

MOVING FOR PROSPERITY

Global Migration and Labor Markets



MOVING FOR PROSPERITY

GLOBAL MIGRATION AND LABOR MARKETS

OVERVIEW

Policy Research Report

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Foreword

Migration made my story possible. I was born in Bulgaria at a time when my future seemed defined within the boundaries of my country. But, with the fall of the iron curtain, I got a chance to travel, study, and work abroad, and eventually moved to the United States to work at the institution of which I am now the CEO.

Research has repeatedly demonstrated that migration is good not just for migrants, but also for the communities they leave behind and for the countries that welcome them. Few economic policies do as much to achieve our goals of ending extreme poverty and sharing prosperity as those that ease labor mobility.

For policy makers, migration represents a dilemma. On the one hand, migration helps millions create a better life for themselves and their families. For some, it is their only hope of escaping poverty, violence, and conflict.

On the other hand, there is considerable resistance to migration in destination countries. Migrants are often portrayed as one of the causes of high unemployment, crime, and poor social services. The hopes of migrants and refugees are increasingly threatened by calls for creating barriers, rather than bridges.

This book encourages a more balanced view of migration, providing fresh analysis and comprehensive data for policy makers as they grapple with how to harness the benefits of this phenomenon for all. Although migration provides large overall benefits to the destination country, local populations often feel the negative effects. Migrants tend to arrive in waves, and they land in certain areas, sectors, or occupations because of strong economic forces. As a result, people in those locations feel a significant

impact, moving either to other parts of the country or to other jobs to find employment.

Policies should focus on managing these transitions so that both citizens and migrants can experience and share in the long-term benefits. This means smoothing the sharp peaks of migration patterns, as well as protecting citizens from transitory but often painful economic burdens and dislocations.

It is my hope that the analysis provided in this book can facilitate a change in the conversation about migration. Continued income and opportunity gaps, differences in demographic profiles, and rising aspirations of the world's poor and vulnerable all mean that migration will be a fundamental feature of the world for the foreseeable future. We must act together now to create sustainable migration regimes that can deliver economic and social gains for everyone in the generations to come.

Kristalina Georgieva
Chief Executive Officer
The World Bank

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Abbreviations

ACS	American Community Survey
ALMP	active labor market policy
CDF	cumulative distribution function
CES	constant elasticity of substitution
DACA	Deferred Action for Childhood Arrivals
DHS	U.S. Department of Homeland Security
DIOC-E	OECD Database on Immigrants in OECD and Non-OECD Countries
EAP	East Asia and Pacific
ECA	Europe and Central Asia
EU	European Union
EU15	Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom
EULFS	European Union Labour Force Survey
FDI	foreign direct investment
GCC	Gulf Cooperation Council
GDP	gross domestic product
IDP	internally displaced person
IMAGE	Internal Migration Around the Globe (database)
IMPALA	International Migration Policy and Law Analysis
IRCA	Immigration Reform and Control Act
LAC	Latin America and the Caribbean
MENA	Middle East and North Africa
MSA	metropolitan statistical area

ABBREVIATIONS

NBA	National Basketball Association
OECD	Organisation for Economic Co-operation and Development
OLS	ordinary least squares
PCT	Patent Cooperation Treaty
PISA	Programme for International Student Assessment
PPP	purchasing power parity
PRR	Policy Research Report
SSA	Sub-Saharan Africa
STEM	science, technology, engineering, and mathematics
TFP	total factor productivity
UNHCR	United Nations High Commissioner for Refugees
\$NZ	New Zealand dollar
TL	Turkish lira
US\$	U.S. dollar

Overview

The rich have many assets; the poor have only one—their labor. Because good jobs are slow to come to the poor, the poor must move to find productive employment. Migration is, therefore, the most effective way to reduce poverty and share prosperity, the twin goals of the World Bank. Not surprisingly, all development experiences and growth episodes in history have involved a reallocation of labor across space and sectors within countries.

Some of the biggest gains, however, come from the movement of people between countries. Migrants' incomes increase three to six times when they move from lower- to higher-income countries. The average income gain for a young unskilled worker moving to the United States is estimated to be about \$14,000 per year. If we were to double the number of immigrants in high-income countries by moving 100 million young people from developing countries, the annual income gain would be \$1.4 trillion. This global welfare gain dwarfs the gains from the removal of all restrictions on international flows of goods and capital.

These gains remain largely notional because most people cannot move. Only about 3 percent of the world's population live in a country in which they were not born, a proportion that has not changed much over six decades of otherwise unprecedented global integration, via trade, investment, and knowledge flows. Distances in space, culture, and language are inherent impediments to mobility, imposing an estimated 30–50 percent tax on migrant wages. The most important barriers are, however, national borders, the jealous guardians of who can enjoy the privileges and protections of nation-states. The tax equivalent of an international border is over 150 percent for young unskilled workers from most developing countries, more than three times larger than those imposed by physical and cultural dimensions of distance.

The gains for immigrants do not come at the expense of host countries. Farmers in destinations from New Zealand to New Mexico thrive thanks to the hard work of immigrant workers. Institutions at the technology frontier—from CERN (the European Organization for Nuclear Research) in Geneva to Silicon Valley in California—innovate thanks to the ingenuity of immigrants. Native-born workers (those who were born in the destination country) also gain on average, either because they gravitate away from the occupations that immigrants are willing to perform, because they benefit from the complementary skills that immigrants bring, or because they are consumers of the products and services immigrants provide. Almost every empirical study finds that increased labor mobility leads to large gains for the immigrants and positive overall gains for the destination country.

That creates a puzzle. The compelling economic evidence on the economic gains and social benefits of migration sits awkwardly with stark political opposition to immigration. Respondents to political opinion polls rate the arrival of immigrants in their countries as among their worst fears. During the last round of elections in the United States and every Western European country, immigration was invariably one of the top three concerns. Citizens worried about what migrants and refugees would do to jobs and wages, welfare programs, crime, schools, and their national identity. Frustrated by the public's disregard of their empirical findings, many economists attribute political opposition to cultural and social factors, including xenophobia.

This Policy Research Report (PRR), *Moving for Prosperity: Global Migration and Labor Markets*, is an attempt to address this tension between the academic research and the public discourse by focusing on the economic evidence. We suggest a labor market-oriented, economically motivated rationale to the political opposition to migration. Global migration patterns lead to high concentrations of immigrants in certain places, industries, and occupations. For example, the top 10 destination countries account for 60 percent of global immigration. Four states host half of all immigrants in the United States, and 10 counties host half of the immigrants in these four states. Immigrants are further concentrated in a narrow set of industries and occupations in specific geographic regions. The same pattern repeats itself in almost every major destination country. It is these geographic and labor market concentrations of immigrants that lead to increased anxiety, insecurity, and potentially significant short-term disruptions among native-born workers. Furthermore, the positive effects and benefits in the destination labor markets tend to be

more diffuse whereas the costs are more concentrated and easily attributable to immigration.

Understanding (and empathizing with) these legitimate economic concerns is critical to informed and effective policy making. The goal should be to ease the costs of short-term dislocations of native-born workers and distribute more widely the economic benefits generated by labor mobility. Proactive interventions to ease the pain and share the gain from immigration are essential to avoid draconian restrictions on immigration that will hurt everybody. Ignoring the massive economic gains of immigration would be akin to leaving billions of hundred dollar bills on the sidewalk.

This PRR aims to inform and stimulate debate, contribute to better policies, facilitate further research, and identify prominent knowledge and data gaps. It presents key facts and findings, research methods and data sources on economic migration and refugees, the determinants of their decisions, and their impact on labor markets in both source and destination countries. We have in mind an audience of policy makers, think tanks, academics, students, the wider public, and, of course, our colleagues in the World Bank. The labor market focus of the PRR is motivated not only by the fact that important development and poverty implications of migration—the World Bank’s operational and analytical focus—work through these labor market channels. This focus also reflects space and time constraints, and the absence of rigorous research in certain other areas, which simply do not allow an all-encompassing report that covers every dimension of migration. We believe many of the social, cultural, and political dimensions are highly important; and we are certain future analytical work within and outside the World Bank will address these shortcomings.

This overview is intended to be a stand-alone summary of the main themes and results in the report. It discusses many questions: Who migrates to where? Why do people migrate? What is the impact on the migrants and those they leave behind? What are the short- and long-term labor market, social, and welfare outcomes on native-born citizens in the destination locations? Are there specific implications of high-skilled immigration for both migrant-sending and migrant-receiving countries? How can we address the negative impacts of immigration while sustaining the economic benefits?

The overview also includes a series of policy recommendations based on the evidence presented in the following chapters. As will become clear, there are no easy solutions when it comes to migration policies, hence the presence of vigorous and, at times, harsh debates. Economic considerations are only a part of a complex set of issues, and economics literature does not

always provide simple and unambiguous solutions. Nevertheless, we believe that the current economic analysis does contain insights and lessons that need to be placed center stage by policy makers.

The organization of the overview mostly follows the organization of the rest of the report. We start with the description of the size and patterns of global migration and their main determinants, such as wage gaps and geographic distances. We then discuss how these forces and concentrated outcomes shape the economic effects of migration in certain regions, sectors, and occupations. After we present the evidence on the short-term wage and dislocation impact of immigration across different groups, we turn to the question of the policy responses to such impacts. Our focus is on how the gains can be distributed. The next section focuses on long-term impacts, especially on assimilation of immigrants, and the relevant policy measures. The penultimate section is on high-skilled migration, its impact and implications. We conclude with emphasizing the need to develop multilateral and regional frameworks to address the policy conflicts arising in international migration.

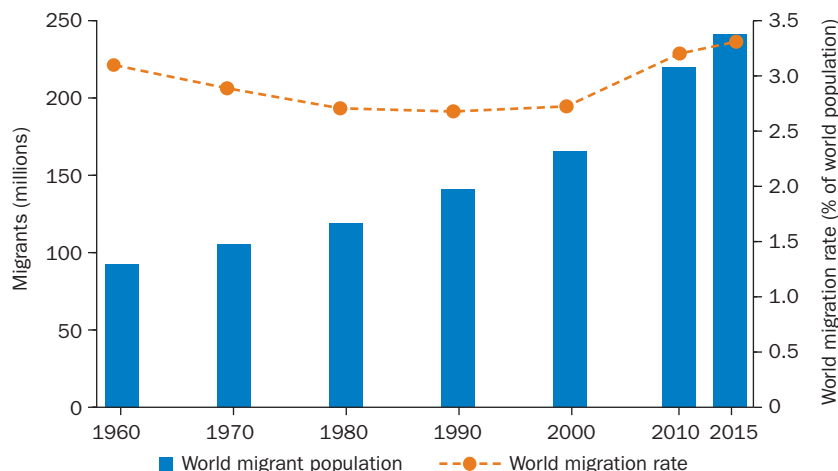
The patterns of global migration: Scale

Today's headlines create the impression that we are facing a global migration crisis of extraordinary proportions. However, immigrants' share of the global population has been stable at about 3 percent since the end of the Second World War even though international trade and investment flows have led to an unprecedented integration of the world economy. As of 2015, there were slightly more than 240 million migrants in the world (see figure O.1). Their number has grown throughout the post-World War II period, but only at a rate that has kept an even pace with world population growth.

In current media headlines, "refugees" is probably the only word that surpasses "migrants" in terms of frequency. The civil war in the Syrian Arab Republic has brought renewed attention to the plight of refugees, and the data indicate that total refugee numbers are currently at a 20-year peak. Even though their total number has fluctuated widely, refugees have rarely accounted for more than 10 percent of all migrants (see figure O.2). There were about 15 million refugees¹ in 2015, an increase of about 50 percent from 2004 and the highest level since 1995. Nevertheless, the share of refugees is only about 7 percent of all migrants and about 0.2 percent of the

Figure 0.1 Global migrants constitute a stable share of world population

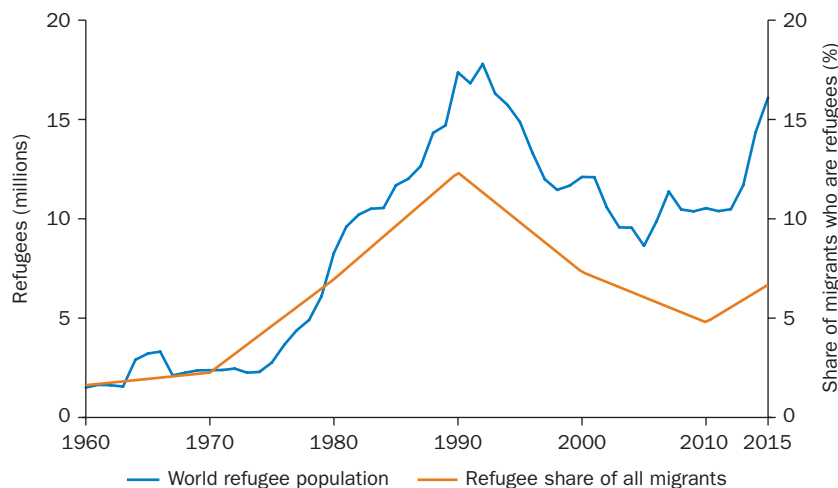
World migration, 1960-2015



Sources: Data from the World Bank Global Bilateral Migration Database (1960-2000) and the United Nations Global Migration Database (2010-15). Population data from United Nations World Population Prospects.

Figure 0.2 Global refugee numbers have grown in recent years but are a small share of migrants and an insignificant share of world population

Refugee numbers and as share of total migrants, 1960-2015



Sources: Refugee data from UNHCR Population Statistics Database. Migration data from the World Bank Global Bilateral Migration Database (1960-2000) and the United Nations Global Migration Database (2010-15).

Note: UNHCR = United Nations High Commissioner for Refugees.

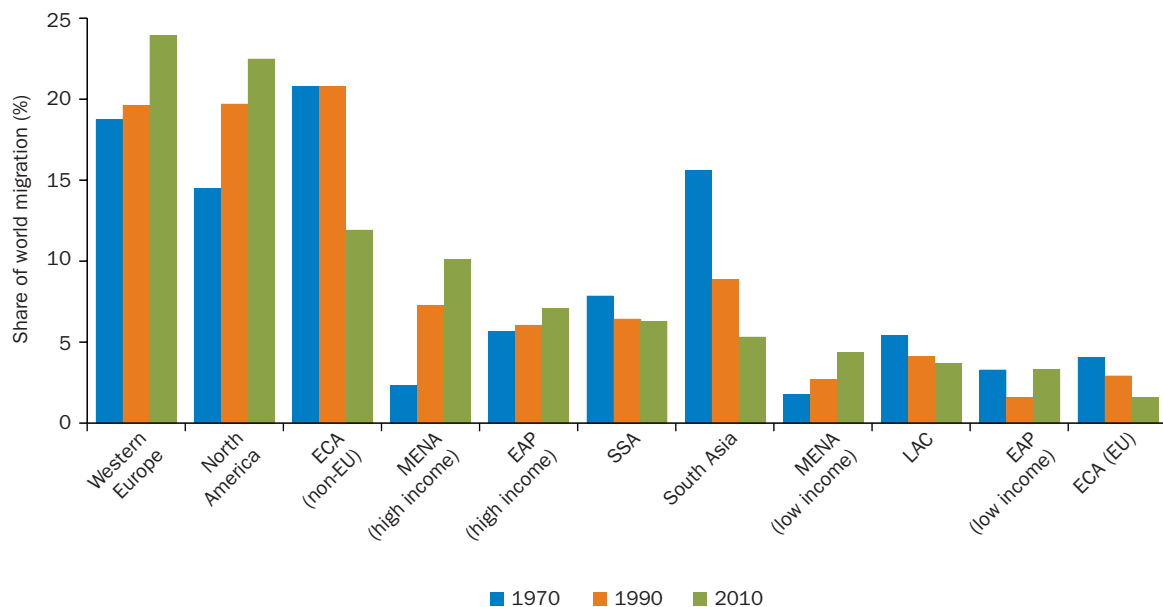
world population. To put it differently, we could fit all the world's refugees in a city roughly the size of Istanbul, Los Angeles, or Moscow.

The patterns of global migration: Concentration

The economic forces that shape global migration and refugee flows have resulted in a situation where immigrants are increasingly concentrated in a few rich destination countries. Two-thirds of the world's immigrants reside in North America, Western Europe, Eastern Europe, and high-income countries of the Middle East and North Africa (see figure O.3). The immigrant shares in most of those regions have increased rapidly since the 1970s. In contrast, East Asia, Latin America and the Caribbean, and Sub-Saharan Africa are notable for their smaller shares of global immigration, especially relative to their local populations. These regions are home to 45 percent of the global population yet host only 15 percent of global migrants.²

Figure O.3 Disproportionately large numbers of migrants move to a few rich countries

Distribution of global migration, by destination region, 1970, 1990, and 2010



Sources: Data from the World Bank Global Bilateral Migration Database (1960–2000) and the United Nations Global Migration Database (2010–15).

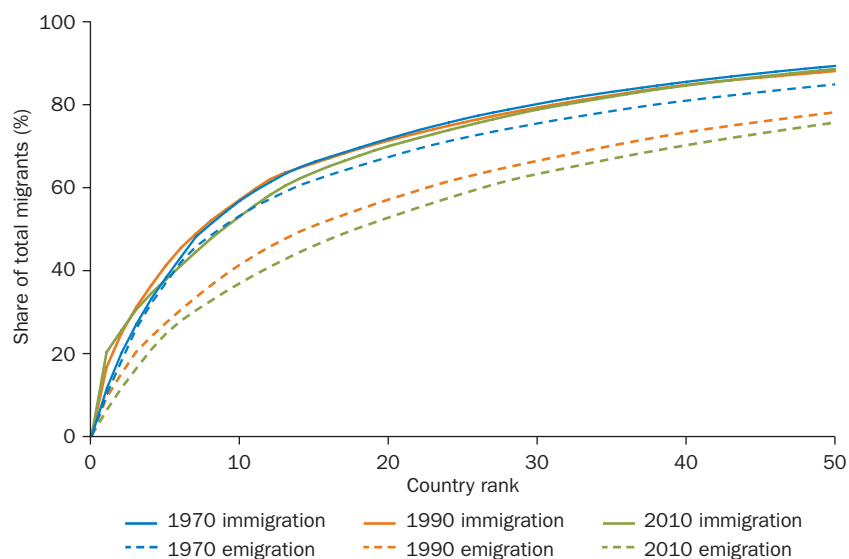
Note: EAP = East Asia and Pacific; ECA = Eastern Europe and Central Asia; EU = European Union; LAC = Latin America and the Caribbean; MENA = Middle East and North Africa; SSA = Sub-Saharan Africa.

What do these patterns imply in terms of the concentration of migration in the source and destination countries? Figure O.4 addresses this question. It presents the cumulative distribution of migrants across destination and origin countries, ranked by the size of the migrant populations. Immigration, depicted by the solid lines, is highly concentrated within the top 10 destination countries: they host about 60 percent of all immigrants in the world. The next 10 largest destination countries, ranked from 11th to 20th, have about 15 percent of the immigrants; and the ratio steadily declines. This pattern has been relatively stable over time, with immigration becoming neither more nor less concentrated from 1970 to 2010. In contrast, emigration, depicted by the dashed lines, is less concentrated and has become even more dispersed over time. By 2010, the top 10 origin countries represented less than 40 percent of total emigration, down from 55 percent in 1970.

Refugee flows are even more concentrated. In 2015, five source countries accounted for 55 percent of all refugees, and five destination countries hosted 40 percent of all refugees. Unlike economic migrants, most refugees, over 80 percent, reside in developing countries. Figure O.5 shows the distribution of

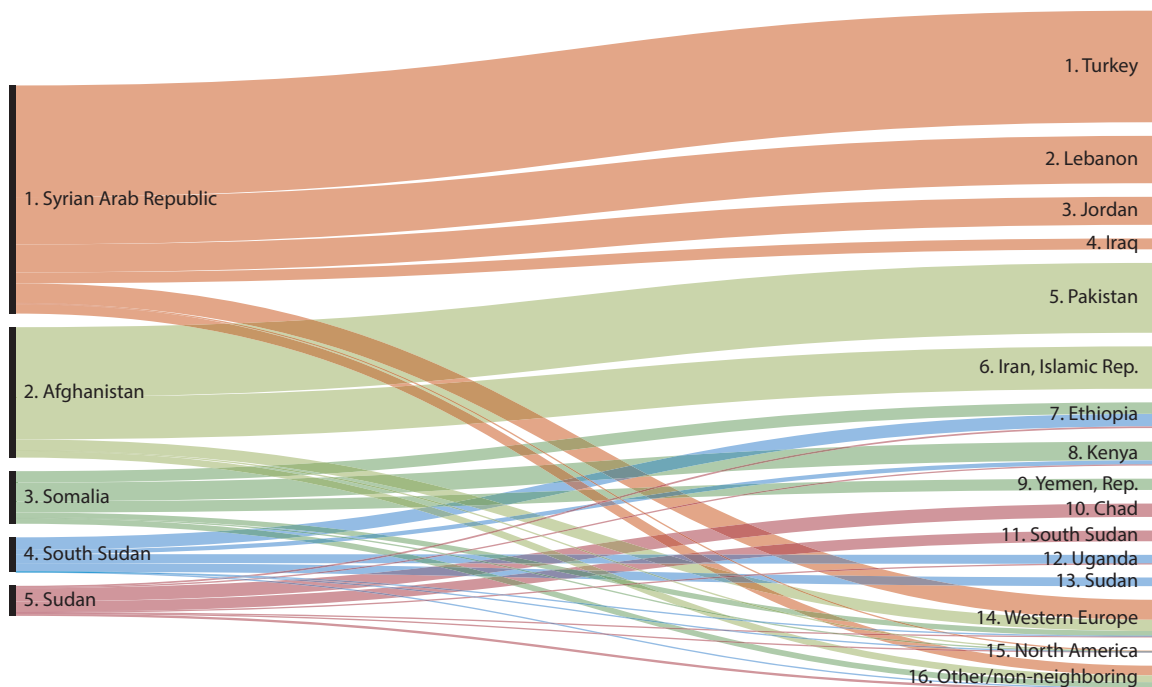
Figure O.4 Immigration has remained concentrated while emigration is becoming more dispersed

Cumulative distribution of global migration, 1970, 1990, and 2010



Sources: Data from the World Bank Global Bilateral Migration Database (1960–2000) and the United Nations Global Migration Database (2010–15).

Note: Countries in a given year are ranked by size of their corresponding emigrant or immigrant populations.

Figure 0.5 Refugee flows are more concentrated than overall migration*Destinations of refugees from major crises, 2015*

Source: Data from UNHCR Population Statistics Database. Figure made using RAWGraphs visualization platform (Mauri et al. 2017).

Note: Refugees defined as refugees (and those in refugee-like situations) and asylum seekers. UNHCR = United Nations High Commissioner for Refugees.

refugees across different destinations for the five major crises in 2015. For the cases shown, over 87 percent of all refugees and asylum seekers reside in neighboring countries, only 8 percent are in Western Europe, and less than 0.2 percent are in the United States. The result is that, although immigrants account for a large and rising fraction of the population in a small number of wealthier countries, the concentration of refugee flows results in a few poorer countries experiencing very large influxes.

This high concentration of immigration has important implications for populations and labor markets in destination countries. On one hand, concentration is exactly the outcome we expect from an economic reallocation and adjustment mechanism like immigration. When there are large wage gaps for the same type of worker in two different labor markets, we observe a large and concentrated flow until wages are equalized. In many ways, this is no different from any other economic flow across markets when sellers take advantage of price differences. This adjustment process yields the

productivity gains, wage increases, and poverty reduction discussed earlier. In other words, economic development and market forces are in alignment.

On the other hand, concentration of immigrants in certain destination countries, economic sectors, occupations, and regions as market forces rush to fulfill unmet demand is also the main cause of the economic problems and cultural anxieties of local populations. This is especially the case for those domestic populations who have easily substitutable skills and occupations: they must compete in the labor market with the newly arriving immigrants. The challenge is how to address the adjustment and transition problems caused by this concentration.

The determinants of migration

People move for myriad reasons. In this section, we consider the main benefits and costs of mobility and the role of policy.

Wage gains

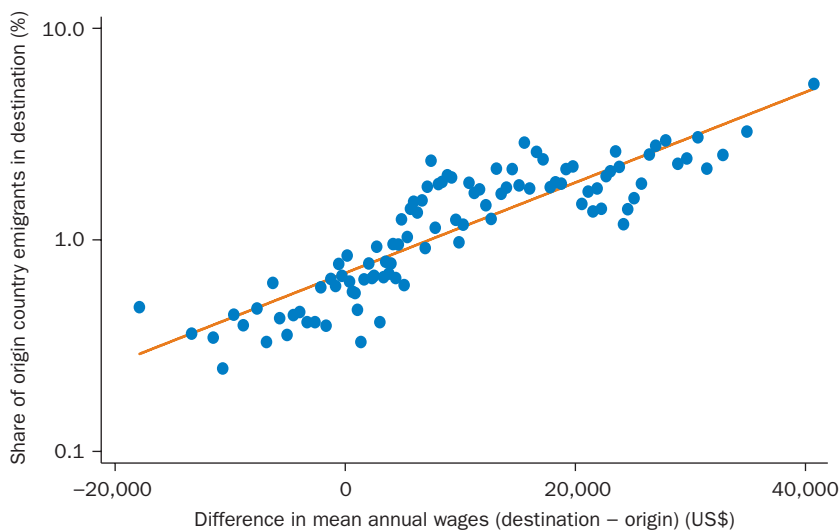
Every migrant and every refugee has a unique story, but the common theme is the desire for a better life. For economically motivated migrants, this desire is often realized through better employment opportunities and higher wages. Many migrants, such as refugees or low-skilled economic migrants, might make their choices under severely constrained conditions and limited options, taking considerable personal and financial risks. Yet the evidence indicates that the same basic economic principles underlie the decisions of migrants from a wide array of countries, opportunities, and economic, social, and educational backgrounds.

The most important labor market determinants of migration flows are wage differences between destination and source locations. Empirical evidence unequivocally shows that people tend to move from low-wage to high-wage locations. Figure O.6 plots the wage difference between origin and destination countries against the fraction of emigrants moving from each source country to each destination country. The slope in the graph implies that an emigrant is 10 percent more likely to choose a possible destination country if the mean annual wages are \$2,000 higher in that country than in other possible destinations.

Observed patterns and labor market outcomes give more precise measures of the potential wage gains of moving to higher-income destinations.

Figure 0.6 Wage differences drive bilateral migration

Differences in wages and migration shares between source and destination countries, 2010



Sources: Data from the 2010/2011 OECD Database on Immigrants in OECD and Non-OECD Countries (DIOC-E) and World Bank International Income Distribution Data (I2D2).

Note: Figure plots the residuals from regressions of the x- and y-axis variables on a set of controls. Controls include origin fixed effects, (log) distance, contiguity, linguistic similarity, and (log) destination population. Dots represent averages over 100 equally sized bins. Sample restricted to all migration corridors with migrant stocks greater than 1,000 with available data. OECD = Organisation for Economic Co-operation and Development.

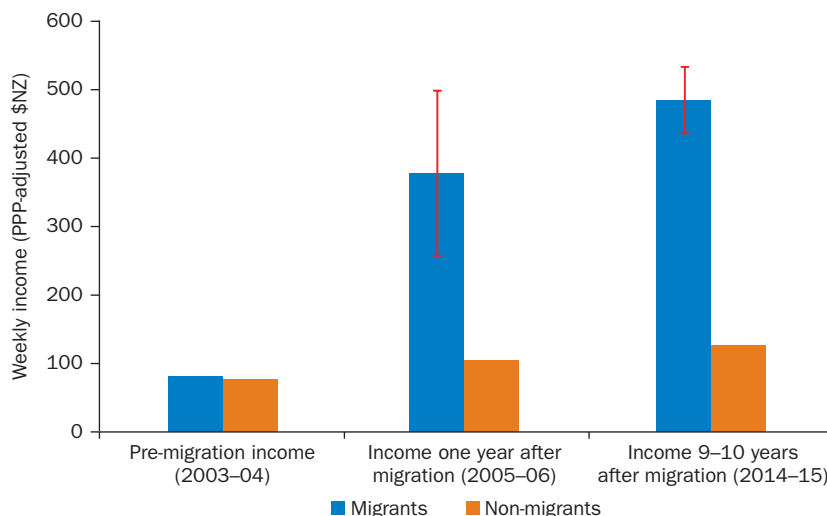
The preceding discussion gives the wage gains possible when an *average* migrant moves from an origin country and earns the *average* wage in a destination country. A New Zealand visa lottery program, which uses a random ballot to choose among applicants from Tonga, provides some of the clearest evidence on the *actual* economic returns realized when migrants move to a higher-income country. In the first year after winning the lottery and moving to New Zealand, Tongan migrants earn nearly 300 percent more than non-migrants not selected in the lottery (see figure O.7). Importantly, these gains are permanent and persist almost 10 years later. In short, returns to migration are enormous for migrants, regardless of how they are measured.

Distance

When making their migration decisions, people weigh the gains of migration against the costs. This is no different than other critical and

Figure 0.7 Wage gains of Tongan migrants to New Zealand are large and permanent

Wage gains due to migration: Quasi-experimental evidence



Sources: One-year results from McKenzie, Stillman, and Gibson 2010; long-term results from Gibson et al. 2018. Impacts shown are local average treatment effect estimates for impact of migrating; 95 percent confidence intervals shown for treatment effects.

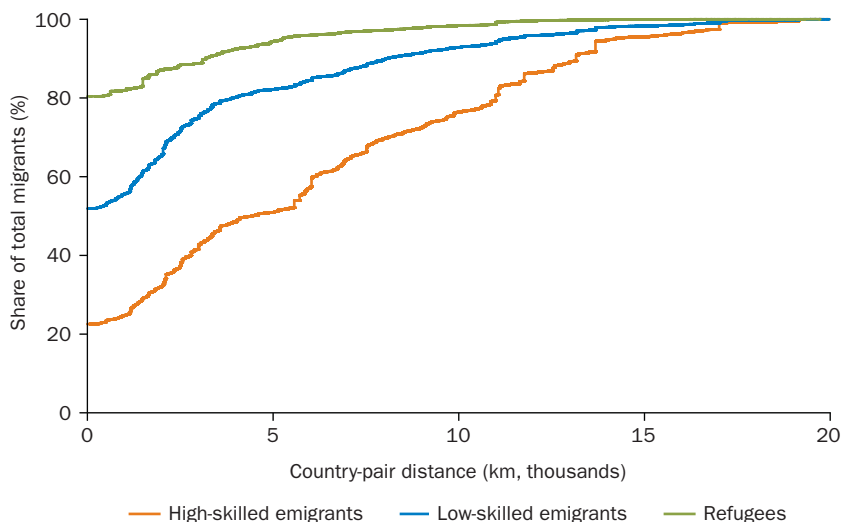
Note: PPP = purchasing power parity.

life-altering choices that people face regarding their education, careers, families, or investments. They respond to migration’s economic benefits—generally revealed through the labor markets in the form of current and future wages—and costs arising from geographic distances, linguistic differences, and cultural divergences.

The most important costs faced by migrants are the monetary, social, and psychological costs of moving, settling, and adapting to a new location with different economic and cultural characteristics. Actual physical distances are powerful deterrents of mobility. Most low-skilled migrants, people with typically limited resources to finance their move, migrate to neighboring countries or to those countries within the same geographic region. And refugees move to the nearest country that will accept them, which, in most cases, is a neighboring country. Figure O.8 shows the cumulative distribution of refugees and low- and high-skilled migrants by distance (where the distance of zero indicates migration to a neighboring country). As we see from the graph, slightly over half of low-skilled migrants and over 80 percent of refugees move to a neighboring country.

Figure 0.8 Most migrants travel to neighboring countries, but the high-skilled travel farther

Cumulative distribution of world migration, by distance, 2000



Sources: Figure uses year 2000 migrant stocks from the World Bank Global Bilateral Migration Database (1960–2000) and 2015 refugee stocks from UNHCR Population Statistics Database. Distance and contiguity data derived from the CEPII GeoDist database.

Note: Distance is defined as distance between two most populous cities, and contiguous countries are treated as zero distance. The cumulative distribution function plots the share of all international migrants who reside in a country less than or equal to a given distance from their home country. UNHCR = United Nations High Commissioner for Refugees.

In contrast, high-skilled economic migrants travel much farther than either group, with a median travel distance of 6,000 kilometers.

Migration policies

Every country has the legal right to control who crosses its borders, enters its labor markets, has access to the social benefits offered by the state, and enjoys its legal privileges. When migrants enter a country or a labor market, in addition to embarking on a new life for themselves, they affect the lives of the citizens in numerous ways, some of which are positive and others negative. Government migration policies aim to manage these effects while adhering to certain moral and legal principles. This attempt at balance creates some of the sharpest conflicts at the heart of the debates on destination countries' immigration policies: What policies should be implemented according to the social, economic, and political objectives of the government? How will these policies affect immigration patterns in terms of their

composition and size? And which groups within the country will benefit and which ones will be hurt by these policies? Which moral or legal principles should these policies uphold?

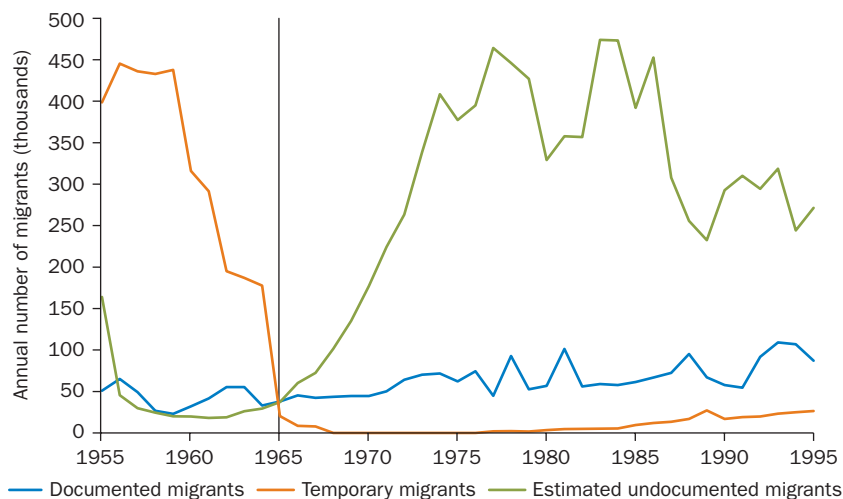
A fundamental challenge for immigration policy is that labor markets, mainly through wage differentials across countries, create powerful push and pull forces leading to large-scale demand for migrant labor in many sectors and regions. In most instances, policies are unable to completely withstand the pressure from the economic forces. The result is migration tides, entry of large numbers of undocumented migrants, distorted labor market outcomes, and eventual political conflicts and cultural clashes. Unsurprisingly, these are among the most prominent problems that currently dominate the migration policy debate across the world.

Undocumented or unauthorized immigration is the foremost unintended consequence of governments' legal attempts to control immigration flows. For example, about half of Mexican immigrants in the United States are unauthorized immigrants who entered illegally or overstayed their legal visas. In order to identify effective policies to counter such massive flows, we need to understand how they come into existence. Undocumented Mexican migration to the United States started with a policy decision to end the Bracero Program. Operating from 1942 to 1965, the Bracero Program was an important legal framework for the circular migration of temporary agricultural workers. The program was ended because of various political factors, but the impact, as illustrated in figure O.9, was not exactly what the policy makers intended. Almost immediately afterward, the number of temporary migrants decreased and the number of undocumented migrants skyrocketed. The gap between the demand for unskilled Mexican workers and their supply, as reflected through the wage gaps, was simply too large to sustain in a market economy. Although the legal channel was blocked, market forces prevailed, and undocumented migrants poured in to meet the demand.

In response to the massive inflow after 1965, the U.S. government pursued both external border enforcement and internal labor market controls to discourage illegal immigration. However, there are important limitations to the efficacy of enforcement in deterring unauthorized immigration. First, about one-third of unauthorized immigrants in the United States cross the border legally and then overstay their visas. Second, border enforcement discourages temporary or circular migration and, instead, encourages permanent undocumented migration. Third, enforcement typically does little to reduce the demand for immigrant labor—for example, in construction or agriculture—thereby leaving the main pull factors for immigration intact.

Figure 0.9 Restrictions on legal temporary immigration led to an increase in illegal immigration from Mexico to the United States

Mexican migration to the United States, 1955–95



Source: Massey and Pren 2012. Reproduced with permission; further permission required for reuse.

Note: The vertical line (1965) represents the termination of the Bracero Program, which provided a legal framework for the circular migration of temporary agricultural workers.

The difficulty of restricting migration in the presence of large wage differentials, especially between neighboring countries, brings us to our first policy conclusion. It is hard, almost impossible, for governments to implement policies that prevail against such market forces. Instead, *immigration policies should be designed with markets in mind.*

An example of a significant market-oriented policy reform involves temporary migration schemes. When an obvious market demand exists, governments should consider allowing legal, temporary, and sufficiently large programs to meet those shortages—in sectors like agriculture, construction, and tourism, where seasonal and short-term jobs are the norm. *Temporary migration programs for temporary jobs*—by divorcing labor market needs from permanent migration—benefit migrants and native populations alike. Such programs would discourage illegal immigration, as well as permanent migration of extended families, by facilitating repeated circular migration.

That temporary migrants would seek to become permanent residents (legally or not) is a valid concern in this context. However, most people in the world prefer to live in their home country and do not actually want to settle permanently in a different country. Temporary migration policies will work as intended only in industries with low turnover costs and

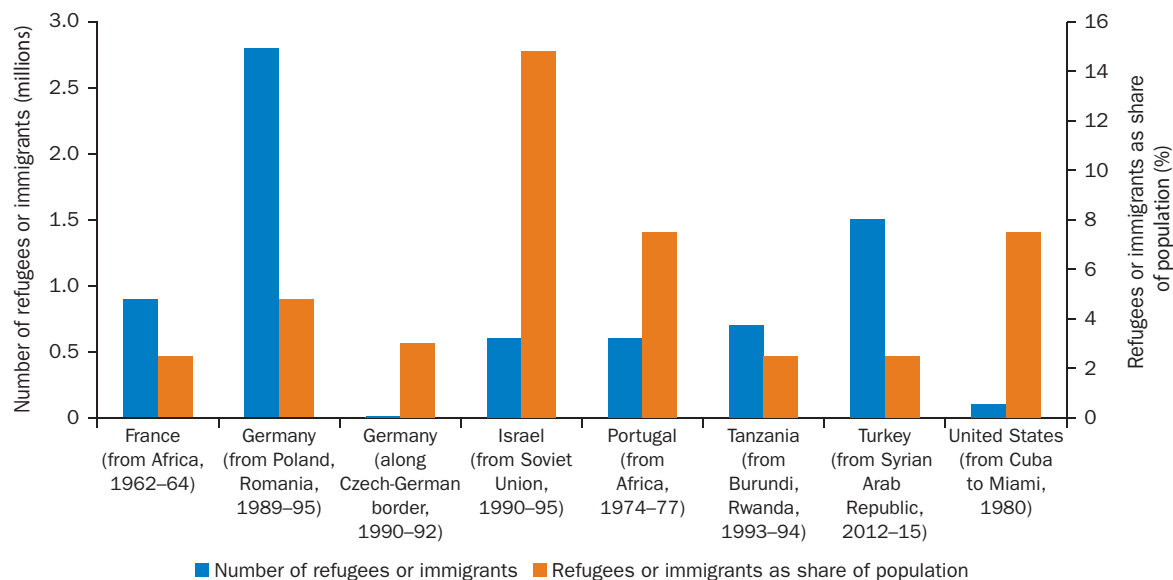
substantial seasonal fluctuations in labor demand, such as in agriculture, tourism, or construction. These policies cannot be used to address labor shortages in every industry, as discussed below.

The short-term impact of immigration: Labor markets

Immigrants are frequently blamed for many of the economic woes that countries face and are accused of displacing native-born citizens from their jobs. A large and varied literature addresses the question of whether immigration results in unemployment and lower wages in the destination labor markets. Although no clear consensus has emerged, studies that rely on sudden, relatively unanticipated, and large immigration flows provide the clearest empirical evidence. The major advantage of these studies is that the immigration shocks they document are both large and typically not driven by the availability of jobs, but rather by exogenous supply shocks or push factors. These can be natural disasters, sudden changes in the political environment (such as a crisis), or random selection of migrants through lotteries. Figure O.10 presents a few examples of such natural experiments.

Figure O.10 Episodes of sudden migrant inflows can help identify the impact of immigration

Natural experiments in immigration

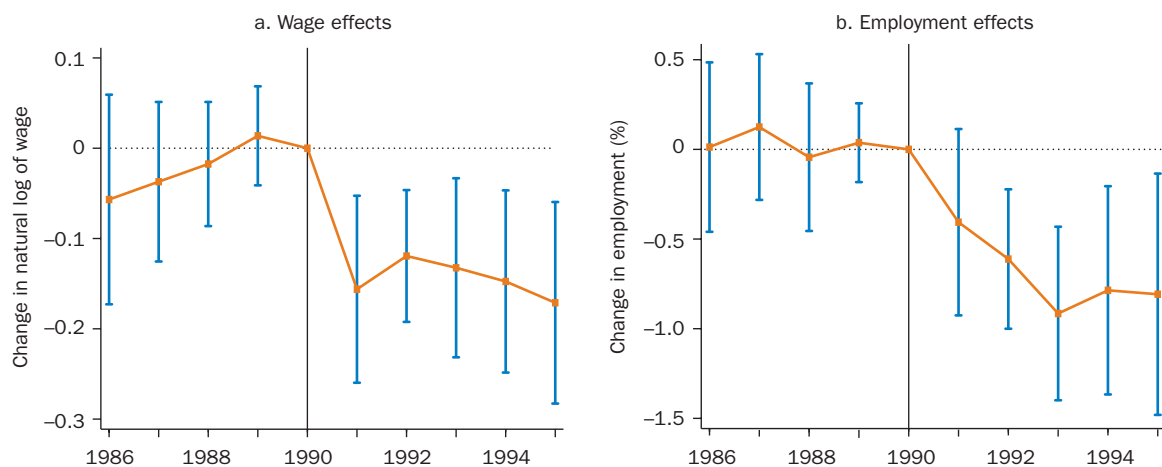


Three stylized facts emerge from these studies. First, immigration results in large displacement effects among groups of native-born citizens who most directly compete with the immigrant labor. These tend to be low-skilled and less-educated workers who are likely to be already struggling in the labor market. Second, groups of native-born citizens that do not directly compete with the immigrants frequently experience significant gains. These groups tend to *complement* the immigrants in the labor markets, and they experience productivity gains. Third, overall wage effects tend to be small compared to the employment and reallocation effects of immigration.

A valuable example is the post-1989 policy that allowed Czech workers to seek employment, but not residency rights, in eligible German border municipalities. Figure O.11 depicts the difference between wage and employment rates in treatment (migrant-receiving) and control (comparator) regions over time. By 1993, a 1 percentage point increase in the inflow of Czech workers relative to local employment had led to only about a 0.13 percent decrease in native wages, but we observe an almost one-to-one (0.93 percent) decrease in native local employment. The German workers in migrant-receiving regions simply moved to other parts of the country rather than stay and experience wage losses.

Figure O.11 The arrival of Czech workers in Germany led to low wage but large employment effects as locals relocated to other regions

Wage and employment effects of Czech commuters in Germany, 1986–95



Sources: Dustmann, Schönberg, and Stuhler 2017, figure 4. Reproduced with permission; further permission required for reuse. Data from German social security records, 1986–96.

Note: The vertical black lines represent the implementation of the policy in 1990 that allowed Czech workers in Germany. The blue lines are the confidence intervals.

The fact that many of these studies frequently find large displacement effects provides some contrast with much of the literature analyzing voluntary (and gradual) immigration flows. Most of the literature on economic immigration relies on the insight that immigrants change the relative abundance of different skill groups in the economy. An influential strand of this literature considers a whole country as the unit of analysis where immigrants and native-born workers are categorized into different skill groups. The actual supply of workers in a particular skill or education group is compared to the supply that would have prevailed in the absence of immigration. Then the implied change in wages of native-born workers is simulated using estimates of the degree of substitutability between types of workers.

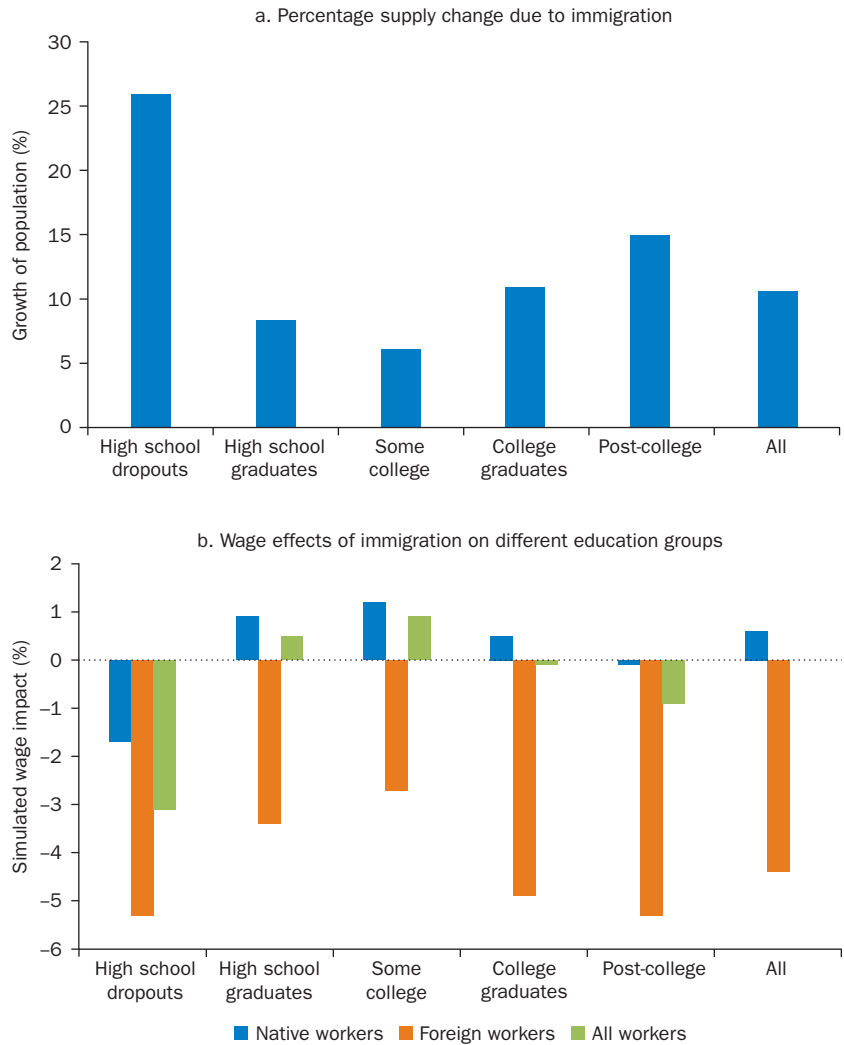
Figure O.12, taken from a 2017 National Academies of Sciences, Engineering, and Medicine report, summarizes the findings of this approach for the United States. It considers the impact of the change in labor supply due to immigration (panel a) and the overall impact of this change on native workers and existing migrants (panel b). The first panel describes the percentage labor supply increase for each education group due to immigration over the period 1990–2010. The economic analysis allows for some degree of imperfect substitutability between immigrants and native workers in the same education group.

Several features of these results are worth highlighting. First, the *average* impact of immigration across *all* workers (native-born workers and already present immigrants) is negligible.³ Second, when immigrant and native-born workers are *imperfect* substitutes, new immigration flows decrease wages of existing immigrants without exception because they are the closest substitutes to the newly arriving migrants. On the basis of these two observations, on average, wages of native-born workers increase, although only by 0.5 percent. Finally, none of the simulated wage impacts are particularly large. This is primarily because the characteristics of immigrants and natives are not sufficiently dissimilar to result in large relative wage effects, especially in the long run, when other relocation and adjustment mechanisms take place.

How do we reconcile evidence of small wage effects with that of large displacement effects of immigration? The evidence from natural experiments with large labor supply shocks finds substantial dislocation and large-scale native adjustments to an inflow of immigrants. The evidence also suggests that natives' reallocation to other occupations, sectors, or geographic areas as a response to immigrant flows is, in practice,

Figure 0.12 Immigration has a small impact on overall wages but lowers the wages of those with similar skills

Simulated wage impacts of 1990–2010 immigrant supply shock in the United States



Source: National Academies of Sciences, Engineering, and Medicine 2017, table 5-1. Reproduced with permission; further permission required for reuse.

Note: Results from simulations using nested, constant elasticity of substitution framework, set $\sigma_E = 5.0$, using a Cobb-Douglas aggregate production function with $\sigma_{KL} = 1.0$. The simulations assume that the supply of capital adjusts perfectly to accommodate the arrival of immigrants. In the extreme case where there is no adjustment of capital, all the estimates in the graph should be reduced by 3.2 percentage points.

sufficiently large so that the average wages change only a little. The literature on long-term voluntary migration flows tends to focus on those wage effects and concludes that immigration has little—positive or negative—wage impact for a substantial majority of natives. However, even if relative wage effects are small, the dislocation experienced by some groups of workers (or the fear of such dislocation) because of immigration can explain much of the resentment that many natives exhibit toward immigrants.

Addressing short-term costs: Assistance and adjustment policies

As we saw earlier, in most cases, native workers who most directly compete with immigrant labor locate to other sectors or geographic regions, and the overall wage effects of immigration are small. Concentration of immigration and the resulting dislocation of native-born workers can be large and involve substantial costs. These observations lead us to our next policy recommendation: *policy makers should attempt to aid native-born workers in their adjustment and relocation processes.* The natural question is how to design such policies that help with mostly transitory but potentially disruptive costs. The task is daunting. The existing evidence on similar adjustment assistance mechanisms—aiming to compensate for dislocation due to international trade or technological change—is not encouraging. Yet the current policy of benign neglect is clearly not working either.

The evidence clearly shows that immigration has unequal effects. It benefits many native-born workers as their productivity increases with the arrival of complementary foreign workers. These workers who benefit from immigration tend to be in the high-skilled occupations where the skill complementarities and knowledge spillovers are prevalent. Dislocation and reallocation are, in contrast, especially costly for the less-educated native-born workers who are already more vulnerable to negative economic shocks. Assistance programs can involve retraining programs that would provide more relevant skills. Furthermore, existing education systems for young people need to be modified so native-born youth do not compete with the lower-skilled immigrants who are willing

to accept significantly lower wages and more demanding work conditions.

A second component of adjustment policies can be relocation assistance for native-born workers, whether these workers are changing occupations, cities, or sectors of employment. Transitory welfare benefits and unemployment insurance payments are possible components of such assistance programs. However, such programs present many difficulties, such as proper identification of the impacted groups, the extent of the impact, or the ideal duration of the assistance. One option is a minimum income scheme, along the lines implemented by some European countries such as Denmark.

Helping the losers by taxing the winners ...

Once the issue becomes adjustment assistance to those who are affected by immigration, we are immediately confronted with the question of financing. The natural answer is that the beneficiaries of immigration should, at least partially, be responsible for the cost. Currently, legal immigration is practically regulated using quotas, that is, restrictions on the number of immigrants of a certain education/occupation/sector category allowed to enter and work in a country. The imposition of quotas by the destination country government causes, as in international trade, several specific problems. First, bureaucrats, instead of employers or markets, make the assessment of how many immigrants should be allowed to enter the labor market. Generally, little evidence exists about what type of immigration—by skill, occupation, sector, or experience—most benefits a destination country, especially in the long run. And the needs of the labor market change over time. Second, as is well documented in the literature, quota-based systems are subject to rent-seeking and corruption as firms try to sway government officials to issue quota permits to themselves or to their industries. Finally, and this speaks to the issue of finance, quotas do not generate revenue for the government. Instead, they benefit only those firms (that is, the quota permit holders) lucky enough to hire an immigrant by, for example, obtaining an employment visa, or the intermediary firm who does the recruitment. A possible solution, and our next policy recommendation, is that *governments should start to replace quota regimes with tax regimes to regulate immigration flows*. This might take the form of an additional income tax,

a visa fee, or even a visa auction system as proposed by many prominent economists going back to Gary Becker.

Very little is known about the impacts of a visa tax or fee on immigration size or composition. A few countries, such as Singapore and Malaysia, impose levies on immigrants; however, to our knowledge, none of these policies has been rigorously assessed. Nevertheless, given the obvious defects of the existing quota-based policy regimes, the imposition of taxes, fees, or levies instead of quota restrictions has many obvious benefits. Firms will be able to employ the workers they want and provide the government with revenue to aid those who are struggling economically from immigration. Employers will also be able to more rapidly respond to economic fluctuations and hire extra workers right away when needed. In a quota regime, firms cannot expand production quickly even if they are willing to pay for the workers' employment permits. Governments will be able to adjust fees more quickly to respond to changes in the labor markets; quotas seem to be much more inflexible and set for decades at a time. The fee-based regimes may also reduce the hostility to immigrants, who would provide the needed "tax" revenue and could no longer be said to "have a free ride" after they come. A considerable transition period is required as governments learn how to replace quotas with taxes on immigrants. The global trade regime gradually replaced quotas with tariffs, and the same is certainly worth trying in the immigration policy space.

... and by accepting refugees in more countries

Concentration and its impact are more evident in the case of refugees. Most economic migration flows are sufficiently gradual that immigrants can be absorbed into the economy of the host country. Negatively impacted native-born workers tend to adjust by relocating to other sectors or regions. This type of adjustment is, however, often not the case during refugee crises, which typically involve the influx of large numbers of desperate people, in a very short time, into an already poor host country. Since the start of the Syrian refugee crisis in 2013, for example, Jordan and Lebanon have experienced an inflow of refugees equal to 7 percent and 18 percent, respectively, of their populations. In such circumstances, it is unrealistic to expect humanitarian aid to effectively mitigate the economic—as well as the social, cultural, and political—shock of experiencing such a massive influx. Mitigating such shocks is especially important because these

destinations are generally other developing countries already suffering from numerous economic problems. In these emergency situations, one of the few viable solutions is to spread the burden of the refugee crisis across the globe.

The number of refugees worldwide is small compared to the world's population or even relative to the world's total migrant population. What turns refugee flows into long-term crises is that both refugee source and destination countries are mostly low- or middle-income developing countries with limited resources. And crises erupt suddenly, requiring prompt action to prevent escalation and suffering. If implemented properly, an active, large-scale refugee settlement policy and coordinated financial assistance would make the impact more easily manageable in host countries, both in the developed and the developing world.

The long-term impact: Immigrant integration and assimilation

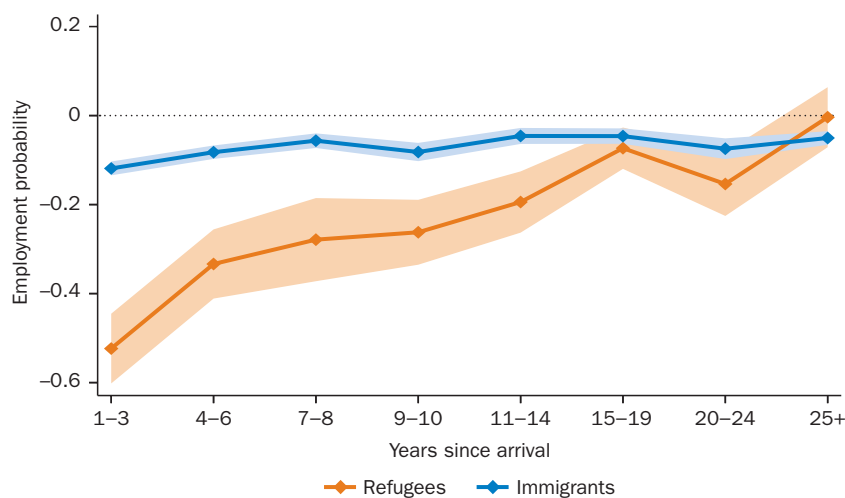
The discussion so far has focused on the relative wage and employment impact of immigration on labor markets and possible policy responses. These tend to be mostly static issues. Now we turn to the long-term dynamic issues.

Crucial to understanding the longer-term consequences of immigration is the question of how well immigrants assimilate in their host country. Not all immigration can be temporary; permanent jobs require permanent immigrants. This is especially the case where the job requires training, firm- or location-specific human capital investments, or long-term social and professional relationships. Migrants will need to master the language, customs, and professional and educational requirements in the destination country. The eventual success and overall contributions of immigrants, low- and high-skilled alike, depend on the degree to which they and their employers invest in such location-specific skills and human capital.

At the time of their arrival, immigrants and refugees are, on average, at a severe economic disadvantage, as measured by employment, wages, and occupational quality, compared to natives. Subsequently, immigrants assimilate and catch up with natives in terms of wages and employment. Figures O.13 and O.14 illustrate the pace of assimilation—figure O.13 for employment in the European Union (EU) and figure O.14 for wages in the

Figure 0.13 Refugees start with a bigger disadvantage than economic immigrants, but both groups catch up

Employment assimilation of refugees and immigrants in the European Union



Source: Dustmann et al. 2016 based on 2008 European Union Labour Force Survey data. Reproduced with permission; further permission required for reuse.

Note: The figure displays gaps (together with 90 percent confidence intervals) in the employment probabilities of economic immigrants versus natives, and refugees versus natives, by years since arrival obtained from linear probability models that condition on gender, age (dummy variables for five-year age groups), education (dummy variables for lower-secondary and tertiary education), and host country fixed effects. The sample includes individuals ages 25-64 who are not in full-time education or military service.

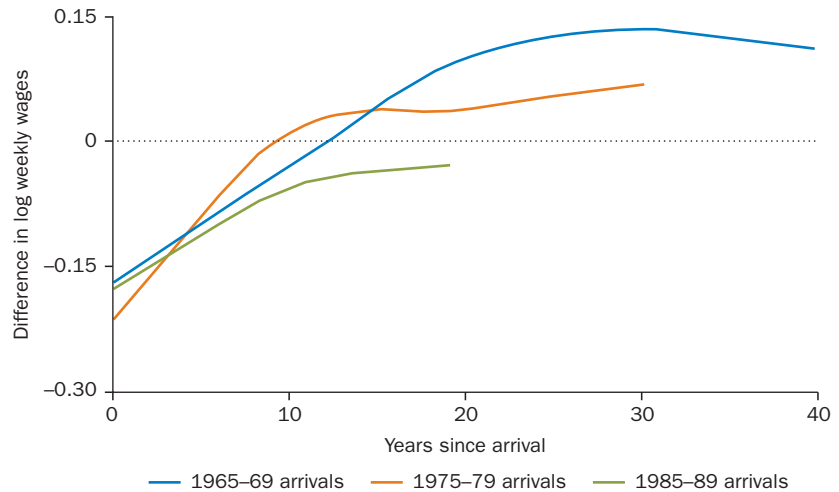
United States—by years since arrival. In the EU refugees start with much lower initial employment rates than economic immigrants but subsequently experience much more rapid increases. In the United States, the rate of immigrant wage assimilation is positive but has slowed for more recent immigrant cohorts.

A pathway to permanence can facilitate economic integration

The process of integration and labor market assimilation can be costly and daunting to new immigrants. Adapting to a new work environment, creating a new social and cultural life, and overcoming linguistic barriers take time, effort, and financial resources. Integration requires that immigrants make culture-, employment-, and location-specific human capital investments. This process includes, but is not limited to, language acquisition, technical training, and cultural integration. Crucially, these

Figure 0.14 Immigrant wages converge to native wages, but at a slower rate for recent cohorts

Wage assimilation of immigrants in the United States



Source: Created using data from table 3-12 in National Academies of Sciences, Engineering, and Medicine 2017 for U.S. wage gaps.

Note: The figure shows U.S. wage gaps as a result of a regression of (log) wages on age (cubic), education, and years since migration, which were binned into groups (0–4, 10–14, 20–24, 30–34, and 40–44 years). Sample is of men, ages 25–64, using U.S. Decennial Census Public Use Microdata Series, 1970, 1980, 1990, 2000, and ACS (American Community Survey) Public Use Microdata Series, 2010–12.

investments depend on the duration of the stay that an immigrant intends in a host country. If immigrants intend to stay only a short time, then they may be reluctant to devote effort and other resources to host country-specific investments. For example, in many European countries, 50 percent of an arrival cohort leave the destination country within 10 years.

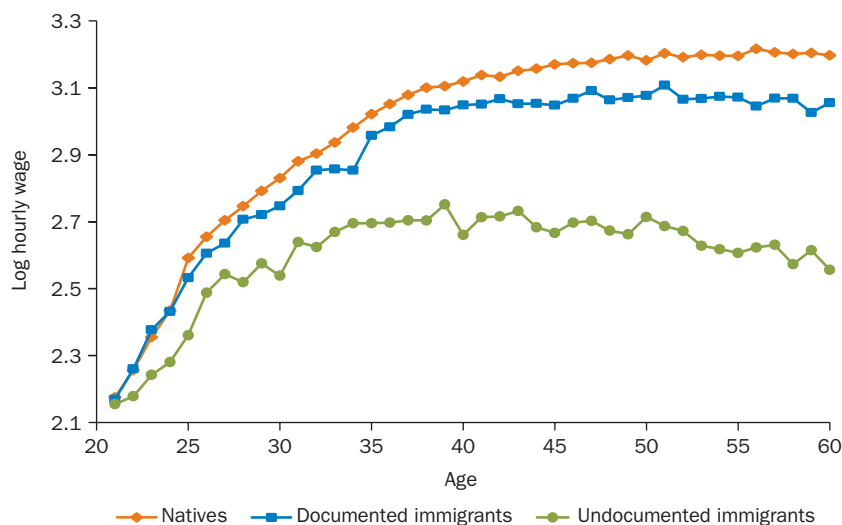
Certain destination countries actively discourage integration by providing no pathway to permanence. The motivation is that nonassimilated migrants are more likely to leave once their employment is concluded. However, many of these policies may end up harming the destination countries socially, culturally, and economically. Migrant workers never become fully proficient in their occupations because they remain uncertain about how long they will stay. Culturally and economically insulated immigrant communities, especially their youth, end up posing larger costs in the long run. These issues become especially problematic for immigrants with jobs that require longer-term commitment and specific investments by workers or their employers. The policy implication is that *countries should consider creating a clear path to permanent residency or even citizenship for migrants who obtain such permanent jobs.*

Together with their families, immigrants should have legally secure and protected residency and employment rights. Uncertainty leads to inefficiency and to even greater long-term costs for both the migrants and their employers in the destination countries.

Residency and employment security are especially important for high-skilled workers because their employment-specific investments tend to be very high. Fully aware of this, many destination countries give privileged legal status and priority to high-skilled immigrants. In contrast, low-skilled or undocumented immigrants face some of the greatest barriers to assimilation and integration. Undocumented immigrants and, in many countries, refugees are barred from participating in the formal labor market and enjoy only limited access to public benefits, such as education and health care. Their severely constrained ability to integrate in the host country and the risk of deportation further discourage their investment in host country-specific cultural and social capital. Figure O.15 depicts age-earnings profiles for native-born workers and for legal and undocumented immigrants in the United States. Strikingly, undocumented immigrants experience nearly no wage growth after age thirty, whereas native workers and documented immigrants experience earnings growth well into their forties.

Figure O.15 Wages of undocumented migrants stop increasing at a much younger age

Age-earnings profiles of natives and of immigrants, by legal status



Source: Borjas 2017.

A particularly unfortunate situation is faced by almost half of the world's refugees who find themselves in a country that does not issue work permits to them. Denying the right to work can be detrimental to refugees' welfare and to the host country. As the refugees are absorbed exclusively into informal labor markets, they compete with and harm many of the most economically vulnerable native-born workers. Low-skilled workers, especially women, are most likely to be informally employed and, thus, experience the brunt of the labor market displacement and wage declines due to refugee inflows. The inability to work formally places an additional burden on public finances because of the lost tax revenue or higher welfare benefits that need to be provided to the unemployed native-born workers. Hence, *destination countries should consider granting work permits to allow gradual entry into their labor markets.* Issuing work permits is a politically sensitive topic in most destination countries, but it should be a part of the dialogue. Appropriate labor market insertion policies for the refugees, in short, help the most economically vulnerable natives, the refugees, and the public finances of the host country. And this suggestion is fully consistent with our earlier point that *governments should not fight labor markets but work with them.*

High returns from investing in immigrant children

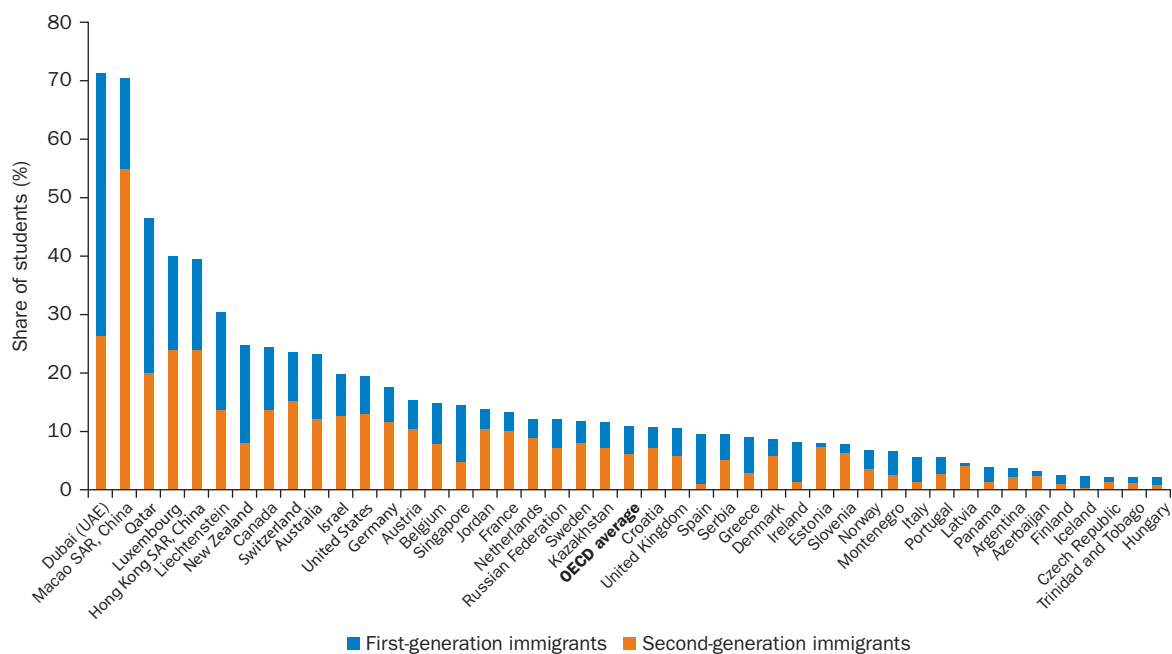
An area in which immigrant assimilation and integration is particularly important is education. Immigrant students represent a large fraction of school children in a range of countries. Figure O.16 shows the share of 15-year-old students who have an immigrant background. Across Organisation for Economic Co-operation and Development (OECD) economies, 10 percent of students are first- or second-generation immigrants. Dubai has the highest share, with 70 percent.

Both immigrant children and host communities face numerous challenges when active integration policies are not in place in schools. Immigrant children may have limited knowledge of the local language. They are often of different religion and ethnicity than native-born children, and some have parents who are themselves poorly educated. The existing evidence shows that the presence of immigrant children may lower the quality of school education, resulting in lower test scores and higher drop-out rates for both natives and migrants.

The policy implication of the existing research in the case of education is rather simple. *Governments should consider investing more heavily than they*

Figure 0.16 Immigrant children constitute a large share of the students in many economies

Share of 15-year-old students with immigrant background, 2012



Source: OECD 2012. Reproduced with permission; further permission required for reuse.

Note: OECD = Organisation for Economic Co-operation and Development; UAE = United Arab Emirates.

currently do in integrating immigrant children in schools. Additional investment in schools with many immigrant children benefits both immigrant and native-born children. Such educational investment is possibly the cheapest way to mitigate potential negative spillovers on native classmates and, of course, guarantee the future social and economic success of the immigrant children. This policy answer could be especially important in high-income countries suffering from rapid aging and shrinking labor forces. In the long term these additional investments will pay for themselves. In the short term they could possibly be financed by a tax on immigrant workers as already discussed.

High-skilled migration, agglomeration, and brain drain

Although the arrival of large numbers of undocumented or low-skilled immigrants or refugees leads to much concern in destination countries,

the exodus of high-skilled workers to high-income countries—sometimes referred to as brain drain—evokes similar emotions in source countries. This problem is especially severe in low-income countries with skill shortages.

Academic research has demonstrated that the skill composition of migration flows is as important as the overall number of migrants in determining labor market impacts in destination or source countries. But there is more to high-skilled workers and their emigration than simple wage effects, and that is why we devote a whole chapter (chapter 5) to the topic.

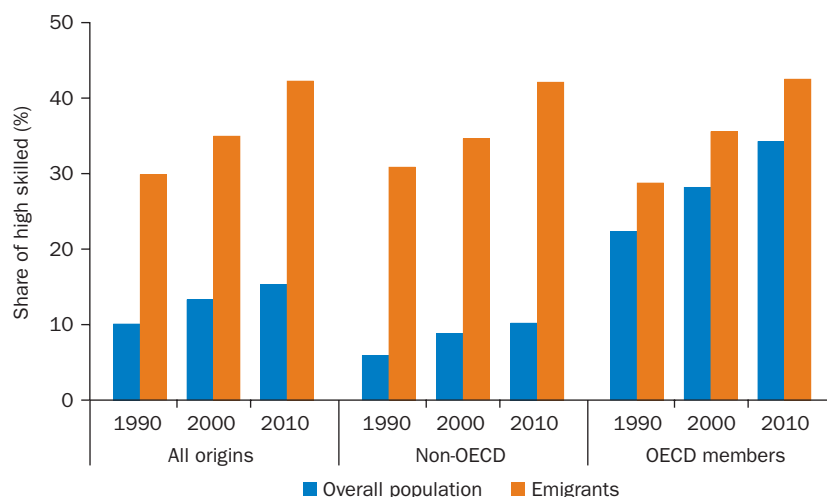
High-skilled workers play a central role in today's global economy. They are innovators, entrepreneurs, scientists, teachers, and role models for the next generations. They lead, coordinate, and manage activities of other high-skilled people in complex organizations. High-income destination countries depend on foreign talent to create and sustain many of their industries, including many that are at the forefront of knowledge creation. Low-income countries, which already suffer from human capital shortages, fear the impact of brain drain on their economic growth, public finances, and delivery of key services such as health care and education. It is not surprising that the global mobility of talent is a major policy concern entangling the gains from globalization as well as its pitfalls.

Over time, migration has become increasingly high skilled, presenting new challenges for both host and destination countries. In 1990, the first year for which we have comprehensive data, about 40 million labor-market-age (above age 25) migrants resided in the 27 high-income OECD countries. Migrants with a primary education made up almost half of the total stock, and those with tertiary education accounted for about 27 percent. In 2010, labor-market-age migrants numbered over 85 million, with tertiary-educated migrants accounting for about 43 million—close to 50 percent of the total.

The rapid increase in high-skilled immigration is due to the increase in both the supply of tertiary-educated workers across the world and the demand in OECD countries. Figure O.17 presents the shares of the tertiary educated in the labor forces (blue bars) in OECD and non-OECD countries since 1990. The orange bars show the share of tertiary educated among the emigrants from the same regions to the OECD countries over the same time periods. The patterns in this figure lead to several observations. First, the share of tertiary educated among all emigrants moving to OECD countries has been nearly triple that of the education level of the underlying labor forces in each decade. High-skilled workers are simply far

Figure 0.17 Migrants and labor forces became more educated across the world

Share of the high skilled among emigrants and labor forces, 1990–2010



Sources: Migration data for 1990 and 2000 from Docquier, Marfouk, and Lowell 2007; data for 2000 and 2010 from the OECD Database on Immigrants in OECD and Non-OECD Countries (DIOC-E) for 2000/2001 and 2010/2011. Skilled population data from Barro and Lee 2013.

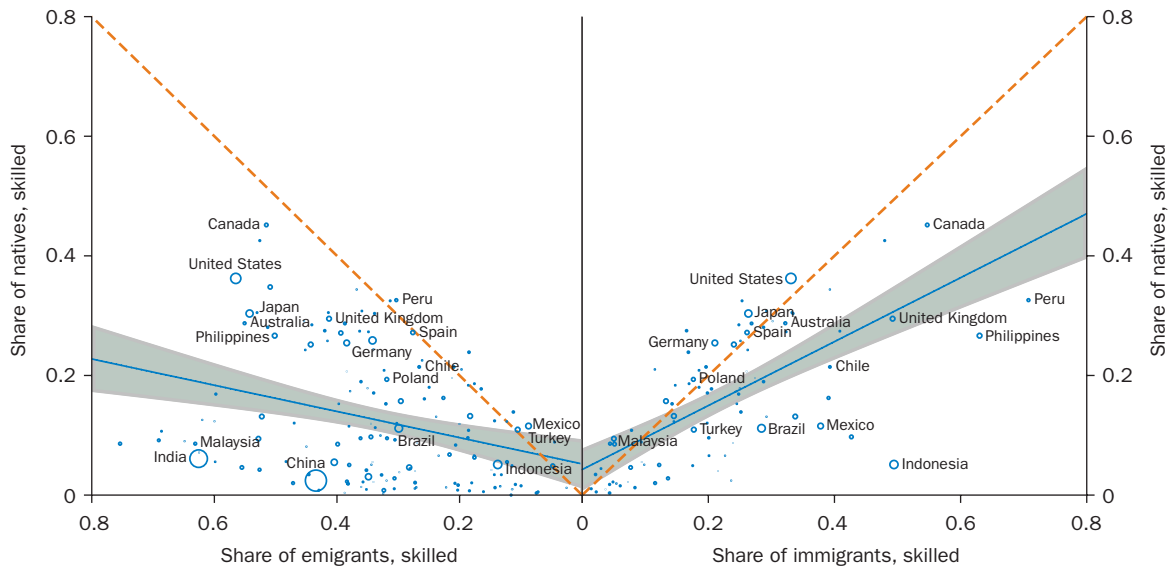
Note: “High skilled” includes those with partially completed tertiary education. Figure shows immigrants to 27 high-income Organisation for Economic Co-operation and Development (OECD) destination countries. Mexico and South Africa are treated as non-OECD origin countries.

more mobile, as shown earlier. Second, the massive increase in high-skilled immigration is driven primarily by the increase in the number of the high skilled in the world population. Since 1990, the share of the high skilled increased more than 60 percent in non-OECD countries. Third, quite remarkably, both OECD and non-OECD origin countries send similar shares of high-skilled migrants to OECD destination countries—over 40 percent as of 2010—despite the fact that the share of tertiary-educated individuals is three to four times higher in OECD countries. Still, it is the non-OECD countries that experience particularly high rates of high-skilled emigration.

The rapid increase in the share of high-skilled migrants, the skill selection, presents itself at the country level as well. Figure O.18 plots the share of the tertiary educated among immigrants, emigrants, and native-born populations for 2010, the latest year of data. The horizontal axis of the left and right panels presents the emigrant and immigrant skill rates, respectively.

Figure 0.18 Both emigrants and immigrants are more skilled than native-born workers in almost every origin and destination country

Education levels of emigrants, immigrants, and natives, 2010



Sources: Migration data from the 2010/2011 OECD Database on Immigrants in OECD and Non-OECD Countries (DIOC-E). Skilled population data from Barro and Lee 2013.

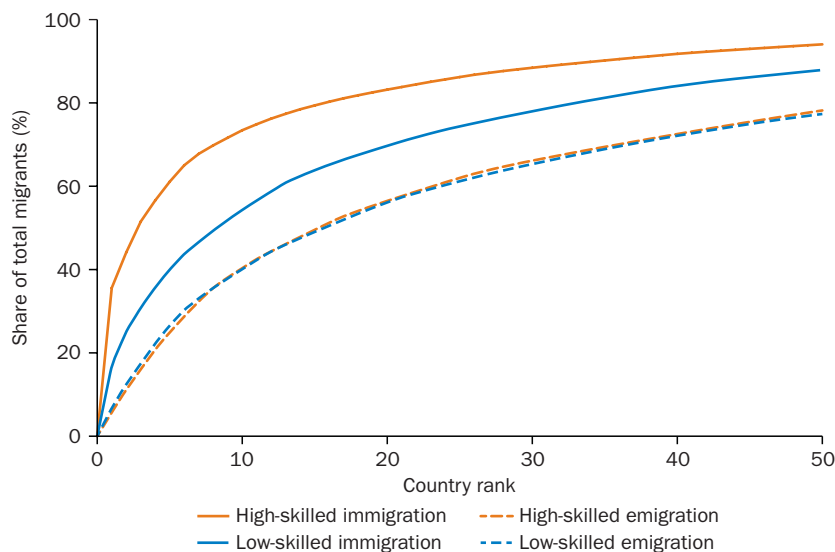
Note: “Skilled” defined as the population with completed tertiary education; shares represent the skilled population divided by the overall population of interest. For the 88 destination countries included in the DIOC-E 2010/2011 dataset, natives’ skill rates are calculated from the native-born population; for all other countries skill rates are calculated from the entire population using Barro and Lee 2013 data. Size of circles are scaled by (log) country population. In each panel, the dashed line is the 45-degree line, the blue line is the fitted regression line, and the gray area is the confidence interval around it. OECD = Organisation for Economic Co-operation and Development.

Education levels among the native born or non-migrants are on the left and right vertical axes. Observations below the dashed 45-degree line imply that emigrants (or immigrants) are more educated than the native-born workers. As can be seen, almost every country is below these lines, implying countries send and receive more educated migrants than they retain. Small and lower-income countries are especially exposed to this disproportional emigration of skilled workers. Only in the case of a number of high-income countries—including the United States—is the average immigrant slightly less skilled than the average native worker: these countries lie above the 45-degree line on the right panel.

The extent of concentration emerges even more prominently in the case of high-skilled immigrants who are concentrated in a few destination countries. Figure O.19 presents the cumulative distribution of migrants by skill level. The graph implies that the top 10 destination countries account for

Figure 0.19 High-skilled immigration is more concentrated than low-skilled immigration or emigration

Cumulative distribution of immigration and emigration, by skill level, 2000



Source: Data from the World Bank Global Bilateral Migration Database (1960–2000).

Note: Countries ranked by size of corresponding population.

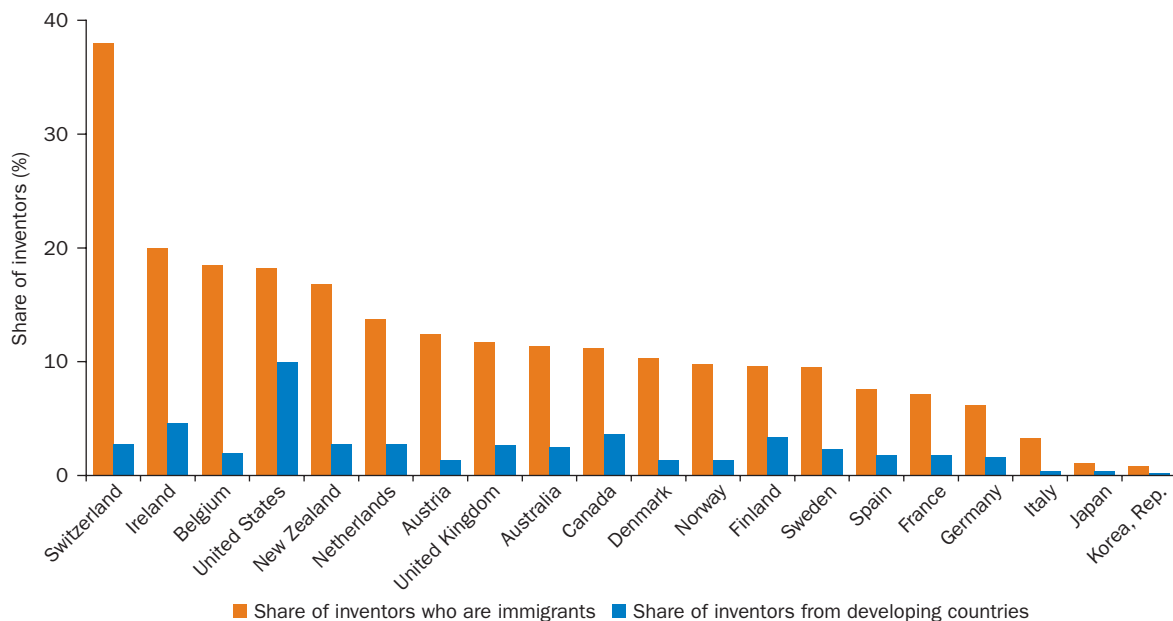
75 percent of the high-skilled immigrants in the world. Among these, four Anglo-Saxon destinations—Australia, Canada, the United Kingdom, and the United States—are home to almost two-thirds of all high-skilled migrants. No such concentration exists among source countries.

Economic factors again explain much of this variation in emigration and immigration patterns. Countries with higher returns to education and higher income levels—in other words, high-income OECD countries— attract more-skilled migrants. As an economy rewards education, the composition of immigrant inflows responds by becoming more skilled. Meanwhile, high-skilled migrants can more easily overcome physical distances, linguistic differences, and policy barriers.

Immigrants play an outsized role in contributing to key high-skilled activities. They are disproportionately employed in science, technology, engineering, and mathematics (STEM) fields, and as inventors and innovators. For example, migrants are responsible for about 10 percent of international patents filed under the Patent Cooperation Treaty. Looking across developed countries, figure O.20 shows that immigrants' share

Figure 0.20 Immigrants constitute a high share of inventors in many countries

Share of immigrants among inventors in OECD countries



Source: Miguelez 2016, figure 2. Reproduced with permission; further permission required for reuse.

Note: Immigrants are identified via patents filed under the Patent Cooperation Treaty. OECD = Organisation for Economic Co-operation and Development.

among inventors is significantly higher than the overall share of immigrants in nearly every country. Furthermore, inventors from developing countries make up a relatively high share, especially in Canada and the United States.

Policies for high-skilled immigration

Across the globe, countries are increasingly adopting more skill-selective immigration policies that can typically be divided into two broad policy regimes. On one hand, demand-driven policies require that incoming migrants first acquire a job in the destination country. Migrants' almost-immediate employment is therefore prioritized, and potential employers and current labor market conditions play a key role in determining the sectoral and occupational composition of migrants. Supply-driven policies, on the other hand, require incoming migrants to be evaluated by a points-based system. Preference is given to those who possess more desirable labor

market characteristics such as younger age, higher education, experience, occupation, and language proficiency. In these regimes, migrants generally obtain employment permits without an actual job offer. The assumption is that they will find employment after their arrival.

The trouble with supply-driven immigration schemes is that—as repeatedly emphasized in this overview—there is little evidence on what type of immigrant most benefits a host country. Personal characteristics—including motivation, creativity, entrepreneurship, and industry-specific knowledge—are difficult to observe but are essential in determining the success of a migrant in the labor market. The best indicator for the contribution of a migrant to the economy of a host country is the evaluation given by the labor market: a job offer. To repeat our previous point once more: *Governments should listen to the voice of labor markets in designing high-skilled immigration policies as well as general immigration policies. Demand- or employer-driven immigration programs, such as the U.S. H-1B, H-2A, and H-2B visas, are preferable over supply- or immigrant-driven point systems that allow for immigration without a job offer.*

The implication is not that different visa categories have no role but rather that governments should *not* try to micromanage work permits or try to guess which skills are more important. Instead, government policies should rely more on market mechanisms. If there are only a limited number of work permits available, the flexibility of an employer-driven scheme is preferable to a system based on hard-to-determine desirable immigrant characteristics. This is true for both high-skilled and low-skilled immigration schemes.

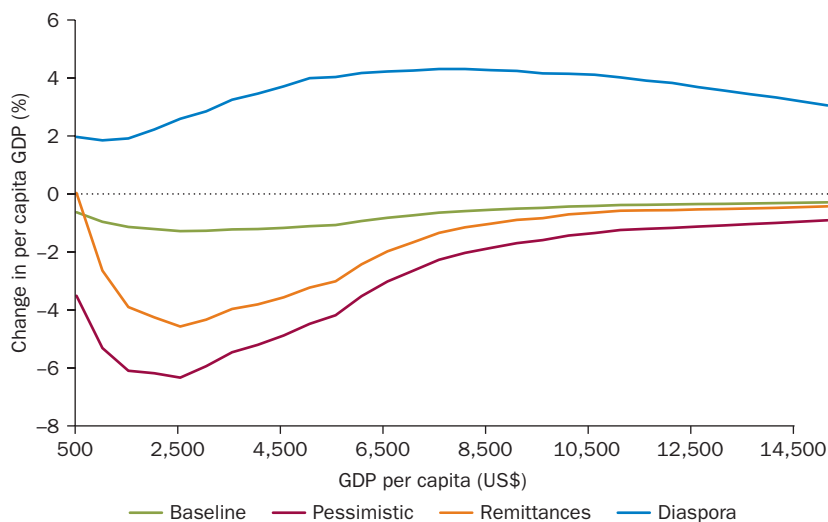
What about the impact on source countries?

Despite the issue's importance and the attention it receives, the evidence on the impact of high-skilled emigration is, however, quite inconclusive. Data constraints—the empirical difficulty of identifying the effects of skill shortages on poverty, growth, or other economic indicators—contribute to the challenge of determining high-skilled emigration's true costs or benefits. One solution is to combine global migration databases with macroeconomic models to simulate the impact of skill-biased emigration on poor countries. The results of this exercise are presented in figure O.21.

The critical determinant of the impact of high-skilled emigration is the extent of productivity spillover that the high skilled generate across the economy. If no such positive productivity spillovers exist, high-skilled

Figure 0.21 High-skilled emigration can hurt poor countries, but diaspora externalities can offset the negative impact

Effect of high-skilled emigration across source countries with different income levels



Source: Docquier 2017.

Note: The figure shows the effects of skill-biased emigration by GDP per capita for different channels (see text for more detail). GDP = gross domestic product.

emigration has a relatively small negative impact—about 1 percent—on income levels across the board (green line in figure O.21). In the presence of the spillovers, however, the impact can be quite severe—a decline of almost 6 percent—especially for those origin countries with per capita income levels below \$3,000 (red line). Remittances sent back home (orange line) somewhat but not fully compensate for this loss.

One common response of origin countries is to restrict emigration, which brings up several important practical, economic objections to restricting emigration. First, all evidence suggests that high-skilled migrants might be less productive if prevented from migrating. Migrants—high and low skilled—experience huge income gains on migrating. A large part of what makes them productive is the work environment in the destination country. Without the potential income gains from migrating, it is unclear whether these migrants would have acquired these skills in the first place. Second, in practice, it is quite difficult to impose and enforce such mobility restrictions. The same way destination countries cannot seem to prevent entry, in the face of market forces, source countries cannot effectively prevent departure.

If governments cannot impede emigration, what should they do? Recent research highlights at least two promising ways to take advantage of the global market for high-skilled workers and ideas: *First, source countries of high-skilled migrants should engage with their diasporas, and maximize their externalities. Second, they can encourage return migration.*

Emigrants typically continue to be actively engaged—both socially and economically—with their home country. The most common economic engagement takes the form of remittances, which account for an important source of income for many families in developing countries. Diaspora engagement programs also attempt to connect investors and entrepreneurs abroad with investment opportunities at home, and foster the transfer of technology and knowledge from abroad. Promising evidence suggests that countries can successfully encourage the return of their high-skilled diaspora. The idea behind such programs is that it is valuable for people to emigrate and acquire skills abroad. Rather than preventing emigration, these programs seek to subsequently encourage the return of successful emigrants. An example of such a program is the Malaysian Returning Expert Program, which provides tax incentives to successful emigrants who return to Malaysia. The evidence suggests that the program is successful; it encourages more return migration and roughly pays for itself as the return migrants pay taxes (at, albeit, lower rates).

The simulations in the presence of such “brain gain” effects imply that such forces may compensate for the losses from high-skilled emigration and lead to overall economic gains (blue line in figure O.21). Nevertheless, we need to emphasize that the evidence on high-skilled emigration, its impact, and its implications are less than ideal. This is one area where new data and research are desperately and immediately needed.

International coordination of migration policy

The policy recommendations put forth in this overview are primarily described as unilateral policies, designed by the destination countries in most cases, with minimum input from or coordination with origin or other countries. The recommendations reflect the migration policies usually implemented independently by countries. However, we know from a wide range of areas such as international trade, finance, and security that many policies would greatly benefit from international cooperation. Unilateral policies, inherently, generate externalities on partner countries that can be internalized via cooperation and coordination.

Almost no multilateral frameworks exist for regulating economic migration. The main exception is very limited agreements concerning refugees. There are several important exceptions at the regional level, such as the regional labor mobility arrangements within the EU or East Asia. This lack of any multilateral design is in stark contrast to the international trade architecture or financial cooperation where international institutions (such as the World Trade Organization) have contributed to open borders, increase trade, coordinate monetary policies, and improve regulatory enforcement. The absence of formal and established cooperation and coordination between governments in the migration policy space leads to many inefficiencies, conflicts, and crises. Our last observation is that *there is an obvious need for policy coordination—whether at the bilateral, regional, or multilateral level.*

Final thoughts

The debate on the economics of migration needs both sides to be better listeners. Many economists, who believe in the virtue of open markets, are rightly focused on the efficiency gains that would be realized if labor were to move more freely. Despite the large range of estimates, the gains, especially those realized by the migrants, will be substantial—as evidenced by the wage gaps across markets. The mistake is to ignore the distributional impact and dislocation such flows would generate, especially in destination countries, as the efficiency gains are realized.

For those who oppose migration, the reverse is true. Their focus is on the distributional impacts of migration—mostly on migrants taking away jobs and lowering wages. They deny or ignore the significant efficiency gains—or the countless hundred dollar bills—that we are leaving on the sidewalk. Both sides have valid points, and both sides are looking for the solution in the wrong place.

The solutions—the policy measures—need to make the pie as large as possible and, *at the same time*, figure out a way to distribute it more equally. Such redistribution schemes need to include the winning and losing segments of the labor force not only in the destination countries but also in the source countries. This process requires coordination and forward thinking among policy makers. That is the only way we can establish *political* mechanisms to convert *economic* gains into reality. And, we need to add,

these challenges are not unique to migration but apply to all other aspects of globalization—from trade to global warming to finance.

We are fully aware these are easy statements to make but daunting tasks to implement. We are hopeful that the analysis and the recommendations in this study will contribute to this process.

Notes

1. Refugees here refer to refugees and people in refugee-like situations as defined by the United Nations High Commissioner for Refugees (UNHCR).
2. Throughout this report we use World Bank regional definitions. Thus, for example, Mexico is considered part of Latin America and the Caribbean and not of North America. Please see table A.1 in the appendix for regional descriptions.
3. This negligible average impact is partially due to the fact that capital is assumed to be fully mobile and adjusts when labor levels increase. This assumption is supposed to represent long-run effects. In the opposite extreme, where there is no capital adjustment, all estimates in the graph would be reduced by about 3.2 percentage points.

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Migration presents a stark policy dilemma. Research repeatedly confirms that migrants, their families back home, and the countries that welcome them experience large economic and social gains. Easing immigration restrictions is one of the most effective tools for ending poverty and sharing prosperity across the globe. Yet, we see widespread opposition in destination countries, where migrants are depicted as the primary cause of many of their economic problems, from high unemployment to declining social services.

Moving for Prosperity: Global Migration and Labor Markets addresses this dilemma. In addition to providing comprehensive data and empirical analysis of migration patterns and their impact, the report argues for a series of policies that work with, rather than against, labor market forces. Policy makers should aim to ease short-run dislocations and adjustment costs so that the substantial long-term benefits are shared more evenly. Only then can we avoid draconian migration restrictions that will hurt everybody.

Moving for Prosperity aims to inform and stimulate policy debate, facilitate further research, and identify prominent knowledge gaps. It demonstrates why existing income gaps, demographic differences, and rapidly declining transportation costs mean that global mobility will continue to be a key feature of our lives for generations to come. Its audience includes anyone interested in one of the most controversial policy debates of our time.

“International labor mobility is the largest unexplored frontier of globalization. Relaxing restrictions on cross-border movements would produce economic gains that are much larger than any other policy under current discussion. This wonderful book does a great service by providing a meticulous, evidence-based analysis of where we stand with respect to labor mobility, what the costs and benefits are, and policy options to reap some of those overall gains. Policy makers and students of the world economy everywhere should read it.”

— **DANI RODRIK**, Ford Foundation Professor of Political Economy, Harvard University

“For raising living standards and reducing poverty, few issues are as economically important and as politically contentious as international migration. Clarity on the facts and overall evidence has never been at such a premium. This very important book provides just the clarity we need. It is a timely and valuable contribution.”

— **ARVIND SUBRAMANIAN**, Chief Economic Adviser, Government of India

“Every large change in a labor market requires evidence from a long-term and global perspective to understand its full impact. This is certainly true of international migration, the costs of which can be quick and concentrated, while benefits are slow and diffuse. Policy makers need hard evidence to cool down hot debates and construct better ways to manage migration. This book delivers that, authoritatively and comprehensively interpreting the evidence we have and the tools we could wield. It should be read by anyone serious about facing one of the greatest policy challenges of this century.”

— **MICHAEL CLEMENS**, Senior Fellow, Center for Global Development

