is often tied to the perception that immigrants fail to assimilate into US society, instead maintaining their distinct cultural norms, by continuing to speak foreign languages and live in enclave communities. Therefore, documenting and understanding the speed and extent of immigrants' cultural assimilation is a potentially important input into policy debates. Contemporary studies find that immigrants maintain some of their distinctiveness because their norms and behavior were shaped by experiences in their home countries or by ethnic enclaves in the United States (see Fernandez and Fogli 2009; Alesina and Giuliano 2011; Luttmer and Singhal 2011; Blau et al. 2013). Yet, as immigrants spend more time in the United States, they begin to resemble natives along a number of dimensions, including health, educational attainment, homeownership, fertility, and political preferences.

Often, full adoption of the behaviors common to US natives takes more than a single generation (Watkins 1994). In one example of this phenomenon, Guinnane, Moehling, and Ó Gráda (2006) study the fertility patterns of Irish immigrants in the United States. Irish immigrants converged toward US fertility norms, having fewer children than either rural or urban households in Ireland. Yet, Irish immigrants had more children than otherwise similar native households and this fertility gap remained into the second generation, suggesting some cultural persistence.[61] Other examples of "incomplete" assimilation include immigrants' consumption patterns and name selection for children. Using an early version of the Consumer Expenditure Survey, Logan and Rhode (2010) document that immigrants continued to purchase foods that were relatively abundant (and therefore inexpensive) at home, even at higher prices in the United States.[62] Abramitzky, Boustan, and Eriksson (2016) find that immigrants selected more native-sounding names for their children after spending more time in the United States, but that some gap with native households remained even after a generation. In contrast, immigrants appear to completely assimilate to native incarceration patterns, with recent arrivals less likely than natives to be arrested but rapidly converging to natives over time (Moehling and Piehl 2009, 2014).[63]

4.4 *Future Research Directions*

The existing literature on immigrant assimilation has established a set of patterns, estimating the speed of income convergence between immigrants and natives from different sending countries and at different points in time. A promising next step in this literature could be identifying the social and economic factors that can explain such

[61] More broadly, Guest (1982) and Morgan, Watkins, and Ewbank (1994) find that the fertility levels of immigrants in the late nineteenth and early twentieth century were higher than those of natives, but that this difference decreased in the second generation. Morgan, et al. also document substantial differences in fertility rates across immigrant groups, with "new" immigrants exhibiting higher fertility levels.

[62] Immigrants also converged with natives in marriage behavior. Foley and Guinnane (1999) show that, after controlling for relevant socioeconomic characteristics, the marriage patterns of Irish immigrants were similar to those of the native born. Sassler and Qian (2003) find a decline in the "ethnic dispersion" in the age at first marriage throughout the twentieth century.

[63] Bell, Fasani, and Machin (2013) study the criminal behavior of immigrants in a contemporary setting, using variation in immigrant share and in crime rates across regions in the United Kingdom.

variation in convergence and assimilation. These aids (or impediments) to immigrants' ability to assimilate and to their assimilation choice could include the strength of immigrant networks, the extent of discrimination or anti-immigrant enforcement in the workplace, or investments in public education and health, among others. Differences in these factors across states or labor markets may generate disparities in immigrant performance across space.

Furthermore, the speed of immigrant assimilation might be influenced by the prevailing immigration-policy regime. In an era of open borders, the initial selection into immigration was less favorable on the basis of skill and immigrants needed to contend with more competition from other recent arrivals in the labor market. Both of these mechanisms suggest that immigrant assimilation may have been hindered by open immigration policy. On the other hand, less-skilled people who move for better opportunities might have particularly strong incentives to succeed in their new destination. Ultimately, the effect of immigration policy on the trajectory of immigrant assimilation is an empirical question.

Finally, immigrants who were propelled from their home country by political unrest or persecution may experience a different trajectory in the United States than immigrants who arrived in order to pursue economic opportunity. For example, unlike economic migrants who often return to their home countries, refugees often have nowhere to return to. Refugees may thus have a stronger incentive to invest in country-specific human capital in order to assimilate in their new destination (Cortes 2004). Today, there are millions of refugees around the world. Host countries are often concerned with the speed of refugee assimilation and possible negative impacts of refugees on natives. Yet, there has been very little economic research on this population. We believe that the study of refugee migrants and the comparison of the long-term outcomes of refugees and economic migrants are a promising direction for new research. Because refugee migration is hardly a recent phenomenon, the study of refugees in historical settings may prove useful.

5. *The Effects of Immigration on Natives and the US Economy*

There is a long and still-unresolved debate in the contemporary literature about the effect of immigration on native wages. A series of early empirical papers found negligible effects of immigration on the wage and employment outcomes of native workers, in seeming contrast to predictions from a simple model of the labor market. This puzzle prompted a generation of new studies that proposed either new empirical methods or adjustments to the underlying economic model.

We argue that historical cases can help to adjudicate between potential explanations for limited effects of immigration on native wages today. Historical immigration patterns differed from contemporary flows in a number of potentially useful ways. First, in the past, immigrants were more substitutable with the native born, both in terms of skills and legal status. Previous waves of immigrants worked in a set of occupations similar to those held by native workers (Abramitzky, Boustan, and Eriksson 2014), whereas today, immigrants are more likely than natives to be drawn from the very bottom or the very top of the educational distribution.[64] Furthermore, a sizable number of immigrants today are undocumented, and therefore often not

[64] In 2010, 17.5 percent of immigrants aged twenty-five to sixty-five report having less than a ninth grade education and 11.3 percent report having more than a college degree, compared to 1.9 percent and 10.6 percent of native workers.

subject to the same set of labor-market institutions (such as the minimum wage) although, in the past, immigrants and natives received similar (and, overall, much lower) levels of labor-market protection. Second, the historical economy was more reliant on agriculture and manufacturing, whereas the contemporary economy is centered on services. Agriculture and manufacturing are less dependent on communication and team-based production, which may have narrowed the potential channels through which immigration influenced production in the past.[65]

We start this section with a very brief overview of the work on immigration and native workers in the modern economy. The contemporary literature on the effect of immigration on the US economy is too large for us to cover in full here; for recent surveys, see Hanson (2009) and Kerr and Kerr (2011).[66] The first empirical studies on this topic relied on variation in the flow of immigrants into a particular location (e.g., Card, 1990 on the Mariel Boatlift into Miami) or into a larger set of metropolitan areas (Altonji and Card, 1991; Card, 2001) and found limited effects of immigrant arrivals on native outcomes. Geographic variation may understate the true effect of immigration if immigrants choose to settle in areas that experience positive labor demand shocks or if immigrant arrivals encourage similarly skilled natives to move elsewhere. Borjas (2003) instead analyzed the effect of immigration on national skill groups and found a sizeable negative effect of immigration on native workers.[67] Other papers augmented the underlying model of the labor market to add capital adjustment, multiple types of labor input, or total factor productivity. Examples of these papers include Lewis (2011), which argues that cities with larger inflows of unskilled immigrants were slower to adopt labor-saving technologies, thereby preserving the demand for low-skilled workers; Ottaviano and Peri (NBER version in 2006, published in 2012), which suggests that immigrants and natives are somewhat imperfectly substitutable in production, even within skill categories;[68] and Peri and Sparber (2009), which contends that immigration increases total factor productivity by facilitating specialization across tasks (see also Peri 2012 and Ottaviano, Peri, and Wright 2013).

Given the greater substitutability between immigrants and natives in the past, we would expect to find larger effects of immigrant arrivals on native wages during the Age of Mass Migration. Indeed, historical immigration flows appear to have a larger effect on the wages and employment opportunities of native workers than those found in contemporary geographic studies (subject to the caveat of differences in outcome variables and research design). Using cross-city variation in migrant flows in the 1910s, Goldin (1994) estimates that a one percentage point

[65] Despite the heavily agricultural and manufacturing-based economy, Ager and Brückner (2013) find that a higher level of cultural fractionalization was associated with higher-output growth at the county level during the Age of Mass Migration, although, somewhat puzzlingly, cultural polarization (which is highly correlated with fractionalization) had the opposite effect.

[66] Earlier, now-classic reviews of the literature include Borjas (1994) and Friedberg and Hunt (1995).

[67] Boustan (2009) adapts the national skill group-based approach to study the effect of internal black migration from the South on the wages of existing black and white workers in the North in the mid-twentieth century.

[68] Ottaviano and Peri (2012) use national, skill-group variation as in Borjas (2003). However, we view this paper's main contribution to be its modification of the standard assumption of perfect substitutability between immigrants and natives. Borjas, Grogger, and Hanson (2008) question the methods in the working paper version of this study. Recent work by Doran, Gelber, and Isen (2014) shows that firms that are unable to hire a high-skilled immigrant because they lost the H-1B lottery experience no declines in patenting rates, suggesting that native and foreign workers are good substitutes, at least at the upper end of the skill distribution.

increase in the foreign-born share of the population reduced the wages of unskilled laborers and artisans by around 1.5 percent, with larger effects in the tradeable sector (clothing manufacturing and foundries).[69] Boustan, Fishback, and Kantor (2010) find that internal in-migration in the 1930s had no effect on the wages of local workers, but did reduce work opportunities and access to relief jobs, a pattern that is consistent with the presence of sticky wages during the Great Depression. They create an instrument for migrant arrivals that relies on "push factors" from sending labor markets, including New Deal generosity and extreme weather events.[70]

As in the present, immigration to cities encouraged native out-migration in the past, meriting some caution in the use of geographic variation to identify the effect of immigration on native wages. Hatton and Williamson (1998) estimate that over the 1880–1910 period, 40 natives left their state per each additional 100 immigrants, suggesting that immigrants partially crowded out the native labor force.[71] Collins (1997) shows that cities that absorbed large numbers of European migrants had correspondingly low rates of black in-migration from the rural South.

In the long run, the effect of immigration on native wages is moderated by the pace of new capital investments. Historical immigration flows contributed to the transformation of American manufacturing from small-scale artisanal shops to large factories engaged in mass production (Hirschman and Mogford 2009). Unskilled immigrants appear to have been complementary with investments in assembly-line machinery (Lafortune, Tessada, and Lewis 2015). Kim (2007) shows that firms located in counties with a higher share of foreign born in 1920 were larger, more productive, and more likely to be organized as factories; he uses the settlement pattern of immigrants in 1850, as well as distance from the port of New York, as instruments for the later immigrant share of the population. Yet, Hatton and Williamson (2006) argue that land was a more important input in production in the past, and hence capital mobility was less effective in dampening the wage effects of migration.[72]

Historical immigration was also associated with higher rates of both trade and innovation, which may have contributed to economic growth.[73] Dunlevy and Hutchinson (1999) find that immigrants increased trade flows between the United States and Europe in the early twentieth century, perhaps by providing information about, and network connections to, their home markets (see also O'Rourke and Williamson, 1999, chapter 13). Moser, Voena, and Waldinger (2014) analyze one immigrant flow that would be particularly expected to increase innovation in the US economy: the arrival of Jewish scientists forced to flee Nazi Germany in the 1930s.[74] US patenting in categories associ-

[69] Biavaschi (2013) finds much smaller effects at the state level over a long period (1900–1950). Hatton and Williamson (1998) and O'Rourke and Williamson (1999) use time series data instead to estimate the effect of mass migration on wages.

[70] See also Hornbeck (2012) and Long and Siu (2016) on migration responses to the Dust Bowl.

[71] In contrast, Carter and Sutch (2008) argue that immigrants did not crowd out natives during this period because native- and foreign-born workers migrated to the same set of counties.

[72] This observation is in line with the Malthusian idea that, in an economy without capital, a higher population depresses income.

[73] Munshi and Wilson (2010); Rodriguez-Pose and von Berlepsch (2014); and Sequeira, Nunn, and Qian (2017) argue that European migration had long-lasting effects on economic activity at the local level through its effects on institutions and culture.

[74] Hornung (2014) studies another forced high-skilled immigration—that of the Huguenots from France to Prussia in the seventeenth century. The arrival of Huguenots, who carried with them specialized knowledge of textile manufacturing, was associated with higher productivity in the local manufacturing sector.

ated with the dismissed scientists increased by 30 percent after 1933.[75]

We believe that there is a large scope for future work on the historical effects of immigrant arrivals on the US economy and society. Recent studies of contemporary immigration flows have introduced improved identification strategies to study the effect of immigrants on native workers; these empirical innovations have yet to be fully incorporated into work on the Age of Mass Migration. Dramatic shifts in immigration regime in the 1920s, 1940s, and 1960s present potentially useful opportunities to design well-identified studies of the effect of immigration on the economy in this era. Indeed, since we first started working on this review essay, a number of working papers have done just that (Abramitzky, Boustan, and Cohen 2017; Ager and Hansen 2017; Clemens, Lewis, and Postel 2017; Tabellini 2017). Furthermore, we suspect that, beyond their effects on the economy, immigrant voters influenced important policy choices, including, perhaps, the design of social welfare programs in the 1930s. Making connection to the literature on diversity and public goods provision would be useful here as well (a classic reference is Alesina, Baqir, and Easterly 1999).

6. *Conclusion*

US history is characterized by two episodes of mass in-migration—an era of unrestricted migrant arrivals from Europe (1850–1913) and a more recent period of constrained mass migration, primarily from Asia and Latin America (1965–present). Many of the same topics that concern the economics of immigration today—including migrant selection and assimilation and the effect of immigrant arrivals on native workers—were also relevant in the past. We argue that comparing the research findings across these two periods can illuminate contemporary debates.

In particular, our reading of the literature suggests that migrant selection, which is primarily positive today, was decidedly mixed in the past, with cases of negative migrant selection from some European sending countries. Changes in migrant selection over time are consistent with rising bureaucratic costs of migration, which may price out the poor, and with growing income inequality in the United States, which would attract a higher-skilled set of immigrants. Upon arrival, the average long-term immigrant in the past held a similar set of occupations to the average native worker, and moved up the occupational ladder at the same pace. The pace of economic convergence between immigrants and natives was relatively slow in both the past and the present, with the notable difference that, today, the average immigrant starts out with a larger earnings gap to overcome (although there is substantial variation in initial earnings by sending country). It appears that historical estimates of the effect of immigrant arrivals on native wages are larger than comparable estimates for today, which may be due to the fact that, in the past, immigrants and natives held a similar set of skills. However, comparisons of these magnitudes over time are complicated by methodological differences, and could be improved with a new round of well-identified historical studies on the effect of immigration on labor markets.

[75] A number of papers study the relationship between immigration and innovation in the contemporary period. Hunt and Gauthier-Loiselle (2010) and Kerr and Lincoln (2010) find that college-educated or H1-B immigrants increase patent rates. The influx of foreign doctoral students has also positively influenced scientific output in US academic departments (Stuen, Mobarak, and Maskus 2012). Yet, Borjas and Doran (2012) show that the sudden arrival of Russian mathematicians into the US academy after the fall of the Soviet Union reduced the output of competing American mathematicians, leading to no net increase in overall output.

References

Abramitzky, Ran. 2009. "The Effect of Redistribution on Migration: Evidence from the Israeli Kibbutz." *Journal of Public Economics* 93 (3–4): 498–511.

Abramitzky, Ran, and Leah Platt Boustan. 2017. "Adaptation of Native Labor and Capital to Mass Migration: Evidence from the Immigration Act of 1924." Unpublished.

Abramitzky, Ran, Leah Platt Boustan, and Katherine Eriksson. 2012. "Europe's Tired, Poor, Huddled Masses: Self-Selection and Economic Outcomes in the Age of Mass Migration." *American Economic Review* 102 (5): 1832–56.

Abramitzky, Ran, Leah Platt Boustan, and Katherine Eriksson. 2013. "Have the Poor Always Been Less Likely to Migrate? Evidence from Inheritance Practices during the Age of Mass Migration." *Journal of Development Economics* 102: 2–14.

Abramitzky, Ran, Leah Platt Boustan, and Katherine Eriksson. 2014. "A Nation of Immigrants: Assimilation and Economic Outcomes in the Age of Mass Migration." *Journal of Political Economy* 122 (3): 467–506.

Abramitzky, Ran, Leah Platt Boustan, and Katherine Eriksson. 2016. "Cultural Assimilation during the Age of Mass Migration." National Bureau of Economic Research Working Paper 22381.

Abramitzky, Ran, and Fabio Braggion. 2006. "Migration and Human Capital: Self-Selection of Indentured Servants to the Americas." *Journal of Economic History* 66 (4): 882–905.

Ager, Philipp, and Markus Brückner. 2013. "Cultural Diversity and Economic Growth: Evidence from the US during the age of Mass Migration." *European Economic Review* 64: 76–97.

Ager, Philipp, and Casper Worm Hansen. 2017. "Closing Heaven's Door: Evidence from the 1920s United States Immigration Quota Acts." Unpublished.

Akee, Randall. 2010. "Who Leaves? Deciphering Immigrant Self-Selection from a Developing Country." *Economic Development and Cultural Change* 58 (2): 323–44.

Alesina, Alberto, Reza Baqir, and William Easterly. 1999. "Public Goods and Ethnic Divisions." *Quarterly Journal of Economics* 114 (4): 1243–84.

Alesina, Alberto, and Paola Giuliano. 2011. "Preferences for Redistribution." In *Handbook of Social Economics: Volume 1A*, edited by Jess Benhabib, Matthew O. Jackson, and Alberto Bisin, 93–132. San Diego and Amsterdam: Elsevier, North-Holland.

Altonji, Joseph G., and David Card. 1991. "The Effects of Immigration on the Labor Market Outcomes of Less-Skilled Natives." In *Immigration, Trade, and the Labor Market*, edited by John M. Abowd and Richard B. Freeman, 201–34. Chicago and London: University of Chicago Press.

Ambrosini, J. William, and Giovanni Peri. 2012. "The Determinants and the Selection of Mexico–US Migrants." *World Economy* 35 (2): 111–51.

Angelucci, Manuela. 2012a. "Conditional Cash Transfer Programs, Credit Constraints, and Migration." *Labour* 26 (1): 124–36.

Angelucci, Manuela. 2012b. "US Border Enforcement and the Net Flow of Mexican Illegal Migration." *Economic Development and Cultural Change* 60 (2): 311–57.

Angrist, Josh. 2002. "How Do Sex Ratios Affect Marriage and Labor Markets? Evidence from America's Second Generation." *Quarterly Journal of Economics* 117 (3): 997–1038.

Antecol, Heather, Deborah A. Cobb-Clark, and Stephen J. Trejo. 2003. "Immigration Policy and the Skills of Immigrants to Australia, Canada, and the United States." *Journal of Human Resources* 38 (1): 192–218.

Arabsheibani, G. Reza and Jie Wang. 2010. "Asian–White Male Wage Differentials in the United States." *Applied Economics Letters* 17: 37–43.

Atkinson, Anthony B., and Thomas Piketty, eds. 2007. *Top Incomes over the Twentieth Century: A Contrast between Continental European and English-Speaking Countries*. Oxford and New York: Oxford University Press.

Atkinson, Anthony B., Thomas Piketty, and Emmanuel Saez. 2011. "Top Incomes in the Long Run of History." *Journal of Economic Literature* 49 (1): 3–71.

Balderas, J. Ulyses, and Michael J. Greenwood. 2010. "From Europe to the Americas: A Comparative Panel-Data Analysis of Migration to Argentina, Brazil, and the United States, 1870–1910." *Journal of Population Economics* 23 (4): 1301–18.

Bandiera, Oriana, Myra Mohnen, Imran Rasul, and Martina Viarengo. 2015. "Nation-Building through Compulsory Schooling during the Age of Mass Migration." Unpublished.

Bandiera, Oriana, Imran Rasul, and Martina Viarengo. 2013. "The Making of Modern America: Migratory Flows in the Age of Mass Migration." *Journal of Development Economics* 102: 23–47.

Barrett, James R. 1992. "Americanization from the Bottom Up: Immigration and the Remaking of the Working Class in the United States, 1880–1930." *Journal of American History* 79 (3): 996–1020.

Beaman, Lori A. 2012. "Social Networks and the Dynamics of Labour Market Outcomes: Evidence from Refugees Resettled in the U.S." *Review of Economic Studies* 79 (1): 128–61.

Bell, Brian, Francesco Fasani, and Stephen Machin. 2013. "Crime and Immigration: Evidence from Large Immigrant Waves." *Review of Economics and Statistics* 95 (4): 1278–90.

Biavaschi, Costanza. 2013. "The Labor Demand Was Downward Sloping: Disentangling Migrants' Inflows and Outflows, 1929–1957." *Economics Letters* 118 (3): 531–34.

Biavaschi, Costanza, Corrado Giulietti, and Zahra Siddique. 2013. "The Economic Payoff of Name Americanization." Institute for the Study of Labor Discussion Paper 7725.

Blau, Francine D. 1980. "Immigration and Labor Earnings in Early Twentieth Century America."

In *Research in Population Economics: A Research Annual: Volume 2*, edited by J. L. Simon and J. Da Vanzo, 21–41. Greenwich, CT: JAI Press.

Blau, Francine D., and Lawrence M. Kahn. 2012. "Immigration and the Distribution of Incomes." National Bureau of Economic Research Working Paper 18515.

Blau, Francine D., Lawrence M. Kahn, Albert Yang-Hsu Liu, and Kerry L. Papps. 2013. "The Transmission of Women's Fertility, Human Capital, and Work Orientation across Immigrant Generations." *Journal of Population Economics* 26 (2): 405–35.

Bleakley, Hoyt, and Aimee Chin. 2004. "Language Skills and Earnings: Evidence from Childhood Immigrants." *Review of Economics and Statistics* 86 (2): 481–96.

Bleakley, Hoyt, and Aimee Chin. 2010. "Age at Arrival, English Proficiency, and Social Assimilation among US Immigrants." *American Economic Journal: Applied Economics* 2 (1): 165–92.

Blum, Matthias, and Claudia Rei. 2015. "Escaping the Holocaust: Human and Health Capital of Refugees to the United States, 1940–42." Unpublished.

Borjas, George J. 1985. "Assimilation, Changes in Cohort Quality, and the Earnings of Immigrants." *Journal of Labor Economics* 3 (4): 463–89.

Borjas, George J. 1987. "Self-Selection and the Earnings of Immigrants." *American Economic Review* 77 (4): 531–53.

Borjas, George J. 1989. "Immigrant and Emigrant Earnings: A Longitudinal Study." *Economic Inquiry* 27 (1): 21–37.

Borjas, George J. 1992. "Ethnic Capital and Intergenerational Mobility." *Quarterly Journal of Economics* 107 (1): 123–50.

Borjas, George J. 1994a. "Long-Run Convergence of Ethnic Skill Differentials: The Children and Grandchildren of the Great Migration." *ILR Review* 47 (4): 553–73.

Borjas, George J. 1994b. "The Economics of Immigration." *Journal of Economic Literature* 32 (4): 1667–717.

Borjas, George J. 2003. "The Labor Demand Curve *Is* Downward Sloping: Reexamining the Impact of Immigration on the Labor Market." *Quarterly Journal of Economics* 118 (4): 1335–74.

Borjas, George J. 2008. "Labor Outflows and Labor Inflows in Puerto Rico." *Journal of Human Capital* 2 (1): 32–68.

Borjas, George J. 2014. *Immigration Economics*. Cambridge, MA and London: Harvard University Press.

Borjas, George J. 2015. "The Slowdown in the Economic Assimilation of Immigrants: Aging and Cohort Effects Revisited Again." *Journal of Human Capital* 9 (4): 483–517.

Borjas, George J., Stephen G. Bronars, and Stephen J. Trejo. 1992. "Self-selection and Internal Migration in the United States." *Journal of Urban Economics* 32 (2): 159–85.

Borjas, George J., and Kirk B. Doran. 2012. "The Collapse of the Soviet Union and the Productivity of American Mathematicians." *Quarterly Journal of Economics* 127 (3): 1143–203.

Borjas, George J., Richard B. Freeman, and Lawrence F. Katz. 1997. "How Much Do Immigration and Trade Affect Labor Market Outcomes?" *Brookings Papers on Economic Activity* 1: 1–67, 86–90.

Borjas, George J., and Rachel M. Friedberg. 2009. "Recent Trends in the Earnings of New Immigrants to the United States." National Bureau of Economic Research Working Paper 15406.

Borjas, George J., Jeffrey Grogger, and Gordon H. Hanson. 2008. "Imperfect Substitution between Immigrants and Natives: A Reappraisal." National Bureau of Economic Research Working Paper 13887.

Boustan, Leah Platt. 2007. "Were Jews Political Refugees or Economic Migrants? Assessing the Persecution Theory of Jewish Emigration, 1881–1914." In *The New Comparative Economic History: Essays in Honor of Jeffrey G. Williamson*, edited by Timothy J. Hatton, Kevin H. O'Rourke, and Alan M. Taylor, 267–90. Cambridge, MA: MIT Press.

Boustan, Leah Platt. 2009. "Competition in the Promised Land: Black Migration and Racial Wage Convergence in the North, 1940–1970." *Journal of Economic History* 69 (3): 755–82.

Boustan, Leah Platt, Price V. Fishback, and Shawn Kantor. 2010. "The Effect of Internal Migration on Local Labor Markets: American Cities during the Great Depression." *Journal of Labor Economics* 28 (4): 719–46.

Boyer, George R., Timothy J. Hatton, and Kevin O'Rourke. 1994. "The Impact of Emigration on Real Wages in Ireland, 1850–1914." In *Migration and the International Labor Market, 1850–1939*, edited by Timothy J. Hatton and Jeffrey G. Williamson, 221–39. London and New York: Routledge.

Caponi, Vincenzo. 2011. "Intergenerational Transmission of Abilities and Self-Selection of Mexican Immigrants." *International Economic Review* 52 (2): 523–47.

Card, David. 1990. "The Impact of the Mariel Boatlift on the Miami Labor Market." *ILR Review* 43 (2): 245–57.

Card, David. 2001. "Immigrant Inflows, Native Outflows, and the Local Labor Market Impacts of Higher Immigration." *Journal of Labor Economics* 19 (1): 22–64.

Card, David. 2005. "Is the New Immigration Really So Bad?" *Economic Journal* 115 (507): F300–23.

Card, David. 2009. "Immigration and Inequality." *American Economic Review* 99 (2): 1–21.

Card, David, John DiNardo, and Eugena Estes. 2000. "The More Things Change: Immigrants and the Children of Immigrants in the 1940s, the 1970s, and the 1990s." In *Issues in the Economics of Immigration*, edited by George J. Borjas, 227–70. Chicago and London: University of Chicago Press.

Carneiro, Pedro, Sokbae Lee, and Hugo Reis. 2015. "Please Call Me John: Name Choice and the Assimilation of Immigrants in the United States, 1900–1930." Institute for Fiscal Studies Centre for

Microdata Methods and Practice Working Paper CWP28/15.
Carrington, William J., Enrica Detragiache, and Tara Vishwanath. 1996. "Migration with Endogenous Moving Costs." *American Economic Review* 86 (4): 909–30.
Carter, Susan. 2013. "Embracing Isolation: Chinese American Geographic Redistribution during the Exclusion Era, 1882–1943." Unpublished.
Carter, Susan B., and Richard Sutch. 2008. "Labor Market Flooding? Migrant Destination and Wage Change during America's Age of Mass Migration." In *Migration and Development Within and Across Borders: Research and Policy Perspectives on Internal and International Migration*, edited by Josh DeWind and Jennifer Holdaway, 133–61. Geneva: International Organization for Migration; New York: Social Science Research Council.
Carter, Susan B., Scott Sigmund Gartner, Michael R. Haines, Alan L. Olmstead, Richard Sutch, and Gavin Wright, eds. 2006. *Historical Statistics of the United States*. Cambridge and New York: Cambridge University Press.
Chin, Aimee, N. Meltem Daysal, and Scott A. Imberman. 2013. "Impact of Bilingual Education Programs on Limited English Proficient Students and Their Peers: Regression Discontinuity Evidence from Texas." *Journal of Public Economics* 107: 63–78.
Chiquiar, Daniel, and Gordon H. Hanson. 2005. "International Migration, Self-Selection, and the Distribution of Wages: Evidence from Mexico and the United States." *Journal of Political Economy* 113 (2): 239–81.
Chiswick, Barry R. 1978. "The Effect of Americanization on the Earnings of Foreign-Born Men." *Journal of Political Economy* 86 (5): 897–921.
Chiswick, Barry R. 1983. "An Analysis of the Earnings and Employment of Asian-American Men." *Journal of Labor Economics* 1 (2): 197–214.
Chiswick, Barry R. 1986. "Is the New Immigration Less Skilled than the Old?" *Journal of Labor Economics* 4 (2): 168–92.
Chiswick, Barry R. 1991. "Jewish Immigrant Skill and Occupational Attainment at the Turn of the Century." *Explorations in Economic History* 28 (1): 64–86.
Chiswick, Barry R. 1992. "Jewish Immigrant Wages in America in 1909: An Analysis of the Dillingham Commission Data." *Explorations in Economic History* 29 (3): 274–89.
Chiswick, Barry R., and Timothy J. Hatton. 2003. "International Migration and the Integration of Labor Markets." In *Globalization in Historical Perspective*, edited by Michael D. Bordo, Alan M. Taylor, and Jeffrey G. Williamson, 65–120. Chicago and London: University of Chicago Press.
Chiswick, Barry R., and Paul W. Miller. 2010. "Occupational Language Requirements and the Value of English in the US Labor Market." *Journal of Population Economics* 23 (1): 353–72.
Citrin, Jack, Donald P. Green, Christopher Muste, and Cara Wong. 1997. "Public Opinion toward Immigration Reform: The Role of Economic Motivations." *Journal of Politics* 59 (3): 858–81.
Clemens, Michael A., Ethan G. Lewis, and Hannah M. Postel. 2017. "Immigration Restrictions as Active Labor Market Policy: Evidence from the Mexican Bracero Exclusion." National Bureau of Economic Research Working Paper 23125.
Cohn, Raymond L. 1984. "Mortality on Immigrant Voyages to New York, 1836–1853." *Journal of Economic History* 44 (2): 289–300.
Cohn, Raymond L. 1987. "The Determinants of Individual Immigrant Mortality on Sailing Ships, 1836–1853." *Explorations in Economic History* 24 (4): 371–91.
Cohn, Raymond L. 1992. "The Occupations of English Immigrants to the United States, 1836–1853." *Journal of Economic History* 52 (2): 377–87.
Cohn, Raymond L. 1995. "Occupational Evidence on the Causes of Immigration to the United States, 1836–1853." *Explorations in Economic History* 32 (3): 383–408.
Cohn, Raymond L. 2000. "Nativism and the End of the Mass Migration of the 1840s and 1850s." *Journal of Economic History* 60 (2): 361–83.
Cohn, Raymond L. 2005. "The Transition from Sail to Steam in Immigration to the United States." *Journal of Economic History* 65 (2): 469–95.
Collins, William J. 1997. "When the Tide Turned: Immigration and the Delay of the Great Black Migration." *Journal of Economic History* 57 (3): 607–32.
Collins, William J., and Robert A. Margo. 2000. "Residential Segregation and Socioeconomic Outcomes: When Did Ghettos Go Bad?" *Economics Letters* 69 (2): 239–43.
Collins, William J., and Marianne H. Wanamaker. 2014. "Selection and Economic Gains in the Great Migration of African Americans: New Evidence from Linked Census Data." *American Economic Journal: Applied Economics* 6 (1): 220–52.
Constant, Amelie, and Douglas S. Massey. 2003. "Self-Selection, Earnings, and Out-Migration: A Longitudinal Study of Immigrants to Germany." *Journal of Population Economics* 16 (4): 631–53.
Cortes, Kalena E. 2004. "Are Refugees Different from Economic Immigrants? Some Empirical Evidence on the Heterogeneity of Immigrant Groups in the United States." *Review of Economics and Statistics* 86 (2): 465–80.
Covarrubias, Matías, Jeanne Lafortune, and José Tessada. 2015. "Who Comes and Why? Determinants of Immigrants Skill Level in the Early XXth Century US." *Journal of Demographic Economics* 81 (1): 115–55.
Curtin, Philip D. 1972. *The Atlantic Slave Trade: A Census*. Madison: University of Wisconsin Press.
Cutler, David M., Edward L. Glaeser, and Jacob L. Vigdor. 2008. "Is the Melting Pot Still Hot? Explaining the Resurgence of Immigrant Segregation." *Review of Economics and Statistics* 90 (3): 478–97.
Cvrcek, Tomas. 2012. "America's Settling Down: How Better Jobs and Falling Immigration Led to a Rise in Marriage, 1880–1930." *Explorations in Economic*

History 49 (3): 335–51.
Dahl, Gordon B. 2002. "Mobility and the Return to Education: Testing a Roy Model with Multiple Markets." *Econometrica* 70 (6): 2367–420.
Damm, Anna Piil. 2009. "Ethnic Enclaves and Immigrant Labor Market Outcomes: Quasi-experimental Evidence." *Journal of Labor Economics* 27 (2): 281–314.
Day, Jared N. 2002. "Credit, Capital and Community: Informal Banking in Immigrant Communities in the United States, 1880–1924." *Financial History Review* 9 (1): 65–78.
Dean, Jason, and Maryam Dilmaghani. 2016. "Economic Integration of Pre-WWI Immigrants from the British Isles in the Canadian Labour Market." *Journal of International Migration and Integration* 17 (1): 55–76.
Doran, Kirk, Alexander Gelber, and Adam Isen. 2014. "The Effects of High-Skilled Immigration Policy on Firms: Evidence from H-1B Visa Lotteries." National Bureau of Economic Research Working Paper 20668.
Duleep, Harriet Orcutt, and Daniel J. Dowhan. 2002. "Insights from Longitudinal Data on the Earnings Growth of U.S. Foreign-Born Men." *Demography* 39 (3): 485–506.
Duleep, Harriet Orcutt, and Mark C. Regets. 2002. "The Elusive Concept of Immigrant Quality: Evidence from 1970–1990." Institute for the Study of Labor Discussion Paper 631.
Duleep, Harriet Orcutt, and Mark C. Regets. 1996. "Admission Criteria and Immigrant Earnings Profiles." *International Migration Review* 30 (2): 571–90.
Duleep, Harriet Orcutt, and Seth Sanders. 2012. "The Economic Status of Asian Americans Before and After the Civil Rights Act." Institute for the Study of Labor Discussion Paper 6639.
Dunlevy, James A., and Henry A. Gemery. 1977. "The Role of Migrant Stock and Lagged Migration in the Settlement Patterns of Nineteenth Century Immigrants." *Review of Economics and Statistics* 59 (2): 137–44.
Dunlevy, James A., and William K. Hutchinson. 1999. "The Impact of Immigration on American Import Trade in the Late Nineteenth and Early Twentieth Centuries." *Journal of Economic History* 59 (4): 1043–62.
Dustmann, Christian, Tommaso Frattini, and Ian P. Preston. 2013. "The Effect of Immigration along the Distribution of Wages." *Review of Economic Studies* 80 (1): 145–73.
Eckstein, Zvi, and Yoram Weiss. 2004. "On the Wage Growth of Immigrants: Israel, 1990–2000." *Journal of the European Economic Association* 2 (4): 665–95.
Edin, Per-Anders, Peter Fredriksson, and Olof Åslund. 2003. "Ethnic Enclaves and the Economic Success of Immigrants—Evidence from a Natural Experiment." *Quarterly Journal of Economics* 118 (1): 329–57.
Edin, Per-Anders, Robert J. LaLonde, and Olof Åslund. 2000. "Emigration of Immigrants and Measures of Immigrant Assimilation: Evidence from Sweden." *Swedish Economic Policy Review* 7: 163–204.
Eichengreen, Barry, and Henry A. Gemery. 1986. "The Earnings of Skilled and Unskilled Immigrants at the End of the Nineteenth Century." *Journal of Economic History* 46 (2): 441–54.
Eltis, David, Frank D. Lewis, and David Richardson. 2005. "Slave Prices, the African Slave Trade, and Productivity in the Caribbean, 1674–1807." *Economic History Review* 58 (4): 673–700.
Engerman, Stanley L. 1986. "Servants to Slaves to Servants: Contract Labour and European Expansion." In *Colonialism and Migration; Indentured Labour Before and After Slavery*, edited by P. C. Emmer, 263–94. Dordrecht and Boston: Kluwer Academic Publishers, Martinus Nijhoff Publishers.
Feliciano, Cynthia. 2005. "Educational Selectivity in U.S. Immigration: How Do Immigrants Compare to Those Left Behind?" *Demography* 42 (1): 131–52.
Feliciano, Zadia M. 2001. "The Skill and Economic Performance of Mexican Immigrants from 1910 to 1990." *Explorations in Economic History* 38 (3): 386–409.
Fernandez-Huertas Moraga, Jesus. 2011. "New Evidence on Emigrant Selection." *Review of Economics and Statistics* 93 (1): 72–96.
Fernández, Raquel, and Alessandra Fogli. 2009. "Culture: An Empirical Investigation of Beliefs, Work, and Fertility." *American Economic Journal: Macroeconomics* 1 (1): 146–77.
Ferrie, Joseph P. 1994. "The Wealth Accumulation of Antebellum European Immigrants to the U.S., 1840–60." *Journal of Economic History* 54 (1): 1–33.
Ferrie, Joseph P. 1997. "The Entry into the U.S. Labor Market of Antebellum European Immigrants, 1840–1860." *Explorations in Economic History* 34 (3): 295–330.
Ferrie, Joseph P. 1999. *Yankeys Now: Immigrants in the Antebellum U.S., 1840–1860*. Oxford and New York: Oxford University Press.
Ferrie, Joseph P. 2005. "The End of American Exceptionalism? Mobility in the United States since 1850." *Journal of Economic Perspectives* 19 (3): 199–215.
Ferrie, Joseph P., and Timothy J. Hatton. 2014. "Two Centuries of International Migration." In *Handbook of the Economics of International Migration: Volume 1A: The Immigrants*, edited by Barry R. Chiswick and Paul W. Miller, 53–88. Amsterdam and Boston: Elsevier, North-Holland.
Fogel, Robert William. 1994. *Without Consent or Contract: The Rise and Fall of American Slavery*. New York and London: W. W. Norton and Company.
Foley, Mark C., and Timothy W. Guinnane. 1999. "Did Irish Marriage Patterns Survive the Emigrant Voyage? Irish-American Nuptiality, 1880–1920." *Irish Economic and Social History* 26: 15–34.
Friedberg, Rachel M., and Jennifer Hunt. 1995. "The Impact of Immigrants on Host Country Wages, Employment and Growth." *Journal of Economic Perspectives* 9 (2): 23–44.
Galenson, David W. 1981a. "The Market Evaluation of

Human Capital: The Case of Indentured Servitude." *Journal of Political Economy* 89 (3): 446–67.
Galenson, David W. 1981b. *White Servitude in Colonial America: An Economic Analysis*. Cambridge and New York: Cambridge University Press.
Galenson, David W. 1984. "The Rise and Fall of Indentured Servitude in the Americas: An Economic Analysis." *Journal of Economic History* 44 (1): 1–26.
Gathmann, Christina. 2008. "Effects of Enforcement on Illegal Markets: Evidence from Migrant Smuggling along the Southwestern Border." *Journal of Public Economics* 92 (10–11): 1926–41.
Gemery, Henry A. 1986. "Markets for Migrants: English Indentured Servitude and Emigration in the Seventeenth and Eighteenth Centuries." In *Colonialism and Migration; Indentured Labour Before and After Slavery*, edited by P. C. Emmer, 33–54. Dordrecht and Boston: Kluwer Academic Publishers, Martinus Nijhoff Publishers.
Goldin, Claudia. 1994. "The Political Economy of Immigration Restriction in the United States, 1890 to 1921." In *The Regulated Economy: A Historical Approach to Political Economy*, edited by Claudia Goldin and Gary D. Libecap, 223–58. Chicago and London: University of Chicago Press.
Goldstein, Joshua R., and Guy Stecklov. 2016. "From Patrick to John F.: Ethnic Names and Occupational Success in the Last Era of Mass Migration." *American Sociological Review* 81(1): 85–106.
Gould, Eric D., and Omer Moav. 2008. "When Is 'Too Much' Inequality Not Enough? The Selection of Israeli Emigrants." CEPR Discussion Paper 6955.
Gould, J. D. 1980. "European Inter-continental Emigration: The Road Home: Return Migration from the U.S.A." *Journal of the European Economic History* 9 (1): 41–112.
Green, Alan G., and David A. Green. 1993. "Balanced Growth and the Geographical Distribution of European Immigrant Arrivals to Canada, 1900–1912." *Explorations in Economic History* 30 (1): 31–59.
Green, Alan G., and David A. Green. 2016. "Immigration and the Canadian Earnings Distribution in the First Half of the Twentieth Century." *Journal of Economic History* 76 (2): 387–426.
Green, Alan G., and Mary MacKinnon. 2001. "The Slow Assimilation of British Immigrants in Canada: Evidence from Montreal and Toronto, 1901." *Explorations in Economic History* 38 (3): 315–38.
Green, Alan G., Mary MacKinnon, and Chris Minns. 2002. "Dominion or Republic? Migrants to North America from the United Kingdom, 1870–1910." *Economic History Review* 55 (4): 666–96.
Greenwood, Michael J. 2007. "Modeling the Age and Age Composition of Late 19th Century U.S. Immigrants from Europe." *Explorations in Economic History* 44 (2): 255–69.
Greenwood, Michael J. 2008. "Family and Sex-Specific U.S. Immigration from Europe, 1870–1910: A Panel Data Study of Rates and Composition." *Explorations in Economic History* 45 (4): 356–82.
Greenwood, Michael J., and Zachary Ward. 2015. "Immigration Quotas, World War I, and Emigrant Flows from the United States in the Early 20th Century." *Explorations in Economic History* 55: 76–96.
Grogger, Jeffrey, and Gordon H. Hanson. 2011. "Income Maximization and the Selection and Sorting of International Migrants." *Journal of Development Economics* 95 (1): 42–57.
Grogger, Jeffrey, and Gordon H. Hanson. 2015. "Attracting Talent: Location Choices of Foreign-Born PhDs in the United States." *Journal of Labor Economics* 33 (Special Issue 1): S5–38.
Grubb, Farley. 1985. "The Market for Indentured Immigrants: Evidence on the Efficiency of Forward-Labor Contracting in Philadelphia, 1745–1773." *Journal of Economic History* 45 (4): 855–68.
Grubb, Farley. 1986. "Redemptioner Immigration to Pennsylvania: Evidence on Contract Choice and Profitability." *Journal of Economic History* 46 (2): 407–18.
Grubb, Farley. 1988. "The Auction of Redemptioner Servants, Philadelphia, 1771–1804: An Economic Analysis." *Journal of Economic History* 48 (3): 583–603.
Grubb, Farley. 1994. "The End of European Immigrant Servitude in the United States: An Economic Analysis of Market Collapse, 1772–1835." *Journal of Economic History* 54 (4): 794–824.
Guest, Avery M. 1982. "Fertility Variation among the U.S. Foreign Stock Population in 1900." *International Migration Review* 16 (3): 577–94.
Guinnane, Timothy W., Carolyn M. Moehling, and Cormac Ó'Gráda. 2006. "The Fertility of the Irish in the United States in 1910." *Explorations in Economic History* 43 (3): 465–85.
Haines, Michael R. 2006. "Components of Population Growth, by Decade: 1790–2000 Table Aa15–21." In *Historical Statistics of the United States, Earliest Times to the Present: Millennial Edition*, edited by Susan B. Carter et al. Cambridge and New York: Cambridge University Press. http://hsus.cambridge.org/HSUSWeb/.
Hainmueller, Jens, and Michael J. Hiscox. 2007. "Educated Preferences: Explaining Attitudes toward Immigration in Europe." *International Organization* 61 (2): 399–442.
Hall, Patricia Kelly, and Steven Ruggles. 2004. "'Restless in the Midst of Their Prosperity': New Evidence on the Internal Migration of Americans, 1850–2000." *Journal of American History* 91 (3): 829–46.
Hanes, Christopher. 1996. "Immigrants' Relative Rate of Wage Growth in the Late 19th Century." *Explorations in Economic History* 33 (1): 35–64.
Hannon, Joan Underhill. 1982. "Ethnic Discrimination in a 19th-Century Mining District: Michigan Copper Mines, 1888." *Explorations in Economic History* 19 (1): 28–50.
Hanson, Gordon H. 2006. "Illegal Migration from Mexico to the United States." National Bureau of Economic Research Working Paper 12141.
Hanson, Gordon H. 2009. "The Economic Consequences of the International Migration of Labor."

Annual Review of Economics 1: 179–208.
Hanson, Gordon H., and Antonio Spilimbergo. 1999. "Illegal Immigration, Border Enforcement, and Relative Wages: Evidence from Apprehensions at the U.S.–Mexico Border." *American Economic Review* 89 (5): 1337–57.
Hatton, Timothy J. 1995. "A Model of U.K. Emigration, 1870–1913." *Review of Economics and Statistics* 77 (3): 407–15.
Hatton, Timothy J. 1997. "The Immigrant Assimilation Puzzle in Late Nineteenth-Century America." *Journal of Economic History* 57 (1): 34–62.
Hatton, Timothy J. 2010. "The Cliometrics of International Migration: A Survey." *Journal of Economic Surveys* 24 (5): 941–69.
Hatton, Timothy J., and Jeffrey G. Williamson, eds. 1994. *Migration and the International Labor Market, 1850–1939*. London and New York: Routledge.
Hatton, Timothy J., and Jeffrey G. Williamson. 1998. *The Age of Mass Migration: Causes and Economic Impact*. Oxford and New York: Oxford University Press.
Hatton, Timothy J., and Jeffrey G. Williamson. 2004. "International Migration in the Long-Run: Positive Selection, Negative Selection and Policy." National Bureau of Economic Research Working Paper 10529.
Hatton, Timothy J., and Jeffrey G. Williamson. 2005. *Global Migration and the World Economy: Two Centuries of Policy and Performance*. Cambridge, MA and London: MIT Press.
Hatton, Timothy J., and Jeffrey G. Williamson. 2006. "What Determines Immigration's Impact? Comparing Two Global Centuries." National Bureau of Economic Research Working Paper 12414.
Higgs, Robert. 1971. "Race, Skills, and Earnings: American Immigrants in 1909." *Journal of Economic History* 31 (2): 420–28.
Higham, John. 2002. *Strangers in the Land: Patterns of American Nativism, 1860–1925*. New Brunswick, NJ and London: Rutgers University Press.
Hilger, Nathaniel G. 2017. "Upward Mobility and Discrimination: The Case of Asian Americans." Unpublished.
Hirschman, Charles, and Elizabeth Mogford. 2009. "Immigration and the American Industrial Revolution from 1880 to 1920." *Social Science Research* 38 (4): 897–920.
Hornbeck, Richard. 2012. "The Enduring Impact of the American Dust Bowl: Short- and Long-Run Adjustments to Environmental Catastrophe." *American Economic Review* 102 (4): 1477–507.
Hornung, Erik. 2014. "Immigration and the Diffusion of Technology: The Huguenot Diaspora in Prussia." *American Economic Review* 104 (1): 84–122.
Hu, Wei-Yin. 2000. "Immigrant Earnings Assimilation: Estimates from Longitudinal Data." *American Economic Review* 90 (2): 368–72.
Hudson, Paul. 2001. "English Emigration to New Zealand, 1839–1850: Information Diffusion and Marketing a New World." *Economic History Review* 54 (4): 680–98.
Hugill, Peter J. 1995. *World Trade since 1431: Geography, Technology, and Capitalism*. Baltimore and London: Johns Hopkins University Press.
Hunt, Jennifer. 2011. "Which Immigrants Are Most Innovative and Entrepreneurial? Distinctions By Entry Visa." *Journal of Labor Economics* 29 (3): 417–57.
Hunt, Jennifer, and Marjolaine Gauthier-Loiselle. 2010. "How Much Does Immigration Boost Innovation?" *American Economic Journal: Macroeconomics* 2 (2): 31–56.
Ibarraran, Pablo, and Darren Lubotsky. 2007. "Mexican Immigration and Self-Selection: New Evidence from the 2000 Mexican Census." In *Mexican Immigration to the United States*, edited by George J. Borjas, 159–92. Chicago and London: University of Chicago Press.
Jasso, Guillermina, Douglas S. Massey, Mark R. Rosenzweig, and James P. Smith. 2004. "Immigrant Health: Selectivity and Acculturation." In *Critical Perspectives on Racial and Ethnic Differences in Health in Late Life*, edited by Norman B. Anderson, Rodolfo A. Bulatao, and Barney Cohen, 227–66.Washington, DC: National Academies Press.
Jasso, Guillermina, and Mark R. Rosenzweig. 2008. "Selection Criteria and the Skill Composition of Immigrants: A Comparative Analysis of Australian and U.S. Employment Immigration." Institute for the Study of Labor Discussion Paper 3564.
Jasso, Guillermina, Mark R. Rosenzweig, and James P. Smith. 2000. "The Changing Skill of New Immigrants to the United States: Recent Trends and Their Determinants." In *Issues in the Economics of Immigration*, edited by George P. Borjas, 185–226. Chicago and London: University of Chicago Press.
Jencks, Christopher. 2001. "Who Should Get In?" *New York Review of Books*, November 29.
Kaestner, Robert, and Ofer Malamud. 2014. "Self-Selection and International Migration: New Evidence from Mexico." *Review of Economics and Statistics* 96 (1): 78–91.
Karadja, Mounir and Erik Prawitz. 2015. "Mass Migration, Political Power and Development." Unpublished.
Keeling, Drew. 1999. "The Transportation Revolution and Transatlantic Migration, 1850–1914." *Research in Economic History* 19: 39–74.
Kennedy, Steven, James Ted McDonald, and Nicholas Biddle. 2006. "The Healthy Immigrant Effect and Immigrant Selection: Evidence from Four Countries." Social and Economic Dimensions of an Aging Population Research Paper 164.
Kerr, Sari Pekkala, and William R. Kerr, 2011. "Economic Impacts of Immigration: A Survey." *Finnish Economic Papers, Finnish Economic Association* 24 (1): 1–32.
Kerr, William R., and William F. Lincoln. 2010. "The Supply Side of Innovation: H-1B Visa Reforms and U.S. Ethnic Invention." *Journal of Labor Economics* 28 (3): 473–508.
Kim, Jongsung. 2003. "Education, English Language

Proficiency, and Earnings of Male Immigrants in the U.S. Labor Market." *Journal of Business and Economics Research* 1 (3): 17–26.
Kim, Sukkoo. 2007. "Immigration, Industrial Revolution and Urban Growth in the United States, 1820–1920: Factor Endowments, Technology and Geography." National Bureau of Economic Research Working Paper 12900.
King, Desmond. 2000. *Making Americans: Immigration, Race, and the Origins of the Diverse Democracy*. Cambridge, MA and London: Harvard University Press.
Kobrin, Rebecca A. 2012. "Ticket to Riches." *Segula Magazine*, June/July.
Kosack, Edward, and Zachary Ward. 2014. "Who Crossed the Border? Self-Selection of Mexican Migrants in the Early Twentieth Century." *Journal of Economic History* 74 (4): 1015–44.
Kuziemko, Ilyana. 2014. "Human Capital Spillovers in Families: Do Parents Learn from or Lean on Their Children?" *Journal of Labor Economics* 32 (4): 755–86.
Kuziemko, Ilyana, and Joseph Ferrie. 2014. "The Role of Immigrant Children in Their Parents' Assimilation in the United States, 1850–2010." In *Human Capital in History: The American Record* edited by Leah Platt Boustan, Carola Frydman, and Robert A. Margo, 97–120. Chicago and London: University of Chicago Press.
Lafortune, Jeanne. 2013. "Making Yourself Attractive: Pre-marital Investments and the Returns to Education in the Marriage Market." *American Economic Journal: Applied Economics* 5 (2): 151–78.
Lafortune, Jeanne, and José Tessada. 2013. "Smooth(er) Landing? The Dynamic Role of Networks in the Location and Occupational Choice of Immigrants." Unpublished.
Lafortune, Jeanne, José Tessada, and Ethan Lewis. 2015. "People and Machines: A Look at the Evolving Relationship between Capital and Skill in Manufacturing 1860–1930 Using Immigration Shocks." NBER Working Paper 21435.
Lewis, Ethan. 2011. "Immigration, Skill Mix, and Capital Skill Complementarity." *Quarterly Journal of Economics* 126 (2): 1029–69.
Lindert, Peter H. 2000. "When Did Inequality Rise in Britain and America?" *Journal of Income Distribution* 9 (1): 11–25.
Lindert, Peter H., and Jeffrey G. Williamson. 2014. "American Incomes 1650–1870: New Evidence, Controlled Conjectures." Unpublished.
Lleras-Muney, Adriana, and Allison Shertzer. 2015. "Did the Americanization Movement Succeed? An Evaluation of the Effect of English-Only and Compulsory Schooling Laws on Immigrants." *American Economic Journal: Economic Policy* 7 (3): 258–90.
Logan, Trevon D., and Paul W. Rhode. 2010. "Moveable Feasts: A New Approach to Endogenizing Tastes." Unpublished.
Long, Jason, and Joseph Ferrie. 2013a. "British, American, and British–American Social Mobility: Intergenerational Occupational Change among Migrants and Non-migrants in the Late 19th Century." Unpublished.
Long, Jason, and Joseph Ferrie. 2013b. "Intergenerational Occupational Mobility in Great Britain and the United States since 1850." *American Economic Review* 103 (4): 1109–37.
Long, Jason, and Henry E. Siu. 2016. "Refugees from Dust and Shrinking Land: Tracking the Dust Bowl Migrants." NBER Working Paper 22108.
Lubotsky, Darren. 2007. "Chutes or Ladders? A Longitudinal Analysis of Immigrant Earnings." *Journal of Political Economy* 115 (5): 820–67.
Lubotsky, Darren. 2011. "The Effect of Changes in the U.S. Wage Structure on Recent Immigrants' Earnings." *Review of Economics and Statistics* 93 (1): 59–71.
Luttmer, Erzo F. P., and Monica Singhal. 2011. "Culture, Context, and the Taste for Redistribution." *American Economic Journal: Economic Policy* 3 (1): 157–79.
Malamud, Ofer, and Abigail Wozniak. 2012. "The Impact of College on Migration: Evidence from the Vietnam Generation." *Journal of Human Resources* 47 (4): 913–50.
Massey, Douglas S. 2013. "America's Immigration Policy Fiasco: Learning from Past Mistakes." *Dædalus* 142 (3): 5–15.
Massey, Douglas S., and Zai Liang. 1989. "The Long-Term Consequences of a Temporary Worker Program: The US Bracero Experience." *Population Research and Policy Review* 8 (3): 199–226.
Massey, Douglas S., and Karen A. Pren. 2012. "Unintended Consequences of US Immigration Policy: Explaining the Post-1965 Surge from Latin America." *Population and Development Review* 38 (1): 1–29.
Mattoo, Aaditya, Ileana Cristina Neagu, and Çağlar Özden. 2008. "Brain Waste? Educated Immigrants in the US Labor Market." *Journal of Development Economics* 87 (2): 255–69.
McDonald, John, and Ralph Shlomowitz. 1991. "Passenger Fares on Sailing Vessels to Australia in the Nineteenth Century." *Explorations in Economic History* 28 (2): 192–208.
McGouldrick, Paul F., and Michael B. Tannen. 1977. "Did American Manufacturers Discriminate against Immigrants before 1914?" *Journal of Economic History* 37 (3): 723–46.
McKenzie, David, and Hillel Rapoport. 2007. "Network Effects and the Dynamics of Migration and Inequality: Theory and Evidence from Mexico." *Journal of Development Economics* 84 (1): 1–24.
McKenzie, David, and Hillel Rapoport. 2010. "Self-selection Patterns in Mexico–U.S. Migration: The Role of Migration Networks." *Review of Economics and Statistics* 92 (4): 811–21.
McKenzie, David, Steven Stillman, and John Gibson. 2010. "How Important Is Selection? Experimental vs. Non-experimental Measures of the Income Gains from Migration." *Journal of the European Economic*

Association 8 (4): 913–45.
Menard, Russell R. 1973. "From Servant to Freeholder: Status Mobility and Property Accumulation in Seventeenth-Century Maryland." *William and Mary Quarterly* 30 (1): 37–64.
Menard, Russell R. 1975. "The Maryland Slave Population, 1658 to 1730: A Demographic Profile of Blacks in Four Countries." *William and Mary Quarterly* 32 (1): 29–54.
Meng, Xin, and Robert G. Gregory. 2005. "Intermarriage and the Economic Assimilation of Immigrants." *Journal of Labor Economics* 23 (1): 135–74.
Minns, Chris. 2000. "Income, Cohort Effects, and Occupational Mobility: A New Look at Immigration to the United States at the Turn of the 20th Century." *Explorations in Economic History* 37 (4): 326–50.
Moehling, Carolyn M., and Anne Morrison Piehl. 2009. "Immigration, Crime, and Incarceration in Early Twentieth-Century America." *Demography* 46 (4): 739–63.
Moehling, Carolyn M., and Anne Morrison Piehl. 2014. "Immigrant Assimilation into US Prisons, 1900–1930." *Journal of Population Economics* 27 (1): 173–200.
Mokyr, Joel, and Cormac Ó Gráda. 1982. "Emigration and Poverty in Prefamine Ireland." *Explorations in Economic History* 19 (4): 360–84.
Molloy, Raven, Christopher L. Smith, and Abigail Wozniak. 2011. "Internal Migration in the United States." *Journal of Economic Perspectives* 25 (3): 173–96.
Morgan, S. Philip, Susan Cotts Watkins, and Douglas Ewbank. 1994. "Generating Americans: Ethnic Differences in Fertility." In *After Ellis Island: Newcomers and Natives in the 1910 Census,* edited by Susan Cotts Watkins, 83–124. New York: Russell Sage Foundation.
Moretti, Enrico. 1999. "Social Networks and Migrations: Italy 1876–1913." *International Migration Review* 33 (3): 640–57.
Moser, Petra. 2012. "Taste-Based Discrimination Evidence from a Shift in Ethnic Preferences after WWI." *Explorations in Economic History* 49 (2): 167–88.
Moser, Petra, Alessandra Voena, and Fabian Waldinger. 2014. "German Jewish Emigres and US Invention." *American Economic Review* 104 (10): 3222–55.
Munshi, Kaivan. 2003. "Networks in the Modern Economy: Mexican Migrants in the U.S. Labor Market." *Quarterly Journal of Economics* 118 (2): 549–99.
Munshi, Kaivan, and Nicholas Wilson. 2010. "Identity and Mobility: Historical Fractionalization, Parochial Institutions, and Occupational Choice in the American Midwest." Unpublished.
Nunn, Nathan. 2008. "The Long-Term Effects of Africa's Slave Trades." *Quarterly Journal of Economics* 123 (1): 139–76.
O'Rourke, Kevin H., and Richard Sinnott. 2006. "The Determinants of Individual Attitudes towards Immigration." *European Journal of Political Economy* 22 (4): 838–61.
O'Rourke, Kevin H., and Jeffrey G. Williamson. 1999. *Globalization and History: The Evolution of a Nineteenth-Century Atlantic Economy*. Cambridge, MA and London: MIT Press.
Orrenius, Pia M., and Madeline Zavodny. 2005. "Self-selection among Undocumented Immigrants from Mexico." *Journal of Development Economics* 78 (1): 215–40.
Ottaviano, Gianmarco I. P., and Giovanni Peri. 2012. "Rethinking the Effect of Immigration on Wages." *Journal of the European Economic Association* 10 (1): 152–97.
Ottaviano, Gianmarco I. P., Giovanni Peri, and Greg C. Wright. 2013. "Immigration, Offshoring, and American Jobs." *American Economic Review* 103 (5): 1925–59.
Parey, Matthias, Jens Ruhose, Fabian Waldinger, and Nicolai Netz. 2015. "The Selection of High-Skilled Migrants." IZA Discussion Paper 9164.
Pekkala Kerr, Sari, and William R. Kerr. 2011. "Economic Impacts of Immigration: A Survey." *Finnish Economic Papers* 24 (1): 1–32.
Pérez, Santiago. 2017. "The (South) American Dream: Mobility and Economic Outcomes of First and Second Generation Immigrants in 19th Century Argentina." Unpublished.
Peri, Giovanni. 2012. "The Effect of Immigration on Productivity: Evidence from U.S. States." *Review of Economics and Statistics* 94 (1): 348–58.
Peri, Giovanni, and Chad Sparber. 2009. "Task Specialization, Immigration, and Wages." *American Economic Journal: Applied Economics* 1 (3): 135–69
Perlmann, Joel. 2005. *Italians Then, Mexicans Now: Immigrant Origins and Second-Generation Progress, 1890 to 2000*. New York: Russell Sage Foundation.
Ramos, Fernando A. 1992. "Out-Migration and Return Migration of Puerto Ricans." In *Immigration and the Work Force: Economic Consequences for the United States and Source Areas*, edited by George J. Borjas and Richard B. Freeman, 49–66. Chicago and London: University of Chicago Press.
Robinson, Chris, and Nigel Tomes. 1982. "Self-selection and Interprovincial Migration in Canada." *Canadian Journal of Economics* 15 (3): 474–502.
Rodríguez-Pose, Andrés, and Viola von Berlepsch. 2014. "When Migrants Rule: The Legacy of Mass Migration on Economic Development in the United States." *Annals of the Association of American Geographers* 104 (3): 628–51.
Roy, A. D. 1951. "Some Thoughts on the Distribution of Earnings." *Oxford Economic Papers* 3 (2): 135–46.
Ruggles, Steven, J. Trent Alexander, Katie Genadek, Ronald Goeken, Matthew B. Schroeder, and Matthew Sobek. 2010. "Integrated Public Use Microdata Series: Version 5.0 [Machine-Readable Data Base]." Minneapolis: University of Minnesota.
Sanchez-Alonso, Blanca. 2000. "Those Who Left and Those Who Stayed Behind: Explaining Emigration from the Regions of Spain, 1880–1914." *Journal of Economic History* 60 (3): 730–55.
Sassler, Sharon, and Zhenchao Qian. 2003. "Mari-

tal Timing and Marital Assimilation Variation and Change among European Americans between 1910 and 1980." *Historical Methods: A Journal of Quantitative and Interdisciplinary History* 36 (3): 131–48.

Scheve, Kenneth F., and Matthew J. Slaughter. 2001. "Labor Market Competition and Individual Preferences over Immigration Policy." *Review of Economics and Statistics* 83 (1): 133–45.

Sequeira, Sandra, Nathan Nunn, and Nancy Qian. 2017. "Migrants and the Making of America: The Short- and Long-Run Effects of Immigration during the Age of Mass Migration." National Bureau of Economic Research Working Paper 23289.

Shertzer, Allison. 2013. "Immigrant Group Size and Political Mobilization: Evidence from European Migration to the United States." National Bureau of Economic Research Working Paper 18827.

Smith, Abbot Emerson. 1947. *Colonists in Bondage: White Servitude and Convict Labor in America, 1607–1776*. Chapel Hill, NC: University of North Carolina Press.

Smith, James P. 2006. "Immigrants and the Labor Market." *Journal of Labor Economics* 24 (2): 203–33.

Spitzer, Yannay. 2015. "The Dynamics of Mass Migration: Estimating the Effect of Income Differences on Migration in a Dynamic Model of Discrete Choice with Diffusion." Unpublished.

Spitzer, Yannay. 2016. Programs, Networks, and Migration: The Jewish Migration from the Russian Empire to the United States 1881–1914." Unpublished.

Spitzer, Yannay, and Ariell Zimran. 2017. "Migrant Self-selection: Anthropometric Evidence from the Mass Migration of Italians to the United States, 1907–1925." Unpublished.

Steckel, Richard H. 1983. "The Economic Foundations of East–West Migration during the 19th Century." *Explorations in Economic History* 20 (1): 14–36.

Stuen, Eric T., Ahmed Mushfiq Mobarak, and Keith E. Maskus. 2012. "Skilled Immigration and Innovation: Evidence from Enrollment Fluctuations in US Doctoral Programmes." *Economic Journal* 122 (565): 1143–76.

Tabellini, Marco. 2017. "Gifts of Immigrants, Woes of Natives: Lessons from the Age of Mass Migration." Unpublished.

Timmer, Ashley S., and Jeffrey G. Williamson. 1998. "Immigration Policy Prior to the 1930s: Labor Markets, Policy Interactions, and Globalization Backlash." *Population and Development Review* 24 (4): 739–71.

Tomlins, Christopher. 2001. "Reconsidering Indentured Servitude: European Migration and the Early American Labor Force, 1600–1775." *Labor History* 42 (1): 5–43.

Vigdor, Jacob L. 2002. "The Pursuit of Opportunity: Explaining Selective Black Migration." *Journal of Urban Economics* 51 (3): 391–417.

Ward, Zachary. 2015. "The Role of English Fluency in Migrant Assimilation: Evidence from United States History." Unpublished.

Ward, Zachary. 2017. "Birds of Passage: Return Migration, Self-selection and Immigration Quotas." *Explorations in Economic History* 64: 37–52.

Watkins, Susan Cotts, ed. 1994. *After Ellis Island: Newcomers and Natives in the 1910 Census*. New York: Russell Sage Foundation.

Wegge, Simone A. 1998. "Chain Migration and Information Networks: Evidence from Nineteenth-Century Hesse–Cassel." *Journal of Economic History* 58 (4): 957–86.

Wegge, Simone A. 2002. "Occupational Self-selection of European Emigrants: Evidence from Nineteenth-Century Hesse–Cassel." *European Review of Economic History* 6 (3): 365–94.

Williamson, Jeffrey G. 1998. "Globalization, Labor Markets and Policy Backlash in the Past." *Journal of Economic Perspectives* 12 (4): 51–72.

Woolston, William Gui. 2015. "Do Students Respond to Incentives? The Education Choices of Teenage Illegal Immigrants." Unpublished.

Wyman, Mark. 1993. *Round-Trip to America: The Immigrants Return to Europe, 1880–1930*. Ithaca and London: Cornell University Press.