A Civil Rights Agenda for the Next Quarter Century

U.S. Economic Vitality Depends on Immigration

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About the Series

A Civil Rights Agenda for the Next Quarter Century

The Civil Rights Project was founded in 1996 at Harvard University, during a period of increasingly conservative courts and political movements that were limiting, and sometimes reversing, major civil rights reforms. In 2007 the Project moved to UCLA. Its goal was—and still is—to bring together researchers, lawyers, civil rights advocates, and governmental and educational leaders to create a new generation of civil rights research and communicate what is learned to those who could use it, to address the problems of inequality and discrimination. Created a generation after the civil rights revolution of the 1960s, CRP's vision was to produce new understandings of challenges and research-based evidence on solutions. The Project has always maintained a strong, central focus on equal education and racial change.

We are celebrating our first quarter century by taking a serious look forward—not at the history of the issues, not at the debates over older policies, not at celebrating prior victories but at the needs of the next quarter century. Since the work of civil rights advocates and leaders of color in recent decades has often been about defending threatened, existing rights, we need innovative thinking to address the challenges facing our rapidly changing society. Political leaders often see policy in short two- and four-year election cycles but we decided to look at the upcoming generation. Because researchers are uniquely qualified to think systematically, this series is an attempt to harness the skills of several disciplines, to think deeply about how our society has changed since the civil rights revolution and what the implications are for the future of racial justice.

This effort includes two very large sets of newly commissioned work. The first is a series on the potential for social change and equity policies in the nation. The second set of studies focuses on California, a vast state whose astonishing diversity foretells the future of the U.S. and whose profound inequality warns that there is much work to be done. All these studies will initially be issued as working

papers. They will be brought together in statewide conferences and in the U.S. Capitol and, eventually, as two major books, which we hope will help light the way in the coming decades. At each of the major events, scholars will exchange ideas and address questions from each other, from leaders and from the public.

The Civil Rights Project, like the country, is in a period of transition, identifying leadership for its next chapter. We are fortunate to have collaborated with a remarkable network of important scholars across the U.S., who contributed to our work in the last quarter century and continue to do so in this new work. We are also inspired by the nation's many young people who understand that our future depends on overcoming division. They are committed to constructing new paths to racial justice. We hope these studies open avenues for this critical work, stimulate future scholars and lawyers, and inform policymaking in a society with the unlimited potential of diversity, if it can only figure out how to achieve genuine equality.

Gary Orfield

Patricia Gándara

Acknowledgements

We would like to thank the reviewers, David Madland, Victor Narro, Reem Zaiour and Madeline Zavodny, for their detailed and helpful feedback to earlier drafts of this report. This work is based on research funded, in part, by the William and Flora Hewlett Foundation. The findings and conclusions contained within are those of the authors and do not necessarily reflect positions or policies of Civil Rights Project funders.

Foreword

The Civil Rights Project has been deeply involved in many dimensions of immigration and civil rights and have run programs and conducted studies on both sides of the U.S.-Mexico border.[1] We commissioned this following study because of the critical importance and urgency of immigration policy reform for the welfare of the United States, despite the current failure of this government to acknowledge this reality.

The United States populated its fifty states and countless communities through immigration. Immigrants were sought and came for many reasons, but the central reality was a wish for a better life, including a chance to find work at higher wages with more opportunities. International migration was hugely important as the U.S. built railroads and infrastructure, and created what would become some of the most powerful economic institutions in the world. Immigration is, however, complex, sometimes generating deep divisions and efforts to close the door. The last major restriction came in the 1920s with the passage of The Johnson-Reed Act that imposed rigid limits and a strong bias in favor of northern white Europeans. That law, the Great Depression and World War II virtually stopped immigration, until U.S. immigration law changed sharply in 1965 as a new immigration act ended many racial and regional legal barriers.

U.S. society has been transformed by immigration since the mid-20th century. Because of a long-term drop in fertility in the U.S., especially among whites, immigration became a dominant force shaping the American future. Parallel trends and strong economic growth in Europe dried up migration from traditional sending areas. The growing economy in the U.S. was producing jobs that were harder to fill. A different kind of immigration emerged and grew so dramatically that it began to change the

[1] Much of that work can be found at civilrightsproject.ucla.edu by searching for "The Students We Share" and "LASANTI" (acronym for Los Angeles, San Diego, Tijuana).

social composition of the U.S. The U.S. was globalizing and developing increasingly critical new international markets. Over a half century of massive immigration from Latin America and Asia, the U.S. changed from what had been a largely White and Black society to a multiracial one in which Latinos became the largest nonwhite group and Asians the most rapidly growing. It was an extraordinary transformation, largely driven by economics.

In this same period, however, the deepening political divide within the U.S. brought immigration policy to what is now a four-decade deadlock on addressing these huge changes. With an expanding economy and many jobs hard to fill in the U.S., a very large migration of undocumented workers took place. Until the 1970s most of these workers were young men who worked in the U.S. for periods of time and returned to their homes across the southern border. As anti-immigrant forces in the U.S. sought to close the border and expel temporary workers, the costs of returning home became high and workers stayed and formed families. The numbers and visibility of immigrants from other races also grew, while political strategies that played on the fears of racial and ethnic change mushroomed, becoming a dominant force by the 2016 elections. Immigrants have become the central domestic policy focus of one of our national political parties and, particularly, the Trump administration.

Governments, businesses, communities, and even military forces can see the shrinking cohorts coming through the schools and what this means for their future viability. The severe labor shortage in the U.S. after the pandemic was a vivid illustration. The country was highly dependent on undocumented workers; many became "essential workers" who carried out dangerous jobs as the pandemic raged. This message was underlined by labor shortages even as the economy revived. Unless there is some way to dramatically change existing trends, U.S. society will shrink and age, something that is happening in very dramatic form in several peer nations already facing severe population declines. Social insurance policies, whose finances are based on a growing number of young workers

paying taxes to support and care for the elderly, face fundamental challenges if these downward trends continue.

In the U.S. and elsewhere, conservative and populist movements have aroused intense anxieties over immigration's perceived threats to culture, language, religion, and other institutions, usually without any evidence. The race-tinged opposition to immigration, of course, raises basic civil rights issues. In important ways the conservative anti-immigration movement is trying to restore a vision of a white American society that is impossible to recreate, given the fact that the white birthrate dropped below reproduction levels and a declining share of white women are in child-bearing years. In the U.S., according to a 2019 Pew Research report, "Whites had a median age of 44 ... This compares with a median age of just 31 for minorities and 38 for the U.S. population overall"[2] The reality is that even if the country were completely sealed off and accepted no immigrants, racial change would continue because of the age pyramid. The U.S. is demographically destined to become more multiracial. The political reality, at the same time, includes policies rooted in racial fears and stereotypes. These may make the development of feasible policies, that would stop population decline and support an economy in need of young workers, far more difficult.

This paper offers a compelling analysis. Its authors show that the only plausible solution to bolster the nation's diminishing workforce is large scale immigration. The authors document in detail the jobs that immigrants are filling and how critical they are in a growing number of essential workforce sectors. The reality is that immigration will continue since strong economic forces are at play. The real question is whether we will plan for the optimal use of immigration or continue to use it only as a political tool. Many political leaders act as if we can turn the clock back, change the nation's demography and return to the past. This study shows that approach is nonsense.

[2] https://pewrsr.ch/315iK5e

The authors of this paper suggest ways to better utilize immigrants by more successfully developing and using the skills and determination they bring. This study is a step-by-step, rational effort to describe the nation's labor market needs and match these to immigrant strengths, concluding logically that more immigration must be a critical part of the answer, if a more viable economy is the goal. This is, however, not a call for an open door to all who desire to come from many countries, and it makes no claim that the society could effectively absorb vast and sudden change. It does call for the kind of steady, rational approach that the U.S. has failed so far to develop.

America has profited immensely from immigration over its history, but it has never been without challenges, especially for a society that has always struggled to deal with race. Most of corporate America is currently supporting political forces that make a rational immigration policy impossible, although business obviously needs and would benefit greatly from one. Businesses require a reliable supply of workers. The traditional pro-business political party has been radicalizing the immigration issue to activate fears and win elections, leaving business and other major institutions in a situation where short-term political gains block solutions to the economy's long-term needs.

This paper is about facing facts. It is about recognizing changes that are already inevitable and forging solutions.

-Gary Orfield and Patricia Gándara

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Executive Summary

Over the last decade, the United States has continued to face an aging of its population, which has been widely documented. The aging population is expected to create several problems for the U.S., especially for the future productivity of its labor markets. At this juncture, it is critical to understand the key dynamics driving the aging population, as well as to identify new sources of population growth and how to meet their needs. Public policies that can address this situation will best contribute to the well-being of U.S. society in the new era. The research presented here is based on data from the Bureau of Labor Statistics, American Community Survey, U.S. Census Bureau, National Bureau of Economic Research, and the Centers for Disease Control and Prevention.

First, we found that total fertility rates in the U.S. have declined below the replacement level for most racial groups, except for foreign-born Hispanics and a few other foreign-born groups. While the total fertility rate decline is something that has been studied before, we note the short-term exception of foreign-born Hispanic women, even though it is important to note fertility rates for this group are also projected to decline in the following decades. Although current fertility rates are below replacement level for the US, Asians and Pacific Islanders are projected to increase their fertility rates (Pew, 2019). Thus, it is important to pay special attention to both groups because they could help reverse population aging in the medium term. Another source of population growth for the long term might be immigration from regions with actual and projected high fertility rates, such as Africa. An additional source of population growth could be emigration from Latin America, not only because their total fertility rate above replacement level is projected until 2040, but because of their relatively easier integration to the U.S. society given the existing social networks in this country.

It is important to note that current immigration started to stagnate, especially after the U.S. presidency of Donald J. Trump and the Covid epidemic, a period that was marked by extreme anti-immigration narratives and policies. We found from 2016 to 2023, immigration levels fell below

projections but had recovered after COVID, which readjusted future immigration projections to historical trends. Based on our new projections, we find immigration levels will be half of what were previously expected. Nevertheless, we expect both declining fertility rates and lower immigration will continue, exacerbating both population aging and slower labor market growth in the U.S.

Based on Bureau of Labor Statistics (BLS) projections for occupations to 2029, we found that at least 15% of immigrants are currently in occupations that are expected to add more total positions over the next decade. A lower proportion of immigrants are in occupations with the fastest rates of growth, and which require higher levels of education and innovation. In this sense, immigrants who have less education should be steered toward occupations requiring less education. Whereas, those who have achieved higher educational levels, such as international students, should be encouraged to remain in the U.S. through special programs.

To reverse the population aging process and the expected labor shortages, the authors highlight the importance of working on a strategy that promotes immigration, especially from those regions that currently have high fertility rates, such as Africa, to fulfill the population needs in the long term, as well as immigration from regions with educational attainments that match short- and midterm labor market demands for the different occupational levels. This increased immigration, however, should be accompanied by enhanced educational access policies for immigrants, especially on-the-job training, which would help them to improve their skills and knowledge in those specific occupations. Proper educational and training policies could improve immigrant skills and their transition to occupations that are expected to add higher value to the economy. Furthermore, contrary to the general narrative that immigrants with low educational attainment have little ambition to improve, the data show that immigrants are willing to improve their educational level, motivated by the fact that increasing their human capital results in increasing their earning power. Considering the above, the authors conclude that reversing the US aging population trends through immigration would help to increase the supply of

labor in occupations that are expected to generate more value for the economy. This could also ensure increased productivity levels for the U.S. and could sustain the social support system required by an aging population. The authors propose a set of policy recommendations to this end.

U.S. Economic Vitality Depends on Immigration

by Raúl Hinojosa-Ojeda[3] and Marcelo Pleitez

Introduction

According to research by the United States Census Bureau (2020) and Holzer (2019), the U.S. population and labor market will face major reductions in growth over the next decades. It is essential to understand the mechanisms of these changes to develop the policies required to reverse these trends, focusing both on labor supply and labor demand. On the labor supply side, the most important forces are: 1. an increasingly aging population, especially among non-Hispanic Whites; 2. a decline in birth rates among most groups (although less so among foreign-born Hispanics and native-born Asians or Pacific Islanders); and 3. rapidly declining rates of immigration, all of which will redefine the racial diversity of the labor market based on patterns projected for the next decades. On the labor demand side, changes in the US economic structure are expected due to accelerating technological changes (including artificial intelligence and automation advances), disrupting many industries and occupations, as well as institutional and public policy changes such as minimum-wage raises and business-union relations.

Numerous studies have demonstrated the importance of the immigrant population's contributions to the GDP in the long term. For example, Huertas and Funk (2019) demonstrate that Hispanics (both native and foreign born) living in the U.S. are converging with other racial groups, such as Whites and Asians, in terms of educational attainment, entrepreneurship, and fertility rates. Thus, Hispanic immigrants' contributions to U.S. economic growth could rise significantly based on improvements in their workforce skills, resulting in higher future average wages as well as increased

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business ownership. Both result in increased tax contributions and overall economic growth. While most ethnoracial populations already have fertility rates below the replacement level, foreign born Hispanics are currently just above replacement levels. However, they are approaching the crucial replacement-level threshold. Asian Americans' fertility rates are increasing yet still below replacement level. This implies the necessity for more immigration to sustain future growth, especially from Africa, where regional fertility rates are projected to remain above the replacement level. It is important to highlight that the data show the longer immigrant women live in the U.S., the more their fertility rates tend to decrease. Changes in immigration policies, as well as educational and skill investments in both immigrant and post-immigration generations, will be necessary to realize the crucially necessary contribution to the U.S. labor force in the 21st century.

This paper presents an analysis of population growth trends and potential impacts on labor-market projections, with particular emphasis on immigrant workers. To ensure an effective and efficient satisfaction of labor demand, it will be important to design public policy responses that guarantee immigration of workers with current educational levels that match the short- and midterm labor-market needs, as well as further training and education of these workers. On-the-job training provided by employers is particularly useful to assure the correct match for specific occupations thereby, increasing the well-being of immigrant workers, as well as the whole of U.S. society. Effective strategies for including immigrant workers in the U.S. labor market would bring a host of direct and indirect benefits. The main direct benefit is meeting labor-market demand, as well as increases in consumption, tax revenue, and investments, all of which contribute to the GDP. Indirect benefits of increasing immigration, coupled with education and training, include employment creation in a variety of sectors, as well as indirect complementary benefits of workers specializing in delivering care services to middle- and high-income households (many of them White), allowing these families to focus on other

productive activities, increasing economic dynamism, as well as reducing stress on, and cost of, long-term care facilities.

Section 1: Declining Fertility Key Driver in Population Aging

The three key drivers for population growth in a country are fertility, mortality, and immigration. As the World Population Prospect 2019 (United Nations, 2019) data analysis shows, in the U.S., the decline in crude birth rates has been much higher (24.1 births per thousand people from 1950 to 1955 to 12 births per thousand people from 2015 to 2020) than the decline in crude death rates (9.6 deaths per thousand people from 1950 to 1955 to 8.7 deaths per thousand people from 2015 to 2020), making mortality the least important determinant in population aging and, thus, not included in this study. Given the continued decline in fertility rates over the last decades, one alternative to stabilize the population in the mid- and long term is through immigration policies, especially among those groups that are expected to continue to have higher fertility rates. In this section, we examine long-term population projections, especially considering total fertility rates by race in the U.S., and total immigration among different racial groups in the U.S. Then we examine the estimated immigration growth rate needed to stabilize the U.S. population in the long term. Finally, we reflect on how COVID-19 could potentially reduce the total fertility rates in the U.S. even further.

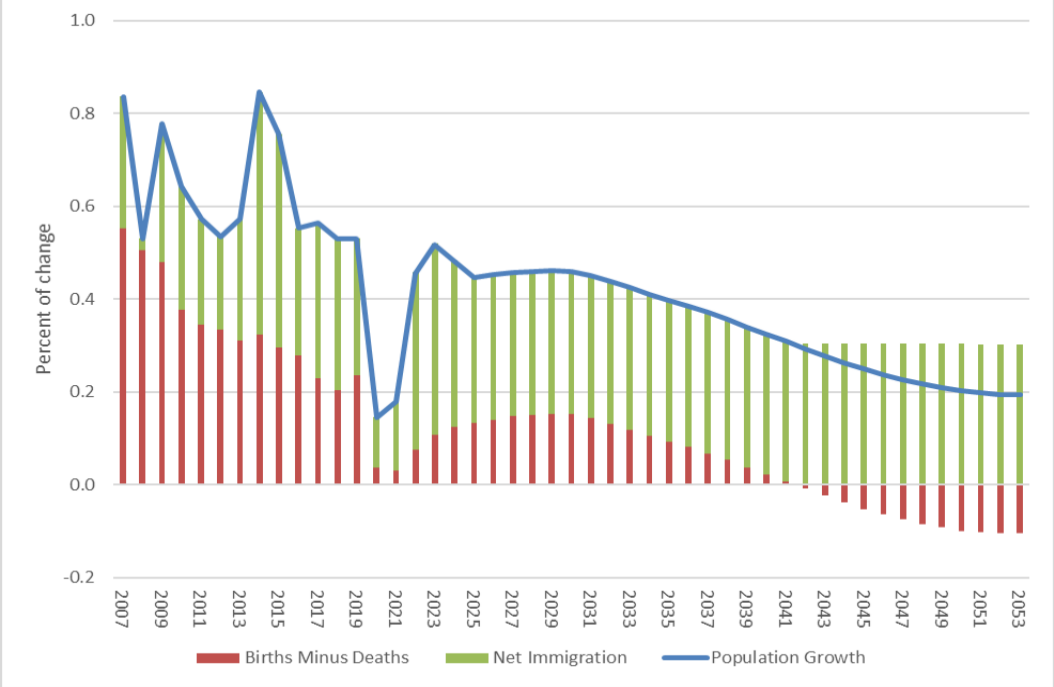
1.1 Long-term total and net population projections

According to the US Census Bureau (2018 a), based on data from 2016, the U.S. has started on a trend where the adult population (65-plus years old) is growing faster than the population of children under 18 years old. It is projected that, in 2034, the share of adults 65-plus years old will surpass the share of children under 18 years old, a problem that could have huge consequences in the mid- and long term for population stabilization, productivity, sustainability of the economy, and social well-being.

This is especially the case for the sustainability of Social Security[4], and the need for more caregiving and assisted-living facilities. Thus, we estimate total fertility rates and total immigration projections for the U.S., and analyze the potential effects on population growth and the labor market (Figure 1).

According to the U.S. Census Bureau (2017), without new immigration, the natural increase in domestic population might change from 0.4% in 2022 to 0.12% in 2060, having a direct impact on the total population. Accounting for immigration, the population growth will change from 0.7% in 2020 to nearly 0.4% in 2045. Assuming this conservative scenario, immigration will be the only population source to sustain growth to the current levels of natural increase. However, this likely would not be enough to meet future labor force demands on the U.S. economy.

Figure 1: Population growth and its underlying factors



[4] According to de Biase et al. (2022), central governments tend to rely more on personal income taxes (PIT) and social security contributions (SSC), both related to labor income, thus, population aging might hurt the central government revenues due to the labor shrinkage. To reduce the impact on central government revenue, they propose to remove PIT and SSC exemptions applied to pensioners, as well as a tax reform that would increase the rate of Value Added Taxes or broaden the consumption tax base, or tax pensions under PIT and health SSC. However, these kind of measures might hurt the social well-being; thus, another option is to raise "the labor force participation by, for instance, encouraging women, the elderly and foreign or immigrant workers to join the labor force" (de Biase et al., 2022).

Source: Congressional Budget Office (2024), "The Demographic Outlook: 2023 to 2053".

To project total fertility rates, we first estimated the historically age-specific rates from 1990 to 2019, and then these were projected to 2060. Assuming a linear convergence for all racial groups in 2100, the overall rate is assumed to be the average fertility rate for White women between 2009 and 2019. Our estimated and projected total fertility rates are aligned with previous projections made by other authors, like the Census Bureau (2018 b). (for a detailed description of the methodology, see Appendix A.1).

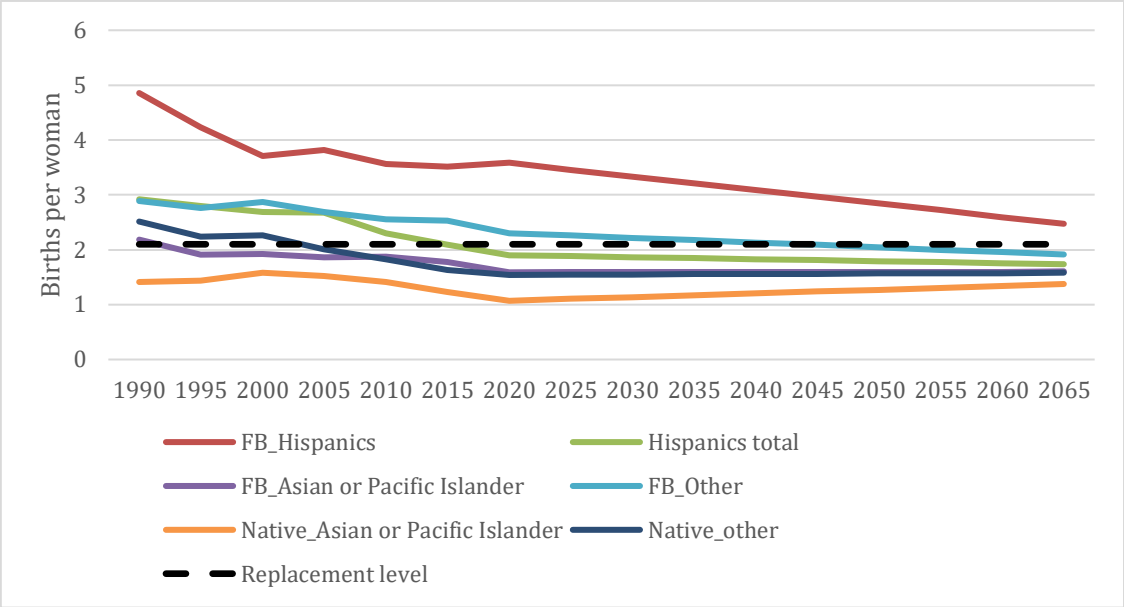
In 2020, only foreign-born Hispanics and a few other[5] foreign-born immigrants had total fertility rates above the replacement level of 2.1 children per woman. Though their rates are expected to decline, Hispanic foreign-born women are the only group expected to have above-replacement-level fertility rates over the estimated period. U.S.-born Hispanics and others have had fertility rates below the replacement level since 1990 (Figure 2).

The data show the longer Hispanic women live in the U.S., the more they tend to lower their fertility rates. According to Alvira-Hammond (2019 p. 1), the lower fertility rates might be explained by "factors such as increases in average levels of education, relatively high costs of living, and changing attitudes surrounding childbearing." Of course, lack of affordable childcare for working mothers has also been given as a reason for lower fertility. However, interior immigration enforcement policies are also another important driver for lowering fertility rates, especially among foreign-born Hispanic women who have over-the-replacement-level fertility rates. According to Amuedo-Dorantes and Arenas-Arroyo (2021), "the average increase in interior immigration enforcement between the mid-2000s to the mid-2010s lowered the likelihood of childbearing among likely undocumented immigrant women by 5%, thereby accounting for approximately one-fifth of the drop in fertility experienced by these women over the period under consideration."

[5] Other foreign born include "Non-Hispanic Asian or Pacific Islander" and "Non-Hispanic other races.

Hispanics and other foreign-born groups are not alone. Asian-Americans' and Pacific Islanders' fertility rates are expected to grow slightly (from 1.06 in 2020 to 1.34 in 2060), though these are still expected to be below the replacement level by 2060 (Figure 2).

Figure 2: Actual and projected fertility rates by race and nativity (FB = foreign born)



Source: These are authors´ estimates based on data from Center for Disease Control and Prevention, and American Community Survey. For a complete methodological description see Appendix A1.

The continued decline in total fertility rates shown threatens the stability of natural population growth. This is especially important because the future of the U.S. population relies on continued immigration from countries with high fertility rates and on policies aimed at supporting families. According to the United Nations Population Fund (2019 p. 7), all high-income countries, except the U.S., offer paid leave after the birth of a child. Although many governments around the world adopt these pronatalist policies, which are designed to increase the birth rate of a country or area, there is still limited evidence of their effects. However, a policy of paid family leave might have an impact, especially in societies like the U.S., where low fertility rates might be due to the incompatibility between family life and work.

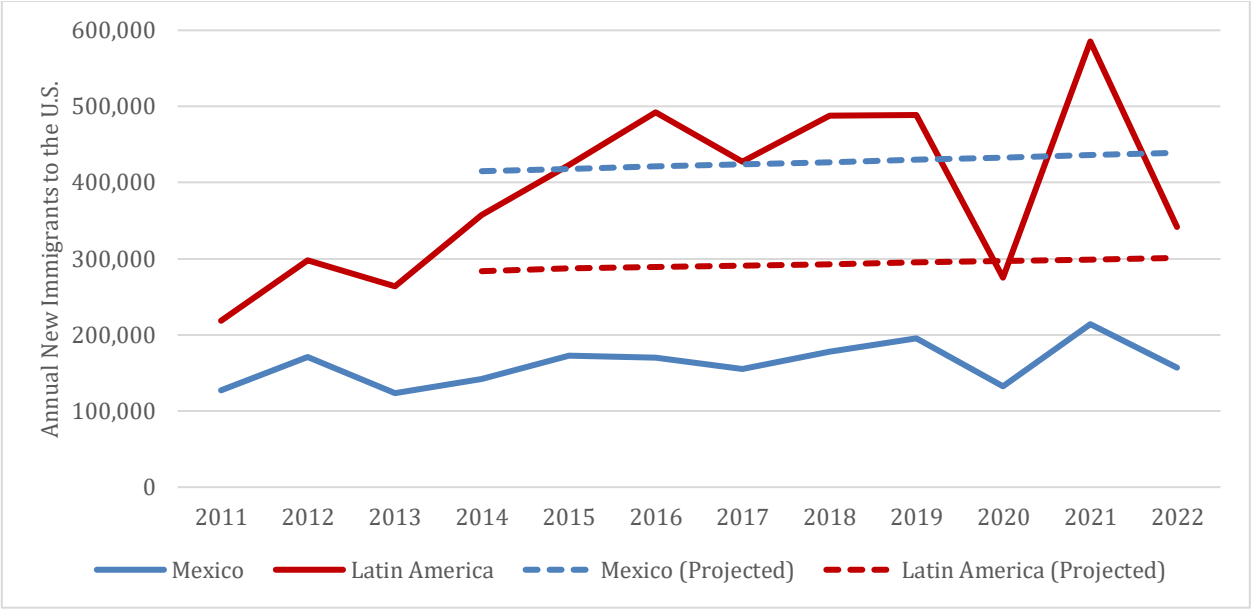
Thus, with family support policies, foreign-born Hispanics and other foreign-born immigrants might be crucial for reversing the effects of population aging in the short- and midterm, due to both their total fertility rates above the replacement level, and the financial support provided by paid family leave. However, these policies should be spread over all racial groups. Promoting immigration of Africans might also be positive due to their above-the-replacement-level fertility rates, while immigration from Latin America might be beneficial not only due to their fertility rate above-the-replacement level until 2045-2050, but because their integration into U.S. society might also be relatively easier, given the long historical social networks between Latin American communities in the U.S. and their countries of origin.

On the immigration side of population growth, the latest population projection made by the Census Bureau was based on actual 2016 data[6] (U.S. Census Bureau, 2018). It does not capture the latest trends in immigration from 2017 to 2020 and 2020 to 2023, periods of great fluctuation in persons seeking to immigrate. It is especially important if we consider the anti-immigration rhetoric during the Trump and Covid era and its dampening effect on immigration, combined with the post-Trump and post-Covid era in which there has been a new surge in people seeking admittance to the U.S. (particularly the assylum claims). The seizing of immigration as an issue by the Republicans in the run up to the 2024 presidential election is putting pressure on the Biden administration to find a way to curtail the surge. It is anyone's guess how this will affect immigrant flows in the short run. Though it is expected that immigration to the U.S. will continue growing in the future, the pace of growth has been slowing, especially among Mexicans, which had been the main source of immigration over previous decades, as shown in our immigration projection below. According to Hufabuer et al. (2021), actual immigration from Mexico from 2017 to 2022 was lower than projections made by the Census Bureau

[6] At the moment this paper was written, 2023 Population Projections were not published. However, 2023 Population Projections by U.S. Census Bureau supports the argument on this paper, since their immigration projections are lower than those published in the 2017 Population Projections

(Figure 3). However, Mexican immigration has been replaced by Venezuelans, Central Americans and Haitians, all fleeing fragile or collapsing economies and governments. If the immigration growth rate continues to decline from historical sources, there will be difficulty in sustaining U.S. population increases. This has a direct impact on the future productivity of the economy because the labor pool will continue to be more and more scarce in the long term.

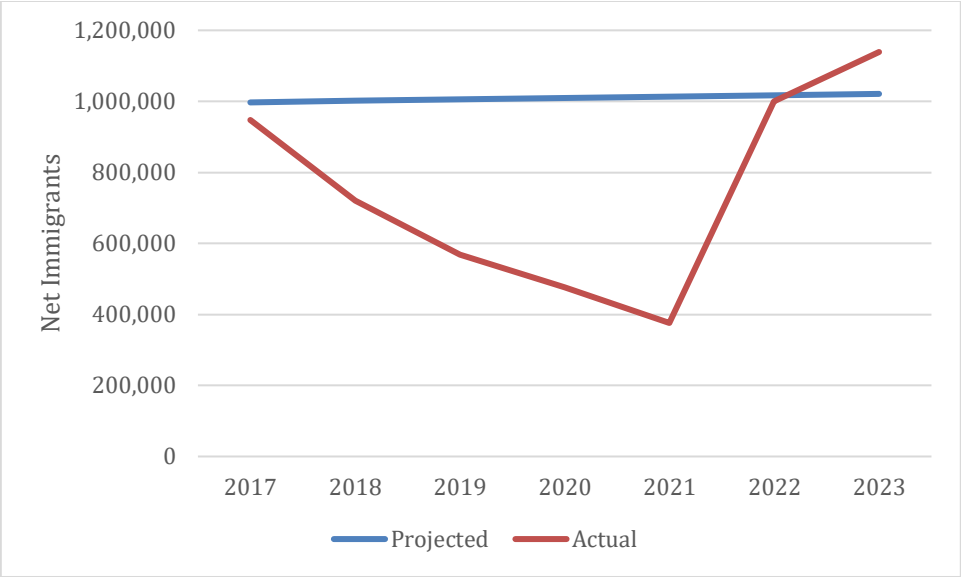
Figure 3: Actual and projected annual immigration to the U.S. from Mexico and other Latin America/Caribbean countries, 2011-2020



Sources: Projections are from Hufaber et al. (2021). Actual immigration are authors estimates using American Community Survey 2022 dataset.

Net immigration projections made by the U.S. Census Bureau were nearly 40% higher on average than actual net immigration during 2017-2019 period, although there was a surge in 2022 and 2023, which does not affect the long-term trend, as will be shown below. These trends lend credence to the hypothesis that over the next decades the U.S. is going to have a lower than previously expected flow of immigrants from all the regions of the world, threatening population growth, and consequently having direct effects on labor markets, as well as the economy as a whole.

Figure 4: US Census Projected and actual net immigration to United States



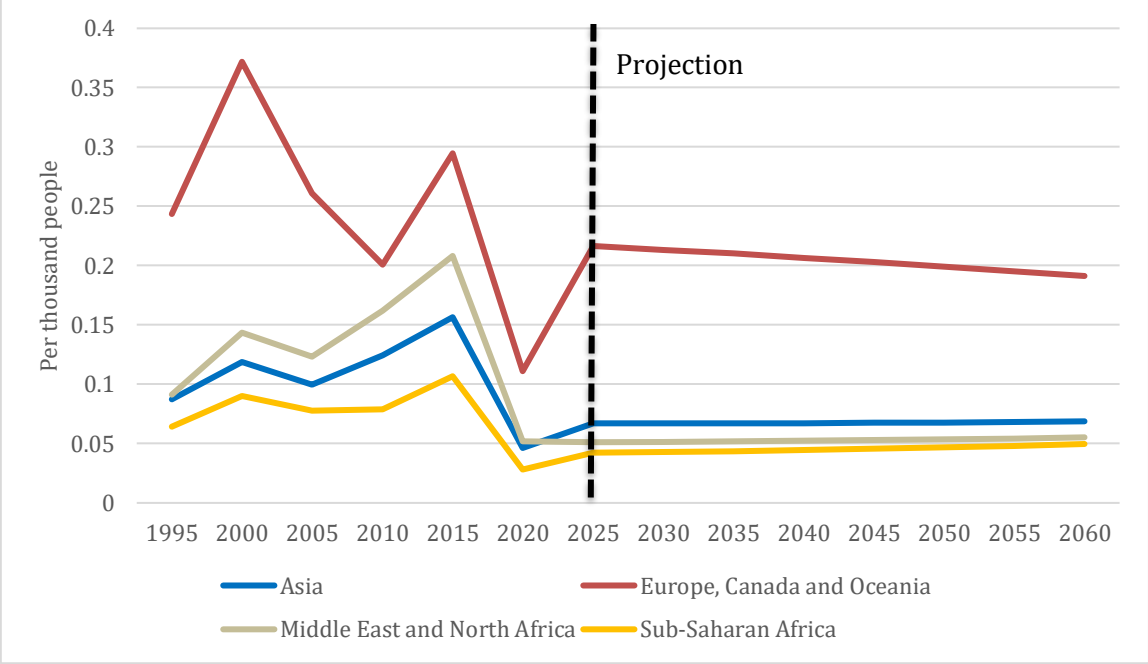
Source: Actual net immigration is from Frey (2024). Projected net immigration is U.S. Census Bureau (2017).

Our immigration projections show that year over year, the growth of new immigrants coming to the U.S. will be lower than previously projected, lowering the total number of new immigrants, threatening the expected results of the scenario shown above. The change in the projections is due to an update of the new immigrants that entered the U.S. between 2017 and 2022 as estimated by the American Community Survey, and this reflected updated emigration rates for the countries of origin. For a detailed description of the immigration projections methodology, see Appendix A.2).

To project total immigration to the U.S., we used a methodology that first estimates the emmigration rate by region of origin and then multiplied that by the projected population in those regions (for all scenarios, we assume the same country of origin distribution). The emigration rate is the number of immigrants that entered the U.S. in a specific year (using American Community Survey data) by country of origin, divided by the total population in that country of origin the same year. To estimate net migration, we used an average rate between net immigration reported by the U.S. Census Bureau and the reported flow of new immigrants by the American Community Survey over the 2010 to 2019 period (see Appendix A.2).

According to our projections of emigration rates in origin regions (Figure 5), the people expected to come to the U.S. from Europe, Canada and Oceania, Middle East and North Africa, sub-Saharan Africa, and Latin America will slightly decline. Those coming from Mexico are expected to significantly decline (we excluded Mexico from Latin America to show the dramatic decline in emigration from the former, especially in the beginning of the 21st century). Asian immigrants are expected to increase over the next decades. Though the emigration rate from Asia is expected to grow, and while it's expected to decline before holding steady from Mexico and Latin America, respectively, the region with the highest immigration rate to the U.S. is still Mexico and Latin America (Figure 6), and is a current key driver to sustaining the population growth in the U.S. Total immigration to the United States, however, could be affected by the expected population growth in the regions of origin, as shown in the total immigration projections by region presented below.

Figure 5: Actual and projected immigration rates to U.S. by region of origin

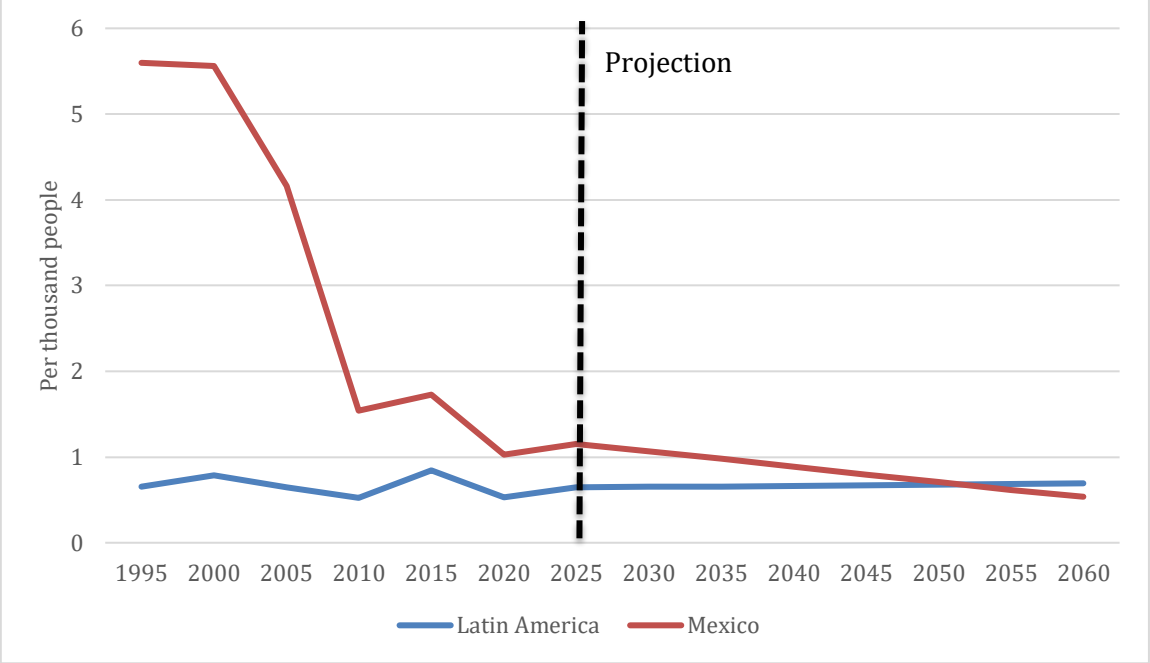


Sources: These are authors' estimates using American Community Survey and Decennial Census for 1991-2019.

According to our projections, the number of new immigrants entering the U.S. in 2060 would be 1.2 million, 680,000 fewer immigrants than the 1.8 million estimated in previous projections (Census

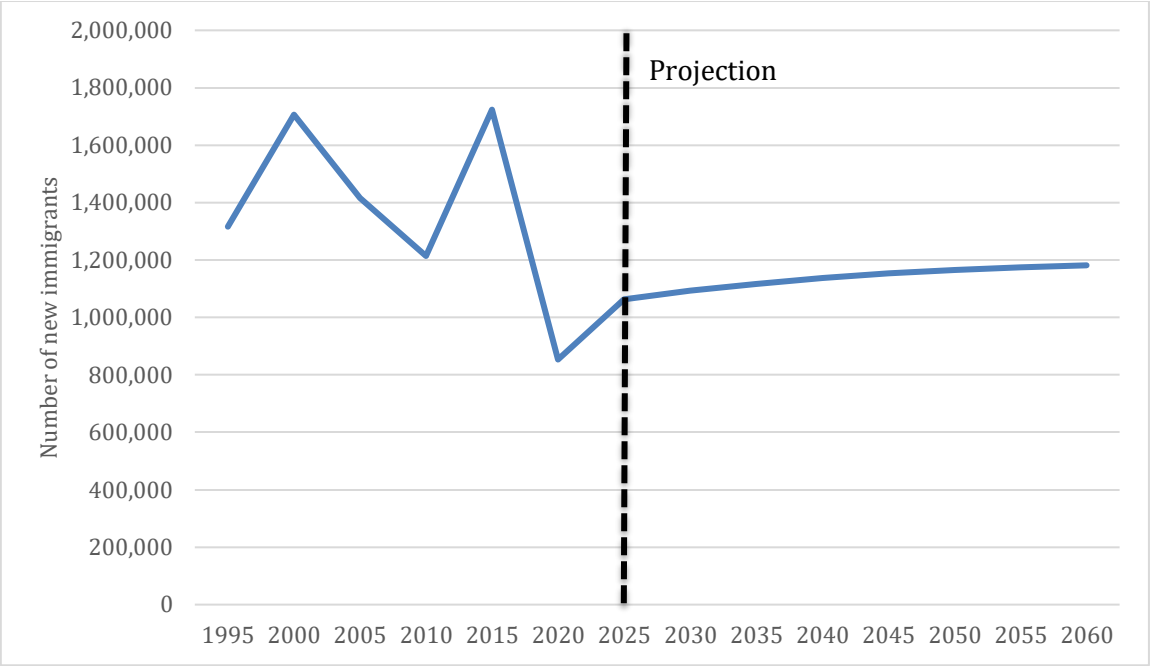
2018). The estimate for 2060 is much lower than the number of immigrants who entered the U.S. during the beginning of the 21st century, threatening the sustainability of the total U.S. population (Figure 7).

Figure 6: Actual and projected emigration rates from Latin America and Mexico



Sources: These are authors' estimates using American Community Survey and Decennial Census for 1991-2019.

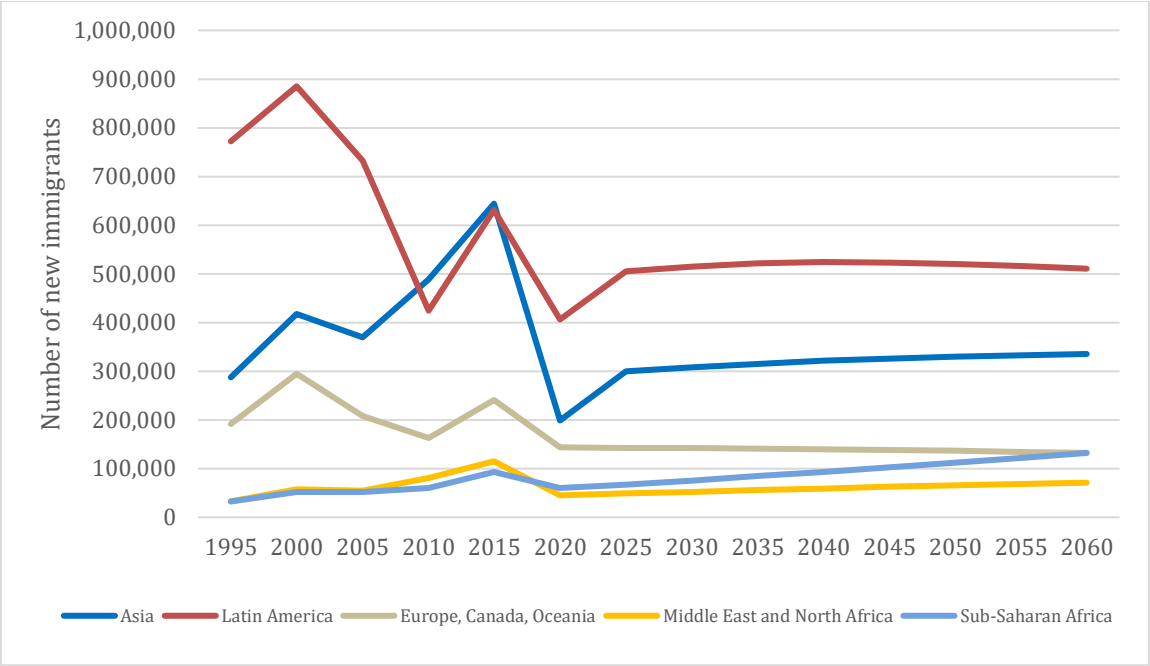
Figure 7: Total yearly actual and projected total immigration, , 1995-2060



Sources: Authors estimates using American Community Survey and Decennial Census for 1991-2019.

Asia and Latin America are expected to be a source of more immigrants to the U.S., although the number of annual immigrants is expected to stagnate over the next decades. Immigration from African Sub-Saharan is also expected to continue growing (Figure 8). However, these new streams of immigrants to the U.S. will not be enough to fulfill future population needs.

Figure 8: Actual and projected immigration by Region/Country of origin



Sources: These are authors´ estimates using American Community Survey and Decennial Census for 1991-2019.

It is important to highlight that most of the increase in immigration to the U.S. is primarily driven by the population growth in the regions of origin. As is shown in figures 5 and 6, the emigration rates from Latin America are expected to continue to be higher than those from Asia and sub-Saharan Africa, meaning the willingness and ability to emigrate from the former region is higher than in the latter ones.[7] Thus, public policy on immigration should focus on those regions with expected higher total immigration to the U.S. (Asia and sub-Saharan Africa), without leaving out Latin America, and paying attention to the complex pattern in immigration that has happened over the last decade.

Although the total numbers of emigrants from Asia and sub-Saharan Africa are expected to grow in the following decades, those from Latin America are expected to decline, with the average rates of growth expected to be lower between 2020 and 2060 than what they were from 1990 to 2019. From 1990 to 2019, the average rate of emigration growth was 7.1% from sub-Saharan Africa, 6.1% from

[7] See Appendix 2 for a detailed methodology on how total immigration is estimated and projected.

Middle East and North Africa, 1.5% from Asia, 0.8% from Europe, Canada, and Oceania, and 0.6% from Latin America. However, the expected average rate of emigration growth between 2020 and 2060 is projected as 2% from sub-Saharan Africa, 1.2% from Middle East and North Africa, and 0.7% from Asia, while from Europe, Canada, and Oceania, and Latin America this rate is expected to be negative at 0.2% and 0.1%, respectively. Expected lower rates of immigration growth in the following decades is an issue that could potentially increase the threat of population aging that the U.S. has started to face.

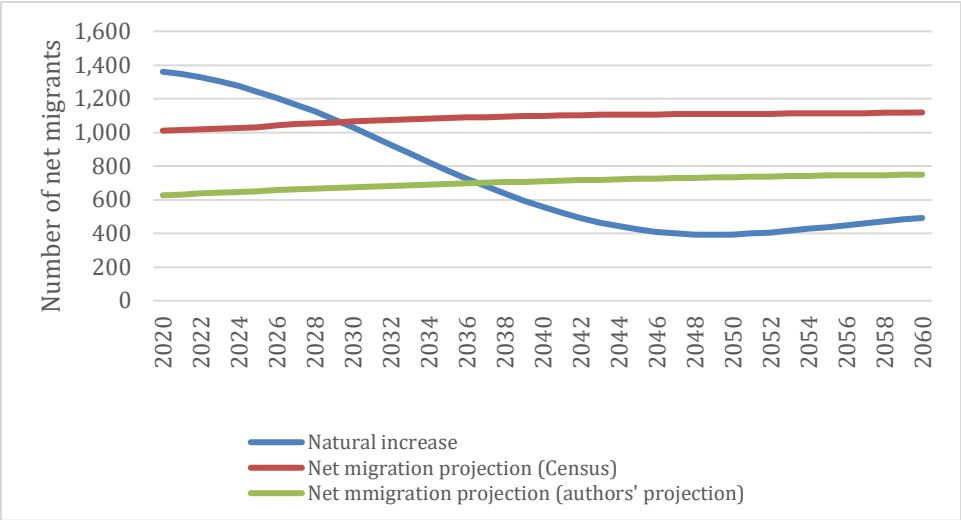
Considering the lower total immigration estimated in these new projections, it is plausible to think the U.S. might face difficulties reaching the conservative number of a declining population growth. Therefore it is important to consider the required level of immigration needed to reach the conservative scenario. We analyze the *total* immigration projections in this section, while in the following section our analysis is based on *net*[8] migration projections, which tend to be lower than total immigration.

1.2 Immigration needed to satisfy the long-term replacement level, under different scenarios

When we compare the projected total population due to natural increase and net migration projections, the importance of new immigration to sustain population growth becomes evident. A rapid decline in the natural increase is expected in the following decades, while our current net migration projections suggest it will not be enough to sustain population levels. Previous immigration projections by the Census Bureau (2017) warned about the potential problems that could arise for the U.S. due to the lack of population growth. New projections show that net migration could be nearly 415,000 persons below previous estimates and the U.S. is in danger of facing a population decline problem sooner than previously expected (Figure 9).

[8] Net migration refers to the number of immigrants minus the number of emigrants, regardless of their citizenship status.

Figure 9: Natural increase and immigration projections



Sources: Net immigration (previous projections) and natural increase (births-deaths) uses data from U.S. Census Bureau (2017). Net immigration (new projections) are authors' estimates using American Community Survey and Decennial Census for 1991-2019.

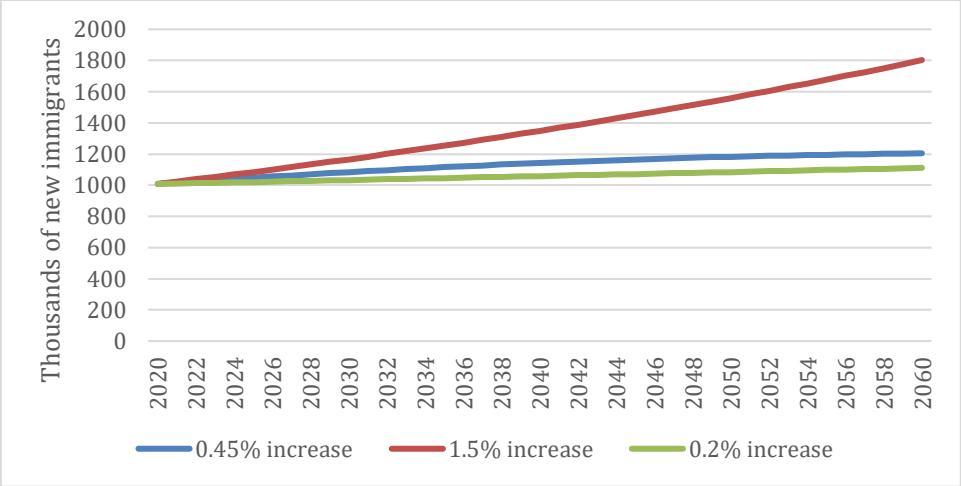
A decline in net immigration growth is of special concern when we compare it with the domestic population growth projected by the Census Bureau. Over the last years, the net immigration growth has not been enough to replace the decline in the domestic population growth. Net immigration grew -0.25% and -0.16% in 2018 and 2019, respectively, while domestic population declined -0.1% and -0.04%, respectively (Census Bureau, 2021). Under our updated projections, net immigration growth might be lower over the next decades; this imposes a higher gap with the domestic population decline, which will be much higher until 2050.

According to our new projections, total immigration will be growing at an average rate of 0.45% annually, meaning that around 703,000 new net immigrants will come into the U.S. in 2060, with just 27.1 million new net immigrants entering the U.S. over the next four decades, compared to 44.4 million new net immigrants projected by previous Census Bureau estimates. This will not be enough to satisfy the replacement levels.

Assuming previous Census Bureau net immigration projections as an optimum scenario under the current conditions, total immigration would have to grow at 1.5% annually to reach those projected

immigration levels, and that is 1.05% higher annually than our current estimated rate of growth (0.45%). Assuming a 1.5% annual growth immigration scenario, the U.S. would add 1.8 million total immigrants in 2060 and a cumulative 56 million total new immigrants from 2020 to 2060.[9] However, if total immigration growth continues to slow to a level of 0.2% annually (worst scenario), in 2060, 1.1 million new total immigrants and 654,000 new net immigrants will come to the U.S., which means 43 million new total immigrants over 2020 and 2060 or 25.5 million new net immigrants, worsening the future of population and labor markets growth (Figure 10).

Figure 10: Different scenarios of total immigration growth 2020-2060



Source: These are authors´ estimates using American Community Survey and Decennial Census for 1991-2019 and U.S. Census Bureau (2017).

1.3 COVID-19 potential impact on fertility

The COVID 19 pandemic, which resulted in the deaths of more than a million Americans between 2020 and 2022 (CDC), and which continues today in a somewhat attenuated form, could have an impact on population levels in the US going forward. For example, after the Great Recession in 2008, fertility rates did not recover. The trend of declining fertility rates continued over time until the

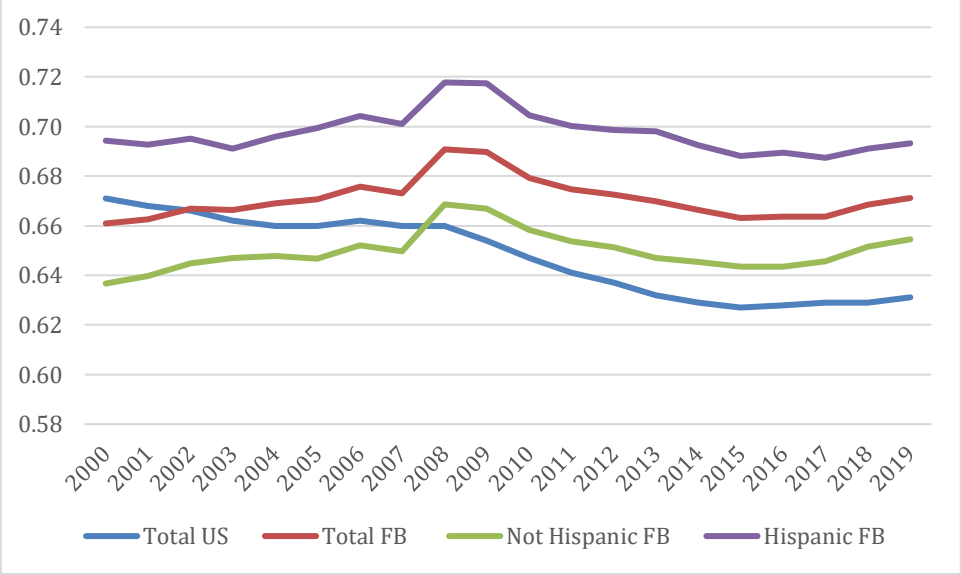
[9] If this scenario is analyzed based on net migration, which is defined as total immigrants (incoming) minus emigrants (outgoing), the effect is more worrisome, since the U.S. will only receive 1.1 million net immigrants in 2060, and a cumulative 44 million net immigrants from 2020 to 2060, as shown in previous Census Bureau projections.

present, and despite a small birth bump in 2021, there is still no strong evidence of how COVID-19 and its economic consequences might affect future fertility rates. However, the fact that COVID 19 had its greatest impact on older persons no longer of childbearing age may reduce its overall impact on fertility.

Section 2: Labor Market Needs or Immigrant Workers by Occupation (Midterm)

The slow natural growth and aging of the population, as well as the slower growth of immigration creates a threat to the future of the U.S. economy. The main effect is a decrease in productivity because of a potentially smaller labor force. As shown in Figure 8, since 2000, total U.S. labor force participation has been declining, and has held nearly flat over 2015 to 2019. Though Labor Force Participation Rates (LFPR) have also declined for foreign-born workers since 2009, they are still higher than the total U.S. participation, especially among foreign-born Hispanics (Figure 11). For a complete methodological description of U.S. labor market participation, see Appendix A.3.

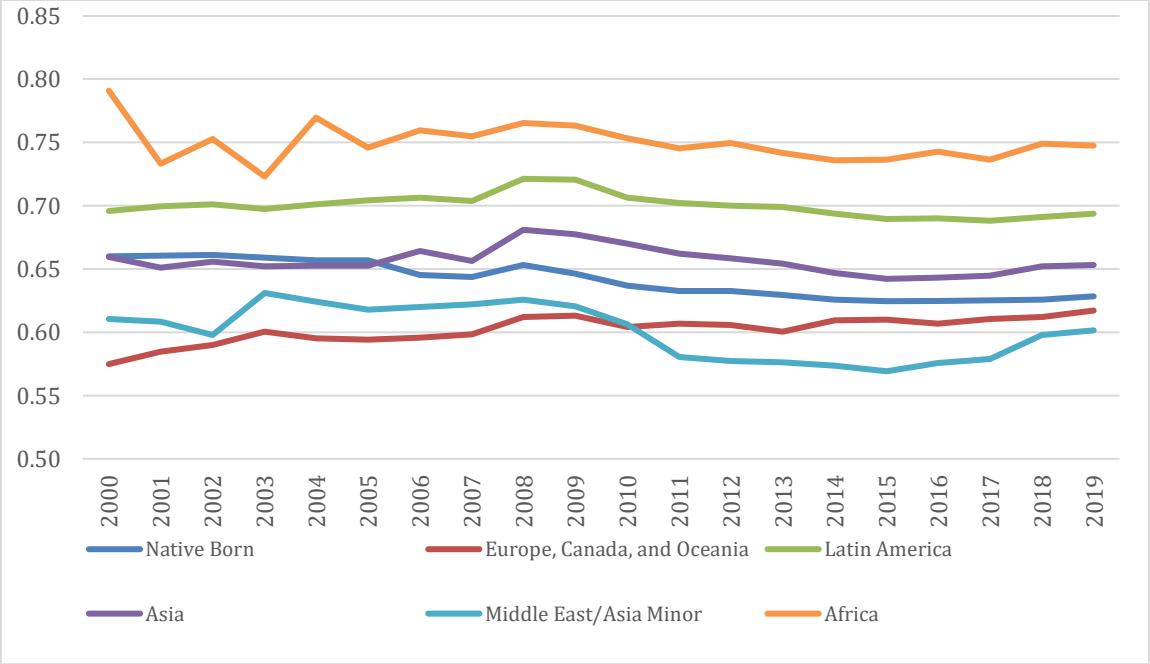
Figure 11: Labor force participation rates for total U.S., total foreign born, Hispanic foreign born, and not Hispanic foreign born



Source: For total U.S. "Civilian labor force participation rate," Bureau of Labor Statistics. For total FB, Hispanic and non-Hispanic, American Community Survey.

Among foreign born by region of origin, we find different patterns of labor force participation rates. Figure 9 shows that for those immigrants coming from the Middle East, Europe, Canada, and Oceania, participation rates are lower than those for native born. There is a similar pattern for the total U.S. LFPR. On the other hand, immigrants from Asia, Latin America and Africa have, since 2006, had higher LFPR than the U.S.-born population. This suggests that the source of immigration is an important consideration, especially as we found that projected emigration is higher from these latter regions (Figure 11).

Figure 12: Labor force participation rates for native born and foreign born by region of origin



Source: These are authors' estimates using American Community Survey 2000-2019.

The importance of immigration for the labor market is not only reflected in the labor force participation rates, but also where the labor market is assessed through scenarios with and without immigration. According to Hufbauer et al. (2021), under a scenario with zero immigration, the total labor force could decrease from nearly 200 million in 2020 to 180 million in 2060, while under a scenario where immigration was allowed, this total labor force could be 200 million in 2020 and increase to nearly 230 million in 2060, assuring that labor market demands would be satisfied.

However, assuring the economic productivity of the U.S. over the next decades is not only a matter of increasing the number of potential workers, but also analyzing those occupations where workers will be in more demand, and whether immigrant workers have the skills for those occupations. In the next two sections, we show occupations where immigrant workers are currently allocated, providing a picture of how these workers could transition between occupations. Then, based on midterm employment projections by the Bureau of Labor Statistics and the American Community Survey of immigrants' current occupations, we show occupations with the fastest-growing and fastest-declining number of jobs and rates of growth, and how immigrants are represented in those occupations. For a complete description of the methodology for the next two sections, see Appendix A.4.

2.1 Immigrant workers allocation by occupation

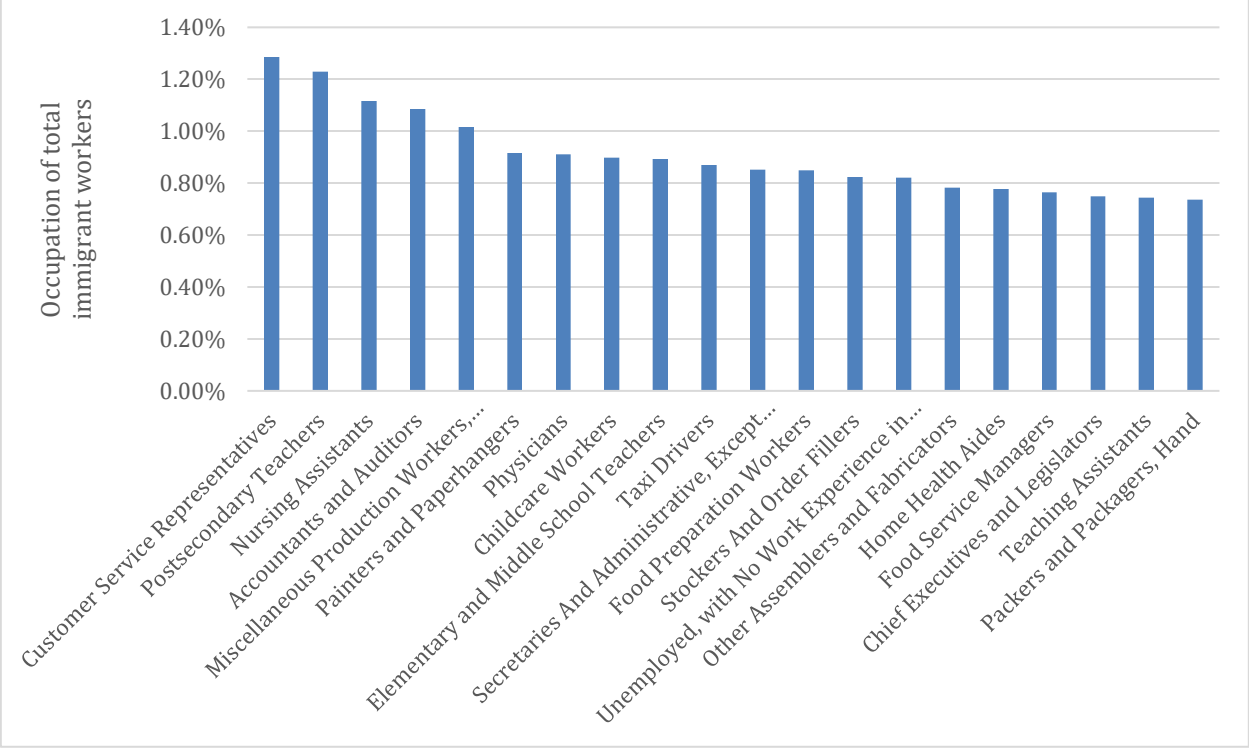
As we have shown, immigrants are essential for the U.S. economy. A previous study by Hinojosa et al. (2020) showed that nearly 79% of undocumented workers were considered essential workers during the COVID-19 pandemic. Also, evidence shown previously in this study demonstrates that immigrants have had high labor force participation rates. We will show in this section that a significant share of these immigrants currently works in occupations that are expected to experience a fast rate of growth and add more jobs to the current pool.

Importantly, a frequently cited potential problem with immigrant workers—that they compete for jobs with native US workers—is not actually supported by the data. An increase of immigrant workers does not necessarily create competition for jobs with native workers. A report by Dramski (2017), using data from the American Community Survey and the American Time Use Survey (ATUS), compares the likelihood of immigrant and U.S.-born persons working unusual hours and weekend hours. Among other results, he found that "high-skilled immigrants were 10.1% more likely to work unusual hours than high-skilled U.S.-born workers," while lesser-skilled immigrants were 18.2% more

likely than their U.S.-born peers to work unusual hours. In occupations such as physicians and nursing assistants, the likelihood of working unusual hours is 20.6 and 16.8% higher, respectively. Also, immigrant workers do not have significant impacts on U.S.-born workers' wages, as an analysis by Peri and Ottaviano (2008) demonstrated. The researchers found the immigration effect on the average U.S.-born workers' wages, as well as those US born workers without a high school diploma, in the short run were very low (-0.7% and -0.4%, respectively) while in the long run, there were small positive effects on wages (+0.3% and +0.6% respectively).

Figure 13 shows that nearly half of immigrant workers are present in just 36 occupations. Most of these workers are positioned in occupations both with the fastest-growing and fastest-declining occupations (as shown below).

Figure 13: Immigrant workers allocation by occupation (2019)

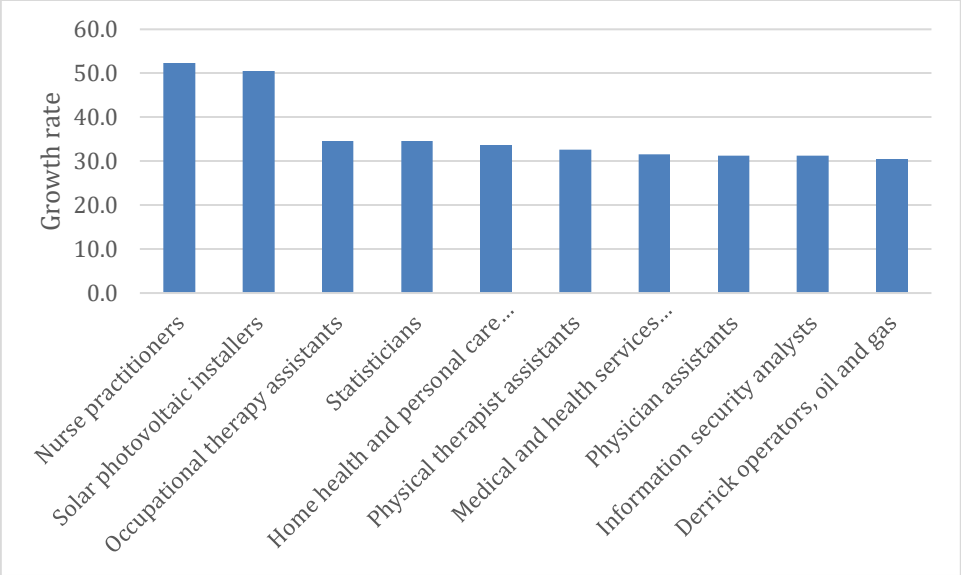


Source: Authors' estimates using American Community Survey datasets.

2.2 Fastest-growing employment by occupation

Projected fastest-growing occupations are related to health and personal care, such as nurse practitioners, therapists, physicians and general medical, health, and personal services (e.g., care for the aged). Also, occupations related to energy, such as solar panel installers and derrick operators. Other projected fastest-growing occupations are those related to technological industries, such as statisticians and information security analysts (Figure 14).

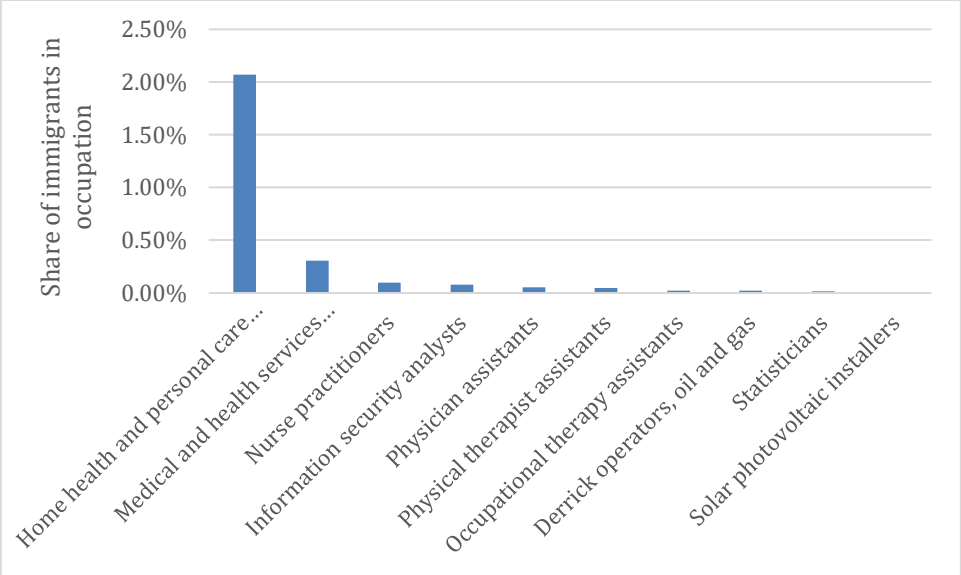
Figure 14: Compounded annual growth rate of fastest-growing occupations, 2019-2029



Source: Bureau of Labor Statistics labor market projections to 2029 (2020).

Though these are the 10 fastest-growing occupations relative to their current level of job positions, currently they are composed of a low number of workers, and immigrants are not well represented in these occupations. According to our analysis of American Community Survey data, 0.1% of the total immigrant workers are nurse practitioners, the occupation with the fastest projected growth rate. The only fast-growing occupation in which immigrants show relatively high participation is home health and personal care aides, at 2.1% (Figure 15). Since immigrant workers have low participation in the fastest-growing occupations, education and training in the skills required to perform these occupations is needed.

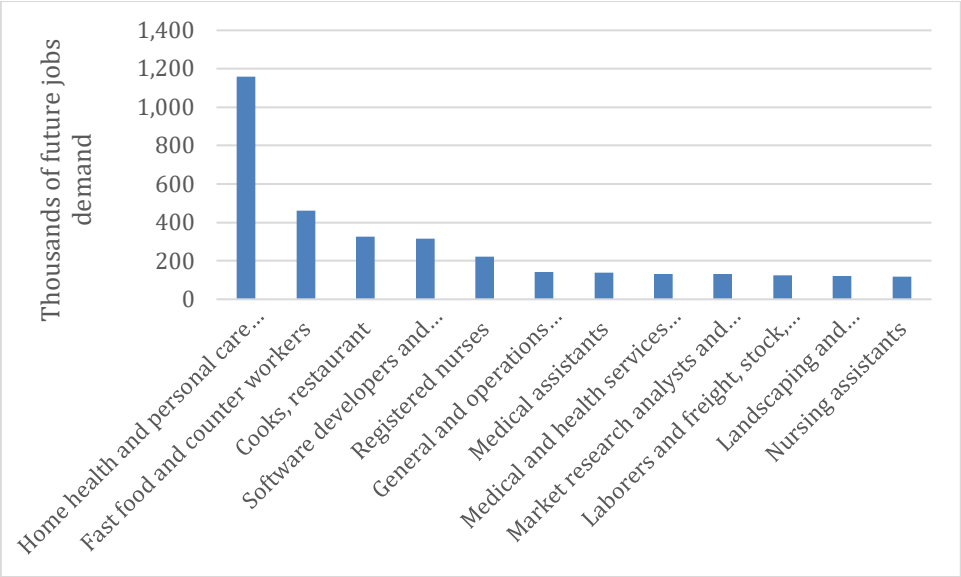
Figure 15: Immigrants as share of total immigrant worker, in projected fastest-growing occupations (2019)



Sources: Total workers in occupation are Bureau of Labor Statistics projections to 2029 (2020). Percentage of immigrants in occupations are authors' estimates using American Community Survey datasets.

Figure 16 shows the occupations that are projected to have the most job growth between 2019 and 2029. Three of these occupations are related to health care (medical and health services, nurse practitioners, and physician assistants). There are other occupations related to technology, such as software developers and market research analysts, which are also among the fastest-growing occupations, and which may require high educational attainments. However, occupations with lower educational requirements are also expected to have big job increases, such as home health and personal care aides; fast food and counter workers; laborers; freight, stock, and material movers; and landscaping and groundskeeping workers, all of whom can receive on-the-job training to develop the required skills.

Figure 16: Occupations with the highest number of job creation from 2019 to 2029



Source: Bureau of Labor Statistics labor market projections to 2029 (2020).

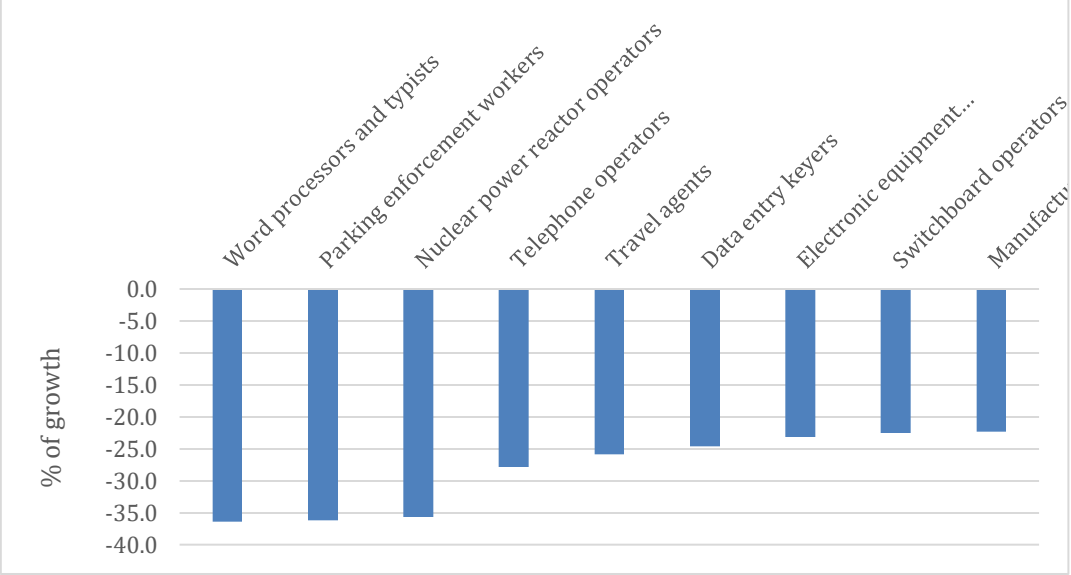
Compared to the fastest-growing occupations, immigrants have a better representation in these occupations in which a higher total number of job positions are expected to be created. Nearly 15% of immigrant workers are currently working in these occupations. However, of the 15%, 9.6% are working as health- and personal care-related aides and as software developers, market research analysts and specialists, the latter of which requires relatively high educational requirements. Of the 15%, 5.4% work in fast food and as counter workers, restaurant cooks, laborers; and freight, stock, and material movers; and in landscaping, occupations with lower educational requirements.

It is possible to assume that though immigrants are not well represented in many of the specific fastest-growing occupations, with education and training, especially on-the-job training, they might have the skills and knowledge to transition from related occupations to the fastest-growing occupations, resulting in higher wages, a higher value to the U.S. economy, and increasing the whole well-being of society.

2.3 Most rapidly declining total employment by occupation

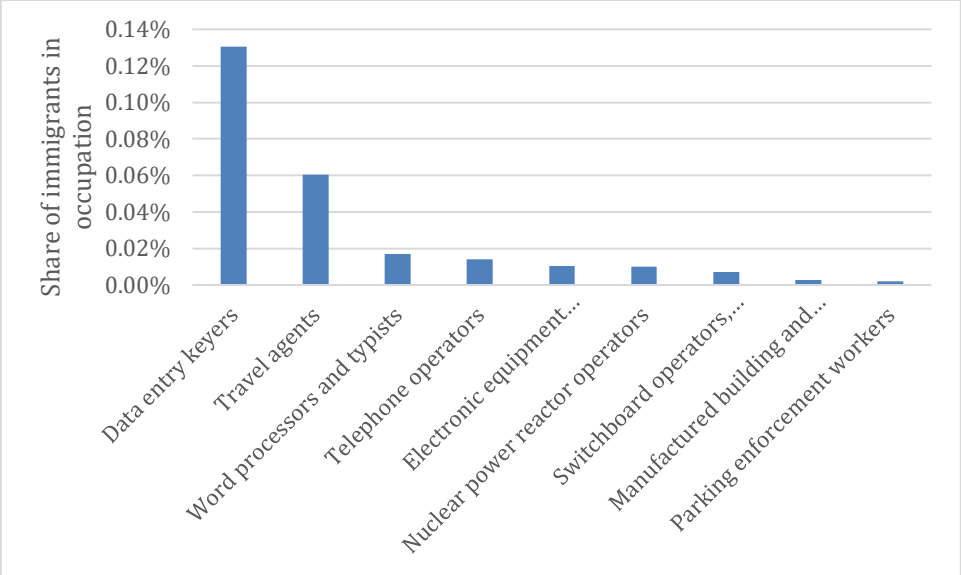
As we did with occupations with positive projections, those occupations with negative projections are listed – first, as those occupations with projected fastest declining growth relative to the current job positions; and second, occupations with the highest loss in total number of jobs. As shown in Figure 17, the occupations with the fastest loss of jobs are those that can be easily replaced due to automation in the production process. However, total workers in these occupations are relatively low, and immigrants in these occupations represent 0.3% of the total immigrant workers in the country (Figure 18). They are working as data entry and travel agents, occupations that might give them the basic skills to transition to another related occupation in the fastest-growing occupation segments.

Figure 17: Compounded annual growth rate of fastest declining occupations from 2019 to 2029



Source: Bureau of Labor Statistics labor market projections to 2029 (2020).

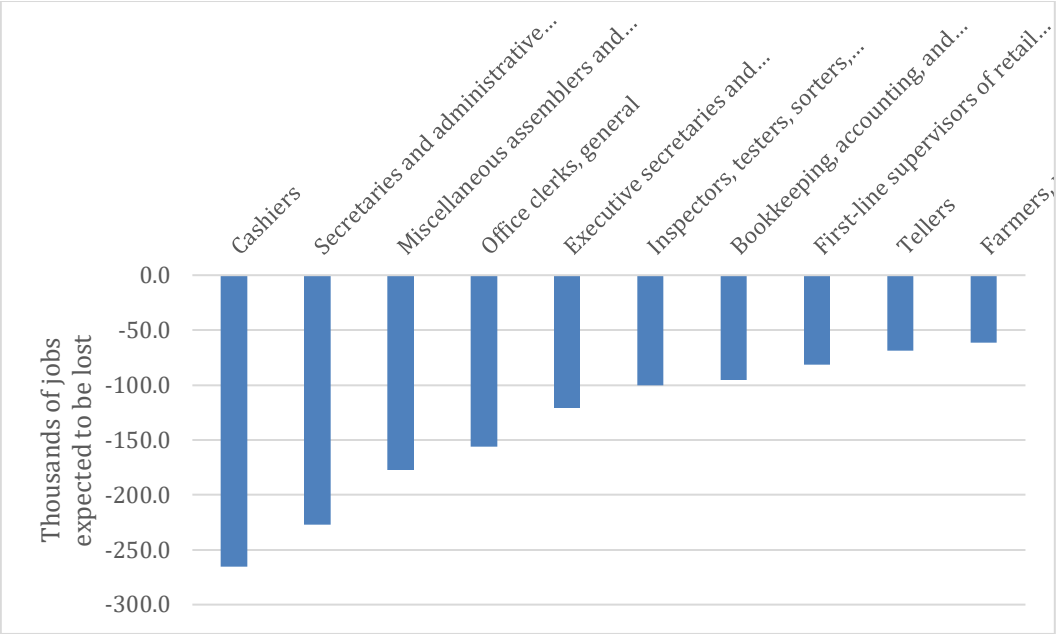
Figure 18: Immigrants as share of total immigrant worker, in projected fastest growing occupations (2019)



Sources: Total workers in occupation are Bureau of Labor Statistics projections to 2029 (2020). % of immigrants in occupation are authors´ estimates using American Community Survey datasets.

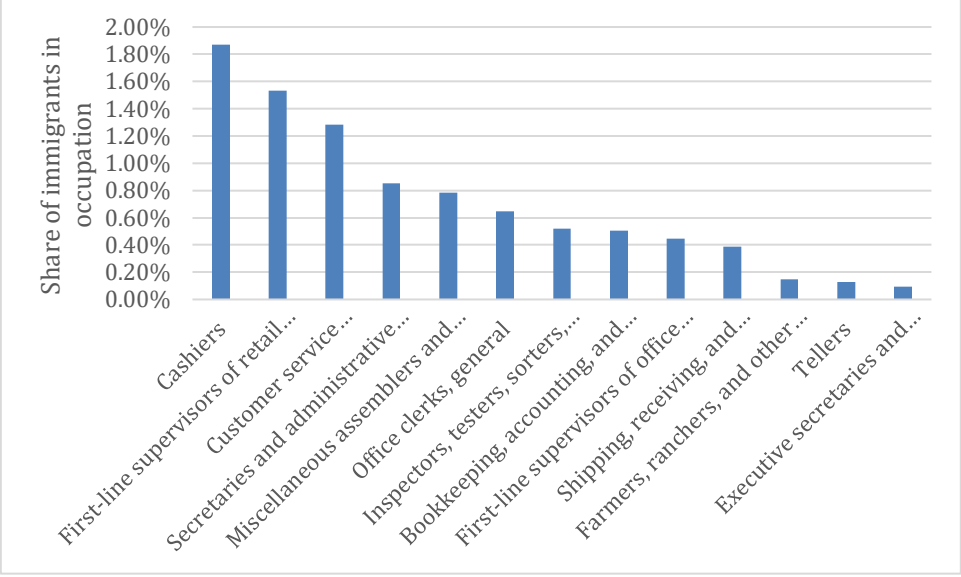
Figure 19 shows the occupations that are projected to lose the most jobs between 2019 and 2029. As it happens with the fastest-declining occupations, these are occupations with a high likelihood of being replaced by automated processes because of technological changes. Though a tiny fraction of immigrant workers is working in occupations with the fastest declining growth over the next decade, there are nearly 9.1% of immigrant workers in those occupations that are projected to lose the highest number of jobs over the next decade (Figure 20). Those workers that have functions as cashiers, office clerks, and customer service representatives have a higher likelihood of job losses, which means that nearly 3.8% of immigrant workers have a higher likelihood of losing their jobs over the next decade.

Figure 19: Occupations with the lowest number of jobs creation from 2019 to 2029



Source: Bureau of Labor Statistics labor market projections to 2029 (2020).

Figure 20: Total immigrants as share of workers in occupations with expected higher employment destruction (2019)



Sources: Total workers in occupation are Bureau of Labor Statistics projections to 2029 (2020). Percentage of immigrants in occupation are authors' estimates using American Community Survey datasets.

2.4 Expected immigrant labor demand by occupations

While 10% of immigrant workers are in great danger of losing their jobs, mainly due to automation processes in the occupations they perform, on the other side, 15% of immigrant workers are performing occupations with a higher demand, and therefore, with potentially more new jobs being generated. However, most of these immigrants are working in occupations that are going to add more total jobs in the midterm, but not necessarily in those that are expected to grow at a faster pace, leaving them out of the most economically dynamic occupations.

Nearly 75% of the remaining immigrant workers are projected to be allocated in occupations that are projected to experience some increase in the demand for labor, such as passenger vehicle drivers, janitors and cleaners, waiters and waitresses, construction laborers, social and human service assistants, animal caretakers, etc. (Bureau of Labor Statistics, 2020). However, these are occupations which are not related to the fastest-growing sectors and do not require high educational attainment, making it more difficult to transfer these workers to fastest-growing occupations that have more opportunities and are still important to the future U.S. economic structure. Thus, it is important to work on an immigration strategy that allows workers with relatively low educational levels to fulfill occupations expected to add a higher number of new jobs and require these profiles, as well as workers that have a high educational attainment to perform some of the fastest-growing occupations that require a higher educational profile. For the latter occupations, programs that encourage international students who earned a degree in the U.S. to remain in the country would likely be beneficial for the projected labor market needs, as well as to ensure potential occupational mobility in the future.

Most of the occupations projected as fastest growing and those with the most job growth requires at least an associate degree. As we show below, most immigrants come into the U.S. with a high school education or less, and they will continue being important for labor markets as the projections for occupations with higher job creation show. In the following section, we shed light on

the immigrants' educational background when they arrive in the U.S. and their evolution over time, as well as the current state of their educational attainment, to have a better idea about how they must be retrained to be successfully incorporated into the modern labor market.

Section 3: Educational Needs for Immigrants

The goal of immigrant workers is to enter the U.S. labor market, improve their own situation and contribute to the productivity of the economy. Many have been described as persons with low educational attainment and without intentions to change this condition. However, evidence shows that although most immigrants come to the U.S. with relatively low educational attainment, over time, they are willing to improve their educational status. In this section, we show data on immigrants' educational attainment when they enter the U.S. and the growth of degrees conferred by U.S. educational institutions by race. To estimate the educational attainment of new immigrants when they arrive in the U.S., we used the American Community Survey data.[10] For each year, we accounted for the immigrants that reported they entered the U.S. the previous year, and the associated educational attainment of those immigrants. For more details on the methodology used in this section, see Appendix A.5.

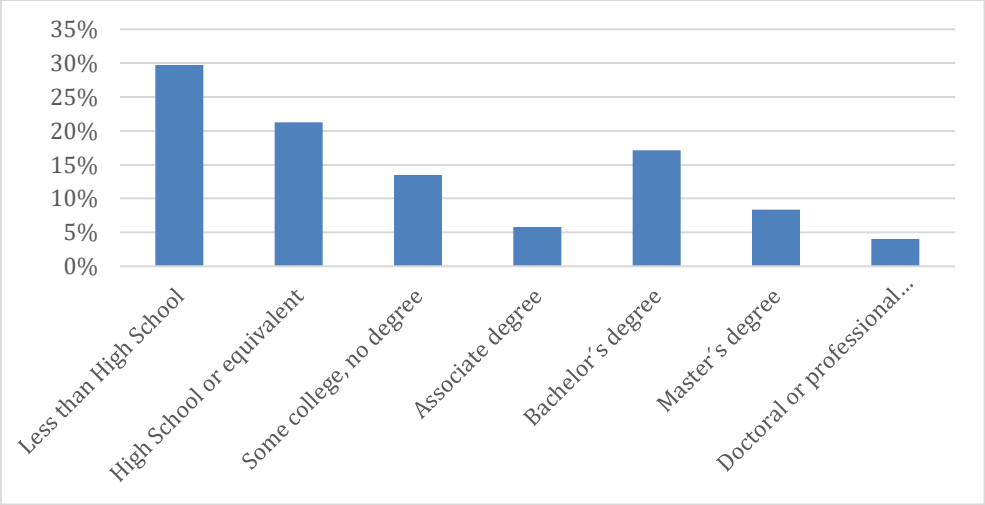
3.1 Average educational attainment of immigrants

Over time, the educational attainment of new immigrants has consistently been the same when they arrive in the U.S. An analysis of American Community Survey data show that more than half have some high school education or less, and 16% have achieved a high school degree. More than one-third did not hold a high school diploma when they emigrated to the U.S., and approximately a quarter have a bachelor's or higher degree. However, this is not a static dimension, and over time, new immigrants

[10] Since we have used American Community Survey data, and considering all immigrants, regardless of age, these estimates might differ from other sources that use the Current Population Survey data and filtered by immigrants 18 years and over. Since we are analyzing the potential impacts on future labor markets shrinkages, we have decided not to filter by age to show the educational attainments of all immigrants, including those under 18 years old that are potentially entering to the future labor market.

admitted to the U.S. do improve their educational attainment. As shown in Figure 21, fewer than 30% of immigrants had an educational attainment of less than high school in 2019, which is lower than the average 35% of immigrants with less than a high school education when they entered the U.S. between 1999 and 2019. Also, 29% of immigrants in 2019 held a bachelor's degree or higher, while the average percentage of immigrants with this educational attainment when they entered the U.S. between 1999 and 2019 was 20%. This is also true when we see the immigrants' educational attainment by region.

Figure 21: Educational attainment of immigrants in the U.S. (2019)



Sources: These are authors' estimates using American Community Survey.

Immigrants with less educational attainment and more educational needs are those coming from Africa and the Middle East. Over time, the flow of new immigrants from Africa shows lower educational attainment, which is reflected in an increase of the share of immigrants that arrived with less than a high school education between 1999 and 2019. Meanwhile, the share of new immigrants from Mexico, Latin America, Europe, Canada, Oceania and China with educational attainment of less than high school has declined between 1999 and 2019, while for Asia (excluding China), this share has increased. See Appendix A.5.

In comparison, the share of immigrants from certain regions who enter the U.S. with an associate degree or higher, earned in their region of origin, increased between 1999 and 2019. The share

of immigrants with an associate degree or higher coming from Latin America rose from 16% in 1999 to 26% in 2019; for those coming from Mexico, 1% to 15%; from China, 44% to 53%; and from the Middle East and North Africa, 9% to 33%. Meanwhile, those coming from Europe, Canada, and Oceania increased from 37% to 41%. The opposite is true for those coming from Africa and Asia (excluding China), which decreased from 39% to 22%, and from 46% to 37%, respectively. However, for the latter region, the decline was tied to a decrease in those with associate, bachelor's, or Ph.D. degrees, while the share of immigrants with master's degrees increased.

Asia and Latin America are expected to send the most immigrants to the U.S. in future decades, while immigration from Africa is expected to have the highest growth relative to the current levels. For those coming from Asia and Latin America, with higher percentages of immigrants with an associate degree or higher might be relatively easy to retrain on specific occupations, especially through on-the-job training and occupational licenses portability, given their educational attainments. On the other hand, for those coming from Africa, educational policies need to focus on providing on-the-job training, specifically for those occupations that are growing and do not require high educational levels, to better transition them to the labor market.

3.2 Educational Attainment of Workers in The Fastest-Growing Occupations

Currently, immigrants have similar educational attainment levels as total workers in some of those occupations with the fastest growth rate, but they are not well represented in these occupations. However, there are other occupations where they would need more training or education to be competitive in the labor market and continue growing in those occupations. Immigrants working in occupations, such as nurse practitioners, information security analysis and statisticians might be well prepared for the growth since they have similar education as the total group of workers. However, based on the Occupational Outlook Handbook (Bureau of Labor Statistics, 2022) revision on the typical entry-level education required by each occupation, we found that immigrants might be

encouraged to get a high school diploma or equivalent to become a solar panel installer, home health and personal care aide; an associate degree to become an occupational therapist or physical therapist assistant; or a master's degree to become a physician assistant. This could create the conditions for immigrant workers to successfully integrate into the U.S. labor market and open up opportunities for their growth. At the same time, most immigrants working in occupations that are expected to have more job growth (total number of job positions) are well prepared since they show similar educational attainments as the average total labor market in those occupations.

Section 4: Policy Recommendations

As has been reported above, U.S. labor markets are expected to suffer shortages due to the population aging and projected lower immigration. Thus, it is important to promote policies that encourage international students to stay in the U.S., develop and incentivize programs for educating undocumented youth already living in the U.S. through community college programs for workforce development, and promote on-the-job training programs for under-employed immigrants. Moreover, policies that incentivize new immigration by allowing them to effectively perform their skills acquired abroad through transferable occupational licenses should also be considered.

There is increasing interest by employers in assessing individuals' job skills (rather than relying solely on degrees and certificates) and in providing credit and badges for experiences that can be standardized. This midterm measure could be beneficial for the labor markets without imposing significant pressure on an education system that is chronically underfunded.

To ensure the social and economic integration of new immigrants they should also be given the opportunity for financial inclusion. For this, we propose the use of social and technological innovations, such as a city ID with debit card functionality. Similarly, we call for comprehensive immigration reform that includes the currently unauthorized, TPS (Temporary Protected Status),

DACA (Deferred Action for Childhood Arrivals), and agricultural workers. A well-thoughtout immigration policy could ensure a sustained economic growth and provide a solution for the expected shrinkages of U.S. labor markets.

4.1 Facilitate Education for Unauthorized Immigrant Youth

Policies that facilitate unauthorized immigrant children and youth to maximize their educational achievement must also be expanded. In line with the landmark U.S. Supreme Court decision in *Plyler v. Doe*, quality K-12 education must be supported. The policies that facilitate young people growing up as unauthorized immigrants in the U.S. to continue their education in universities should also be supported. California AB540, which was passed in 2001, provides a model for some states legislatures across the country. Most recently, voters in other states approved similar policies, such as Arizona Proposition 308, which passed in November 2022. Facilitating education for this group would likely increase their integration into the U.S. labor market, especially since most have been raised in the U.S., and acquired the culture and values required by the national labor market.

4.2 Incentivize Immigration Through Occupational Licenses

Occupational licenses issued by government agencies demonstrate skills and knowledge to perform a specific occupation. According to the National Conference of State Legislatures (2021a), around 25% of occupations in the U.S. require a license from the government, and the requirements vary drastically from state to state. Also, Cunningham (2019) found that occupational licenses have positive outcomes in the labor market. For example, according to this study, the labor force participation rate among those with occupational licenses was 87.7% in 2018 but was 57.8% for those without licenses. Also, occupational licenses contribute to a reduction in inequalities since the gaps in labor participation rates between different demographic groups tend to be lower among those with occupational licenses than those without occupational licenses. But according to Bilal and Goldman (2018), although some occupational licenses might be beneficial to protect the health and safety of the

public for certain occupations, an occupational license scheme that is generalized to all licenses might restrain the labor supply and therefore should be carefully considered. Of critical importance for immigrant labor these licenses should be transferrable.[11]

Although current immigrants are spread across a variety of occupations (see previous section), 9.6% are currently working in healthcare and personal care occupations that, according to Cunningham (2019), require a license to perform the job (93.9% of healthcare workers require a license, while 89.5% of personal care workers do). This is an example of how making occupational licenses accessible for current and future immigrants might help to counter expected labor shortages. Flexibilization on the portability of occupational licenses also could benefit U.S.-born workers who are licensed by one state and want to provide the same services in other states. Currently, some states have enacted laws easing the process to earn an occupational license, especially regarding immigration status. Table 1 in the appendix describes different legal initiatives in 2019 and 2020.

Some of these laws state an occupational license should not be revoked due to immigration status. However, it is important to highlight Vermont HB533, which states, "The department must assess tools needed for refugees to effectively apply preexisting educational and professional credentials in Vermont settings." Encouraging laws like this could be essential to incentivize immigration for workers in occupations that are expected to face labor shortages in the future. With these measures, some labor law enforcement would be needed to prevent employers from violating health, safety, and economic standards. For a detailed list of state employment immigration laws enacted in 2019 and 2020 please see Appendix A.6.

[11] Occupational license transferability ensures that an individual is able to prove that they have acquired the required skills to perform an occupation regardless of the geography where they earned the occupational license.

4.3 Social and Technological Innovations

The lack of access to financial services has led some immigrants and U.S. citizens to live in an informal cash economy, dependent on high-cost, alternative financial services. As of now, immigrants without proper forms of identification are prevented from full-scale financial inclusion in U.S. banking institutions. Our policy approach centers around advancements in city ID technologies. According to Hinojosa and Sanchez-Hall (2016),[12] and Hinojosa et al. (2023) financial exclusion is a critical part of what is called a "transnational vicious cycle," which keeps immigrant families facing expensive costs of financial services. Being unbanked presents a challenge that is uniquely addressed by a city ID debit card that serves as a local card for identity and allows the carrier to access banking, as well as a tool for empowerment in migrant home-origin communities. A city ID card is designed to be recognized as an official form of identification by local government institutions and local authorities, such as the police.

Hinojosa and Sanchez-Hall (2016) show that the decisions of banks to accept or deny some immigrants — especially undocumented — as customers are based on the discretionary policies of individual banks and branches, not on existing laws. Existing laws only require a foreign government-issued ID card with a photograph to open a basic checking or debit account. To address these problems, we propose a city ID 2.0, a hybrid combination of a municipal ID, debit card, and mobile application that allows for a variety of financial services, including remittances, at lower costs. The California cities of Oakland and Richmond provide city ID/debit cards at no cost to the city or to taxpayers. Local applicants pay a one-time fee of $15 dollars. In addition, the cards are reloadable at many businesses throughout the city.

Once an established city ID/debit card program is operational, we can begin to solve other critical issues. For example, the financial access platform of a city ID/debit card can allow the

[12] Hinojosa and Sanchez-Hall (2016) reviewed in the history of the origins of the City ID movement, the benefits and flaws discerned from the first wave of municipal city IDs 1.0, and how this led to a second wave of municipal IDs with added debit card and mobile platform features.

applications for immigrant regularization of status to be achieved. Lastly, a platform for remittances could help lower their cost and also be used for transnational savings bonds, which can help to address migration root causes in immigrants' countries of origin. Thus, a policy based on social and technological innovations, such as a city ID 2.0, could be beneficial both for immigrants' financial inclusion in the U.S. but also to address the root causes of emigration from countries of origin, helping to create a more ordered immigration to the U.S.

4.4 A Comprehensive Immigration Reform for Current Unauthorized, TPS, DACA, and Agricultural Workers.

The authors urge Congress to pass a bill that would allow current unauthorized immigrants in the U.S. to gain citizenship. According to Hinojosa et al. (2021), providing citizenship to all unauthorized workers would add $1.5 trillion in gross domestic product to the U.S. economy over 10 years. This would result from current increases in productivity by unauthorized immigrants, created from two sources: first, their ability to access better training and educational programs, and second, as legalized workers, they could transition from occupations that are less productive (relative to their educational attainments) to occupations that better fit their skills and knowledge, in many cases acquired in their home countries. This could also help maintain above-the-replacement-level fertility rates, through relaxation of interior immigration enforcement by reducing the fear of family separation. Holding fertility rates for this group could be helpful in building a younger workforce.

Conclusion

Continuing with attitudes that criminalize and marginalize immigrant workers, rather than creating orderly immigration and training policies, will only hurt the future of the U.S. economy and labor market productivity. As the U.S. population is aging and fertility rates are rapidly declining, the only way to ensure the future expansion of the labor market is through immigration. Yet the required new immigration must be accompanied by a deep analysis of the future labor demands, educational

assessments for immigrants, and should provide them with the required tools for workforce and financial integration. The latter can better ensure that immigrants are going to be allocated in those occupations where more value added is created, increasing the productivity and well-being of the whole nation.

As we have argued, previously projected immigration will not be enough to ensure a sustained population growth over the next decades, leading to a direct impact on the productivity of the U.S. economy. In this sense, the authors encourage policymakers to work on the proposed social policies. Incentivizing immigration alone would not assure a productivity increase in the U.S. economy. Thus, it is important to promote policies that grant access to training for those current and new immigrants, especially in those areas that will allow workers to match their skills with growing labor market demands, as well as access to occupational licenses and financial services. For these kinds of programs, it is important to first identify the immigrant's educational attainment when they enter the country and incentivize them to achieve the next educational step, preparing them for a more productive integration into the labor market. It is also critical to build on our current educational systems to make them more welcoming and amenable to the specific needs of the immigrant population. Collaboration among public institutions, educational institutions, the business sector, and workforce development agencies should play an important role in which shared information about changes in the economy and labor markets induce corresponding changes to training priorities.

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Appendices

Appendix A.1. Total Fertility Rates methodology

Sources:

- "Vital Statistics Natality Birth Data," National Bureau of Economic Research. https://www.nber.org/research/data/vital-statistics-natality-birth-data
- "Bridged-Race Population Estimates," Center for Disease Control and Prevention. https://wonder.cdc.gov/bridged-race-population.html
- "Birthplace," single-year American Community Survey and Decennial Census, retrieved from IPUMS USA.

Methodology description:

To estimate the total fertility rate, we first estimated the age-specific fertility rates per woman based on six nativity, race, and Hispanic origin groups, and then summed up this age-specific fertility rates to get the total fertility rate.

Age-specific fertility rates were calculated with the following formula:

$$ASFR_{x,t} = \frac{Births_{x,t}}{FP_{x,t}}$$

Where:

$ASFR_{x,t}$ = age-specific fertility rate at age x and time t;

$Births_{x,t}$ = number of births to mothers age x and time t

$FP_{x,t}$ = female population age x at time t (also referred to as the denominator for fertility rates)

To create these fertility rates, we used the "input" data as described below.

1. Denominators for fertility rates

To create total fertility (and mortality) rates first we must generate denominators. The base data for this denominator is "Bridged-Race Population Estimates," which provides information on women by specific age at a determined time, as well as four race categories (White, Black, Asian or Pacific Islander, and Native American or Alaska Native). However, it is necessary to measure the fertility rates not just by race, but by origin – in the U.S. or abroad -- of birth.

Birthplace information is not given by the "Bridged-Race Population Estimates," so we used the single-year American Community Survey for years 2001-2019, and 1990 and 2000 decennial censuses. American Community Survey and decennial censuses give information on a person's birthplace (state or country), as well as detailed age and race, being possible to distribute the population on the basis of birthplace given the other variables. To make the distribution, we created proportions of native and foreign-born within characteristics such as age, race, and Hispanic origin groups.

The estimated proportions of native and foreign born by age, race and Hispanic origin are then multiplied by the total female population within the same categories, getting the total female population age x at time t given their race and Hispanic origin. It is important to note that this is a method used by many authors, including U.S. Census Bureau (2018).

2. Births

We used the "Vital Statistics Natality Birth Data" compiled by the National Bureau of Economic Research in their "Public Use Data Archive" information that originally comes from the "National Center for Health Statistics." This database gives information on births and demographic information about the mother, including race, age, Hispanic origin, and country of birth. This is the information that is used as the numerator in the previously showed formula.

3. Fertility rate projections

Total fertility rates were projected to 2060 by assuming linear convergence in the year 2100 of the age-specific fertility rates of all six nativity races, and Hispanic origin groups. The 2100 convergence point is the average age-specific fertility rates of the native White population for the years 2009-2019 (originally Census Bureau made the average from 2004-2015). After this process is done, we made an interpolation of the age-specific fertility rates from 2019 to 2100 by age, race, Hispanic origin, and nativity, with the following formula:

$$ASFR_x = ASFR_{x-1} + \frac{(Year_x - Year_{x-1}) \times (ASFR_{2100} - ASFR_{x-1})}{(Year_{2100} - Year_{x-1})}$$

Where:

$ASFR_x$ = age-specific fertility rate for year x

$ASFR_{x-1}$ = age-specific fertility rate for year x-1

$ASFR_{2100}$ = age-specific fertility rate for native White women in year 2100 (convergence point)

Appendix A.2. Total immigration projections

Sources:

- "Estimates and projections of populations in other countries," Census Bureaus´ International Data Base (IDB). https://www.census.gov/programs-surveys/international-programs/about/idb.html
- "Foreign-born immigration," single-year American Community Survey and Decennial Census, retrieved from IPUMS USA.

Methodology description:

Estimates and projections are based on the perspective of sending countries rather than receiving country. For this, the first step is to estimate and project the emigration rates from sending countries. Then, the projected emigration rates are multiplied by the projected population in the origin countries. Two sources of information are relevant for the emmigration rate: First, the American Community Survey annual data on immigrants by year, and second the U.S. Census Bureau International Database, which compiles information on the world population by country. This is a typical method used by many authors, including U.S. Census Bureau (2018). The formula for the total immigration projections is:

$$Projected\ immigration = ER_{x,t} * PP_{x,t}$$

Where:

$ER_{x,t}$ = emigration rate in country/region x at time t

$PP_{x,t}$ = projected population in country/region x at time t

Below we explain how we estimated the components of the total immigration projection.

1. Emigration rates estimates

To maximize the diversity and minimize heterogeneity between regions, Census Bureau (2018) has made a classification of six regions/countries of origin, which is the same that we used. However, given the importance in emigration from China, we isolated this country from Asia, to observe the emigration pattern of this country.

The emigration rate is calculated by dividing the total emigration from a region/country for a specific year by the estimated population in that region/country. The total immigration data for a specific year is taken from the next single-year American Community Survey, counting those foreign-born individuals who reported that their entry to the U.S. was the year before of the survey. To account for those who entered the U.S. between 1991 and 1999, we used the 2000 decennial census.

$$ER = \frac{Immigrants_{x,t}}{Estimated\ Population\ _{x,t}}$$

Where:

$Emigrants_{x,t}$ = emigrants from region/country *x* who entered the United States in year *t*

$Estimated\ Population\ _{x,t}$ = estimated population in region/country *x* in time *t*

2. Projected emigration rates

Once the emigration rates have been estimated for previous years, we used a power function presented by the Census Bureau to project the future emigration rates from regions/countries of origin, where the dependent variable is emigration rate and the independent variable is time in years. With this function, we can find the intercept and coefficients required to project the emigration rates over time. The function is:

$$Log_n(er) = a + bLog_n(n)$$

Where:

er = the emigration rate for year n; n = the year; a = the model intercept; b = the model coefficient

3. Total immigration projection

To project the future total immigration by region/country of origin we just multiplied the projected emigration rate for that region in each year by the estimate of the total population in that region in the same year.

4. Net immigration estimate

To estimate the net immigration, we used the American Community Survey data on new immigrants by year, and then divided it by the net immigration reported by U.S. Census Bureau. We considered the annual data from 2010 to 2019. Then we made an average of these rates and assumed this would be the share of net immigration over the total immigration the following years (0.594306).

5. Different scenarios of total immigration growth 2020-2060

To estimate the different scenarios, we considered the previous net immigration projections by U.S. Census Bureau (2018) as desirable levels. From this, we estimated the annual immigration growth required to reach those levels through the percentual gap between those estimates in 2060 and our estimate for 2060, divided by the number of years, having a result of a 1.5% annual increase. The 0.45% increase is the actual expected increase given our projections, and the 0.2% increase is a scenario where immigration is cut half of the current projection.

Appendix A.3. Labor force participation rates

Sources:

- "Foreign-born immigration" and "Labor force status" single-year American Community Survey, retrieved from IPUMS USA.

Methodology description:

To estimate the labor force participation rates, we used the labor force status reported by the American Community Survey, for foreign-born people by Hispanic origin. For each group we separated them into two categories: "No, not in the labor force," and "Yes, in the labor force." Then we divided those who reported being in the labor force by the total population over 16 years reported for foreign born and by Hispanic origin.

Appendix A.4. Fastest growing and declining occupations

Sources:

- "Employment Projections," Bureau of Labor Statistics
- "Occupation, SOC classification," single-year American Community Survey, retrieved from IPUMS USA

Methodology description:

We have information on the "fastest-growing occupations," which are those occupations that are having a higher increase in percentual points compared to their current level. We also used the "Occupations with the most job growth," which are those occupations with the expected greatest number of total job positions creation. Another information availability is the "Fastest declining occupations," which are those occupations with higher percentual decline relative to the current level, and "Occupations with the largest job declines," which are those occupations that are expected to have a higher total number of job positions lost in the next decade.

We also used the single-year American Community Survey to map in which occupations immigrants are allocated, and the proportion of immigrant workers in those occupations that are expected to perform better and worse in the future. Given this information, we used this data to make a top occupation in each category, and how immigrants perform in each of these occupations.

Appendix A.5. Educational attainment

Sources:

- "Educational attainment," single-year American Community Survey, and decennial 2000 census, retrieved from IPUMS USA
- "Educational attainment for workers 25 years and older by detailed occupation," Bureau of Labor Statistics. https://www.bls.gov/emp/tables/educational-attainment.htm

Methodology description:

We have used both the single-year American Community Survey from 2001 o 2019 and the decennial 2000 census for information in 1999. This database gives information on year of immigration and educational attainment of immigrants to the United States.

1. Educational attainment for new immigrants by year

To estimate the educational attainment of new immigrants when they arrive in the U.S. for each year we counted the immigrants that reported they entered the U.S. the previous year, and the associated educational attainment of those immigrants (this is assuming that in one year they didn't change their educational attainment status). This information also allowed us to make an analysis of the educational attainment of new immigrants by region/country of origin.

2. Educational attainment of total immigrants in 2019

To estimate the educational attainment of immigrants in 2019, we used the 2019 single-year American Community Survey database, and accounted for the educational attainment of immigrants, no matter the year they entered the U.S. Making this estimate allows us to capture the educational attainment that they have earned during their stay in the U.S.

3. Educational attainment comparison between immigrants and total workers

To compare the educational attainment for immigrants and total workers we estimated the educational attainment of immigrant workers who are 25 years old and older in 2019 by occupations using the 2019 single-year American Community Survey and compared it to the educational attainment for workers 25 or older by detailed occupation estimated by the Bureau of Labor Statistics.

Appendix A.6. Table A1: State Employment Immigration Laws Enacted in 2019 and 2020

Year	State	Legislation	Description
2019	Arkansas	HB 1552	This legislation authorizes the state Board of Nursing to license recipients of the DACA program.
2019	Illinois	SB 1166	This law states that, except as otherwise provided by law, no department may deny an occupational or professional license based solely on the applicant's citizenship or immigration status. This provision does not grant eligibility for any public benefit other than a license.
2019	Maine	HB 1209	This law establishes the Foreign Credentialing and Skills Recognition Revolving Loan Program to provide financial assistance to immigrants who need help paying for certain costs (such as translating documents) prior to receiving a work permit and English or job instruction after receiving a work permit.
2019	Nevada	AB 275	This law prohibits a regulatory body from denying an application for a license, certificate or permit based solely on the applicant's immigration or citizenship status. It also authorizes applicants to provide their individual taxpayer identification number on their application if the applicant does not have a Social Security number. The law repeals a requirement that licensees be a citizen of the United States or otherwise authorized to work in the United States.
2019	Oregon	SB 855	This law requires professional licensing boards to study how immigrants or refugees become licensed, certified or otherwise authorized in the occupational or professional service regulated by the professional licensing board. Each professional licensing board shall develop and implement methods to reduce barriers to licensure, certification or other authorization for applicants who may be immigrants or refugees. Licensing boards are required to report on progress to the Legislative Assembly.
2019	Vermont	HB 533	This law requires the Vermont Department of Labor to increase the availability of training programs that lead to a credential of value. The department must assess tools needed for refugees to effectively apply preexisting educational and professional credentials in Vermont settings.
2019	Washington	SB 5438	This law aims to clarify the state's role in the H-2A temporary agricultural program to provide adequate protections for foreign and domestic workers and provide education and outreach opportunities to help growers maintain the stable workforce they need.
2019	Washington	SB 5497	This law establishes a "keep Washington working" statewide work group to: 1) develop strategies with private-sector businesses, labor and immigrant advocacy organizations to support current and future industries across the state, 2) conduct research on methods to strengthen career pathways for immigrants and create and enhance partnerships with projected growth industries, 3) support business and agriculture leadership, civic groups, government and immigrant advocacy organizations in a statewide effort to provide predictability and stability to the workforce in the agriculture industry, and 4) recommend approaches to improve Washington's ability to attract and retain immigrant business owners that provide new business and trade opportunities.
2020	California	AB 2113	This law requires licensing boards to expedite the initial licensure process for an applicant who is a refugee, has been granted asylum or has a special immigrant visa.
2020	New Jersey	SB 2455	This law states that lawful presence in the United States is not required to obtain a professional or occupational license, provided that the applicant meets all other requirements for licensure.
2020	New Mexico	SB 137	This law confirms that a person is eligible for an occupational or professional license or certification for which that person is qualified, regardless of the person's citizenship or immigration status.

Source: Authors' elaboration based on National Conference of State and Legislatures (2020), and National Conference of State and Legislatures (2021b).