

THE IMPORTANCE OF GROWTH IN THE FOREIGN-BORN POPULATION TO U.S. ECONOMIC GROWTH

BY MADELINE ZAVODNY

EXECUTIVE SUMMARY

Slower growth in the working-age foreign-born population between 2016 and 2022 reduced U.S. real GDP growth by an estimate of up to 1.3 percentage points in 2022. U.S. real GDP (gross domestic product) would have risen by up to an estimated 3.2 percentage points in 2022 if the working-age foreign-born population had continued to grow at the same rate it did during the first half of the 2010s. Instead, real GDP rose by only 1.9 percentage points that year. The slowdown in growth in the working-age foreign-born population reduced the growth rate of real GDP by up to 40 percent. The sizable adverse effect is because the foreign born have been a critical source of growth in the U.S. labor force in recent years. The foreign born were the only source of growth in the U.S. working-age population in 2021 and 2022. The data suggest that the slowdown in growth in the working-age foreign-born population over 2016-2022 acted as a brake on U.S. economic growth.

The “lost,” or foregone, GDP as a result of slower growth in the working-age foreign-born population after 2015 is equivalent to about \$335 billion in 2022 alone. In other words, if GDP had increased by 3.2 percent instead of 1.9 percent that year, total output and total income would have been \$335 billion larger. A slower-growing or, worse, shrinking working-age population can lead to economic stagnation or even falling living standards for a nation, as noted in earlier research.¹ A slower-growing working-age population means a smaller increase in the number of people to produce goods and services and to generate new ideas that lead to technological progress and long-run growth. A slower-growing or shrinking working-age population also increases the potential for price pressures and shortages.

The working-age foreign-born population was more than 1.7 million adults smaller in 2022 than it would have been if it had maintained its 2010-2015 pace of growth. The gap reflects a slowdown in growth in the working-age foreign born during the late 2010s, followed by a small decline in that population in 2019 and then a large drop in 2020. Data from the Census Bureau’s American Community Survey indicate that growth in the foreign-born potential workforce resumed in 2021 and 2022, but that population has not caught up to its pre-2016 trend.

The analysis uses data from the Census Bureau’s Business Formation Statistics program and shows that growth in new business applications, a harbinger of the number of new businesses created, was slower in states that experienced below-trend growth in their working-age foreign-born population. The research also uses data from the Census Bureau’s American Community Survey.

¹ Madeline Zavodny, *Why The United States Still Needs Foreign-Born Workers*, NFAP Policy Brief, National Foundation for American Policy, July 2023.

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States that saw their working-age foreign-born population grow more than forecast experienced stronger economic growth, on average. The analysis measures the relationship between the ratio of actual to predicted working-age foreign-born population and real GDP growth in each state (see Figure 6). The ratio of actual to predicted working-age foreign-born population reflects the gap between the actual and the projected size of the working-age foreign-born population in each state in 2022, while the growth rate of real gross domestic product (GDP) is the percentage increase in the value of output after adjusting for inflation, as reported by the Bureau of Economic Analysis, in that state over 2016-2022. The analysis indicates a significant positive relationship between the ratio of actual to predicted foreign-born population and real GDP growth. States with above-trend growth in their foreign-born potential workforce had more robust economic growth, while those with below-trend growth had slower economic growth. It could be the case that stronger economic growth attracted more working-age foreign born to a state, or location choice among the foreign born is endogenous with respect to economic conditions. However, studies that carefully control for possible bias due to endogenous location choice among the foreign born conclude that the foreign born have a positive causal impact on economic growth within the U.S.

The slowdown in foreign-born population growth between 2016 and 2022 was particularly acute among relatively young potential workers and those in the prime of their careers, and among those who do not have a bachelor's degree.

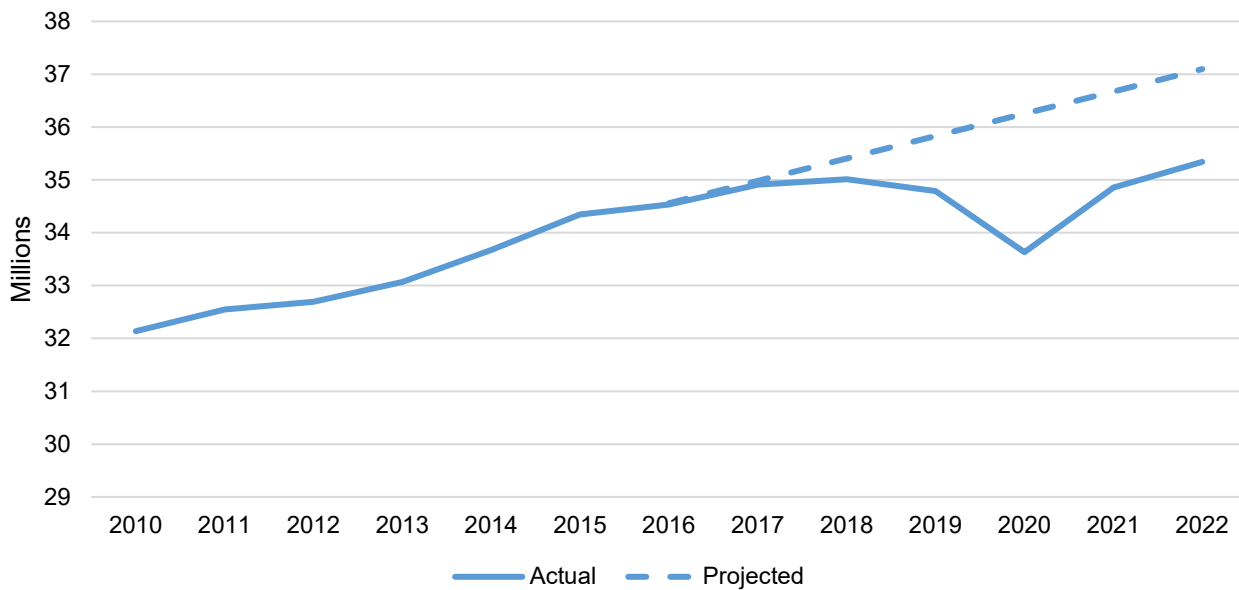
- In 2022, there were almost a million fewer foreign born ages 25-34 in the U.S. than in 2015, and almost 300,000 fewer ages 18-24. The future size of the U.S. workforce depends critically on whether those relatively young foreign-born populations grow.
- The foreign-born population ages 35-54 was about 1.2 million smaller in 2022 than projected based on its pre-2016 trend. Population growth was most robust among the older foreign born, who are nearing retirement ages.
- In 2022, the U.S. had almost a million fewer foreign-born adults who did not have a bachelor's degree than in 2015. The number of foreign-born adults with at least a bachelor's degree was over 2 million larger in 2022 than in 2015.

Where the working-age foreign born live in the U.S. shifted. Eighteen states had faster growth in their working-age foreign-born population during 2016-2022 than during 2010-2015. But the other states had slower-than-expected growth or, for 11 states, a decline in their working-age foreign population. States that had faster-than-projected growth in their working-age foreign-born population had stronger real GDP growth during 2016-2022.

GROWTH IN THE WORKING-AGE FOREIGN-BORN POPULATION HAS SLOWED

In recent years, the United States has experienced a significant slowdown in the growth of its working-age foreign-born population. This deceleration has major economic implications since international migrants have been an important contributor to U.S. labor force growth in recent decades and are projected to be the only source of workforce growth in the near future.² Data from the U.S. Census Bureau’s American Community Survey (ACS) show that, during 2010-2015, growth in the working-age (ages 18-64) foreign-born population averaged about 423,000 adults per year. Had that trend continued, as shown by the dashed line in Figure 1, the working-age foreign-born population would have reached 37 million in 2022. Instead, it totaled only 35.3 million. The result is a gap in the potential workforce of over 1.7 million foreign-born adults in 2022, or the working-age foreign-born population was almost 5% smaller that year than predicted based on its pre-2016 trend.

Figure 1
Actual and Projected Working-Age Foreign-Born Population, 2010-2022



Notes: Calculations based on American Community Survey data on foreign-born adults ages 18-64. The projection for 2016-2022 is based on the linear trend during 2010-2015.

² For a discussion of the importance of the foreign born to labor force growth in recent decades, see, for example, Congressional Budget Office (2005), “The Role of Immigrants in the U.S. Labor Market,” Congressional Budget Office paper, <https://www.cbo.gov/sites/default/files/109th-congress-2005-2006/reports/11-10-immigration.pdf>; Audrey Singer and Dowell Myers (2016), “Labor Force Growth Increasingly Depends on Immigrants and Their Children,” Urban Institute Urban Wire, <https://www.urban.org/urban-wire/labor-force-growth-increasingly-depends-immigrants-and-their-children>. For the importance of international migrants to future labor force growth, see Madeline Zavodny (2023), “Why the United States Still Needs Foreign-Born Workers,” National Foundation for American Policy policy brief, <https://nfap.com/research/new-nfap-policy-brief-why-the-united-states-still-needs-foreign-born-workers/>.

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The slowdown in the growth of the working-age foreign-born population began before the Covid-19 pandemic but was exacerbated by it. The flow of working-age international migrants into the U.S. peaked in 2015 and then fell every year through 2021.³ Policy changes by the Trump administration, including tougher immigration enforcement, slower visa processing, higher visa refusal rates, and deep cuts to refugee admissions, coincided with the slowdown over 2017-2018 and a slight drop in the foreign-born potential workforce in the 2019 ACS. The estimated working-age foreign-born population fell dramatically in 2020 as international borders closed; a pandemic-related low survey response rate may have also contributed to the drop in foreign-born population in the ACS that year.⁴

The last two data points in Figure 1 suggest that the working-age foreign-born population may have resumed its pre-2016 pace of growth in 2022, but it is too early to declare a return to the earlier trend.⁵ ACS data for 2023 will not be available until late 2024. The ACS is the largest survey of the U.S. resident population, making it the most reliable source for demographic trends, albeit with a lag. And even if the data indicate a return to the pre-2016 pace of growth in the working-age foreign-born population, the U.S. will still have a smaller foreign-born potential workforce than it would have if the trend had continued uninterrupted – a resumption of the trend would still leave the potential labor force short almost 2 million foreign-born workers unless international migration accelerates.

The slowdown in foreign-born population growth was not shared across all age groups. Indeed, the young end of the working-age foreign-born population shrank throughout the 2010s (Figure 2, top two panels). That population's relative youth makes its members particularly important to the future size of the U.S. labor force, which is aging.⁶ In 2022, there were almost a million fewer foreign born ages 25-34 in the U.S. than in 2015, and almost 300,000 fewer ages 18-24. However, the downward trend may have reversed among the younger working-age foreign born: The foreign-born population ages 18-24 rose in 2021 and 2022, and that age group exceeded its projected size in 2022. The foreign-born population ages 25-34 rose slightly in 2022 but nevertheless was almost 700,000 below its already-falling projected size that year, or about 9 percent below trend. For those ages 35-54 – for many, the prime

³ Madeline Zavodny (2022), "The Impact of the Covid-19 Drop in International Migration on the U.S. Labor Market," National Foundation for American Policy policy brief, <https://nfap.com/studies/the-impact-of-the-covid-19-drop-in-international-migration-on-the-u-s-labor-market/>.

⁴ For a discussion of survey non-response and underestimation of the foreign-born population, see Robert Warren (2022), "Undercount of Undocumented Residents in the 2020 American Community Survey and Estimates and Trends in the Undocumented Population from 2010 to 2020, by US State and Country of Origin," *Journal of Migration and Human Security* 10(4): 228-237, <https://doi.org/10.1177/23315024221142587>.

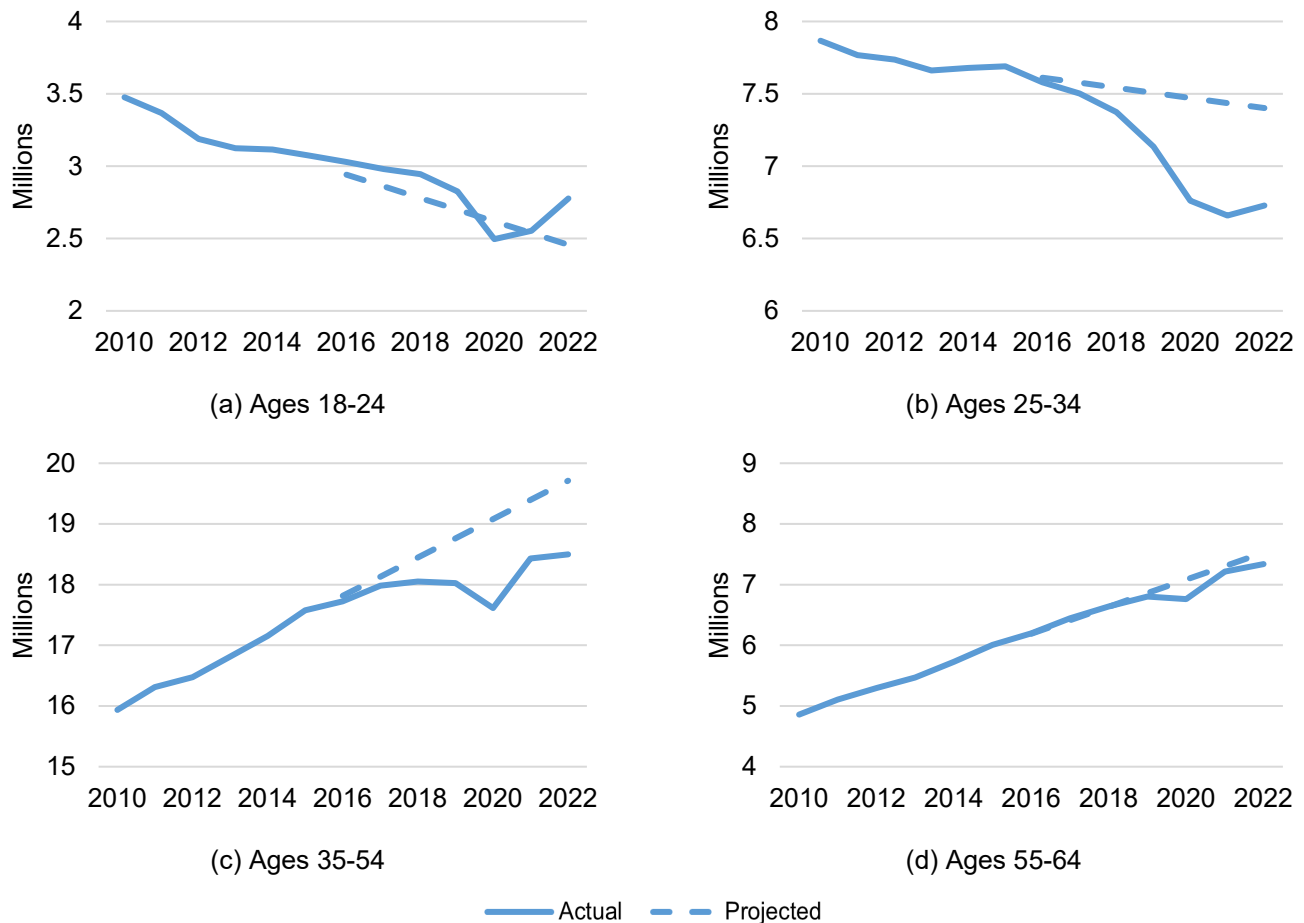
⁵ Data from the smaller monthly Current Population Survey (CPS) indicate continued growth in net international migration in 2022 and early 2023. See, for example, Evgeniya A. Duzhak (2023), "The Role of Immigration in U.S. Labor Market Tightness," Federal Reserve Bank of San Francisco Economic Letter, <https://www.frbsf.org/economic-research/publications/economic-letter/2023/february/role-of-immigration-in-us-labor-market-tightness/>; Kristin F. Butcher, et al., (2023), "Immigration and the Labor Market in the Post-Pandemic Recovery," Federal Reserve Bank of Chicago working paper 2023-39, <https://doi.org/10.21033/wp-2023-39>. However, Butcher et al. caution that estimates of the foreign-born population based on the CPS may be too high post-pandemic. Other indicators, such as migrant encounters along the U.S.-Mexico border, asylum claims, and visa issuances, have also been rising, suggesting a resumption of growth in the foreign-born population.

⁶ Zavodny (2023), <https://nfap.com/research/new-nfap-policy-brief-why-the-united-states-still-needs-foreign-born-workers/>.

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of their careers – growth was slower than projected over 2016-2022, and that age group was about 1.2 million adults smaller in 2022 than projected, or about 6 percent below trend (Figure 2, bottom left). Growth in the foreign-born population ages 55-64 was only slightly below trend and was short about 190,000 older adults in 2022 (Figure 2, bottom right). The future size of the U.S. workforce depends critically on whether the younger age groups continue to grow. The children of those younger age groups are vital to future labor force growth as well.

Figure 2
Actual and Projected Foreign-Born Population, by Age, 2010-2022



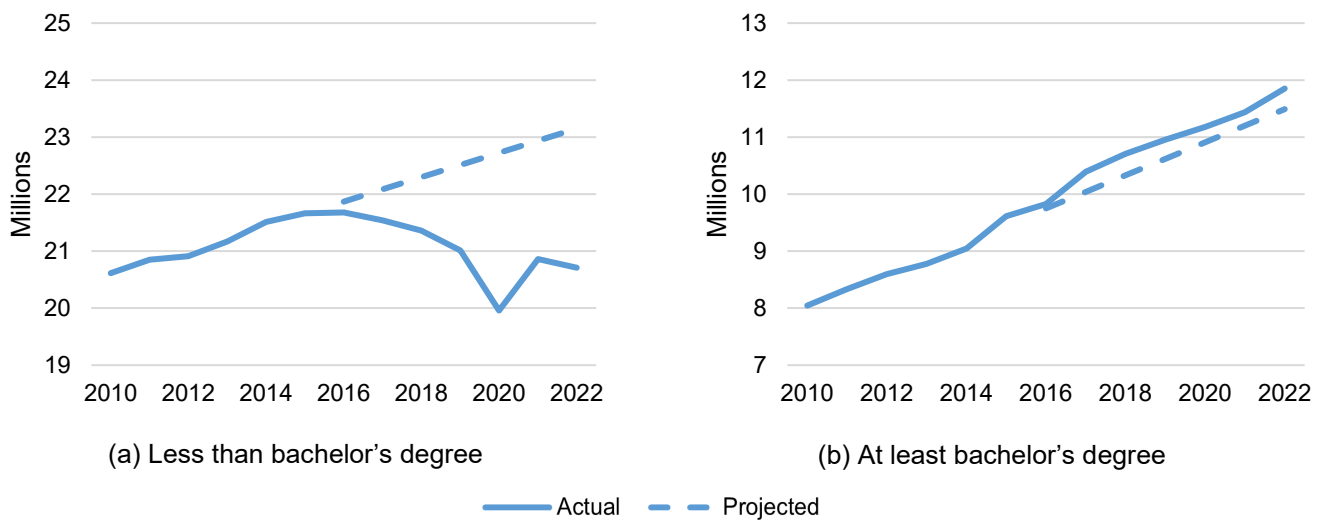
Notes: Calculations based on American Community Survey data on foreign-born adults in the age group indicated. Projections for 2016-2022 are based on the trend for each age group during 2010-2015.

Growth in the foreign-born population has diverged considerably across education groups. The foreign-born population ages 25-64 – the age range when most people have completed their education and are most likely to be

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in the labor force – that does not have a bachelor’s degree peaked in 2016 (Figure 3, left side). Based on its pre-2016 trend, that group was projected to reach over 23 million by 2022, but it instead fell to under 21 million.⁷ In 2022, the U.S. had almost a million fewer foreign-born adults who did not have a bachelor’s degree than in 2015. Meanwhile, the foreign-born population ages 25-64 with at least a bachelor’s degree has been rising steadily, even during the pandemic (Figure 3, right side). That group was 3 percent larger in 2022 than projected based on its pre-2016 trend, and it was over 2 million larger than in 2015.

Figure 3
Actual and Projected Foreign-Born Population, by Education, 2010-2022

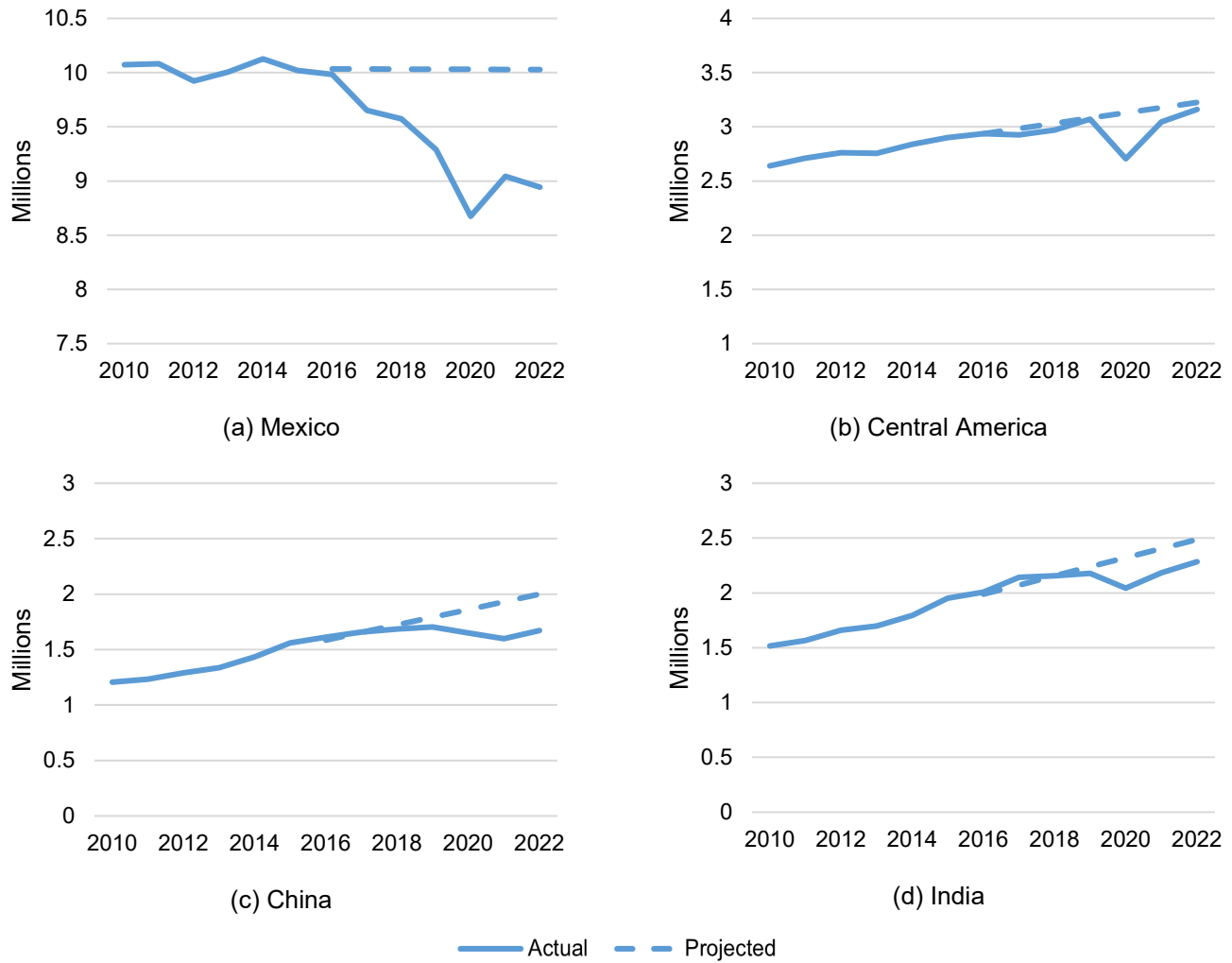


Notes: Calculations based on American Community Survey data on foreign-born adults ages 25-64. Projections for 2016-2022 are based on the trend for each education group during 2010-2015.

The diverging trends across education groups reflect a shift in major source areas among the working-age foreign born. The number of working-age foreign born from Mexico peaked in 2014 at slightly over 10 million (Figure 4, top left). Setting aside the Covid-related drop in 2020, the Mexican-born working-age population fell steadily after 2014 and totaled under 9 million in 2022. Had the pre-2016 trend continued, that population would have remained slightly over 10 million. The number of working-age Mexicans in the U.S. fell by over 10 percent, both relative to its peak and relative to its trend. The number of working-age foreign born from Central America has been on a general upward trend, in contrast (Figure 4, top right). In 2022, the number of working-age Central Americans was only about 60,000 below trend.

⁷ Drops occurred among foreign born who have not completed high school, who have a high school degree, and who have at least some college but not a bachelor’s degree, although the timing and magnitude of the drops differ somewhat across those three education groups.

Figure 4
Actual and Projected Working-Age Foreign-Born Population, by Origin, 2010-2022



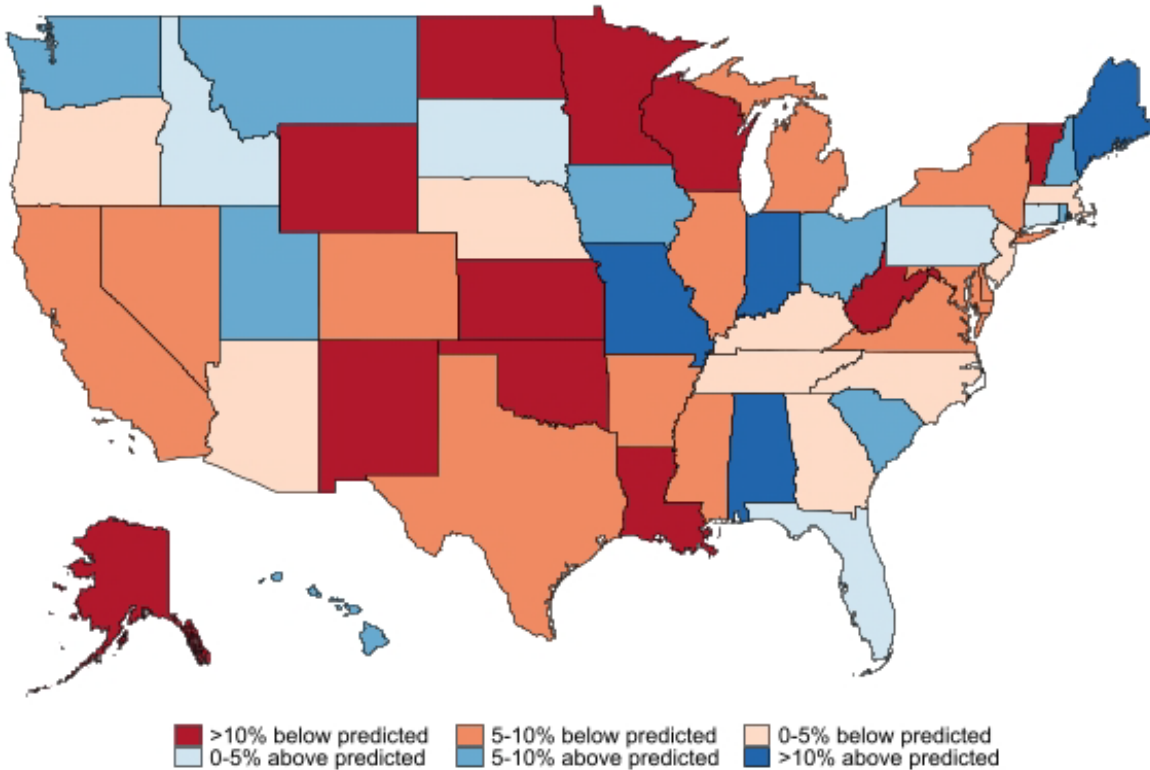
Notes: Calculations based on American Community Survey data on foreign-born adults ages 18-64 born in the place indicated (China includes only mainland China). Projections for 2016-2022 are based on the trend for each origin during 2010-2015.

During the first two decades of the 2000s, the major source area of new international migrants shifted from Mexico to Asia, particularly China and India.⁸ Growth in the working-age foreign-born population from China eased in the late 2010s, however. The number of working-age foreign born from China peaked in 2017 and was almost one-third of a million below trend in 2022, or about 16 percent below its projected level (Figure 4, bottom left). Growth in the number of working-age foreign born from India also eased slightly, causing that population to be about 150,000 below trend in 2022 (Figure 4, bottom right). That said, the number of working-age Indians living in the

⁸ Abby Budiman (2020), "Key Findings about U.S. Immigrants," Pew Research Center, <https://www.pewresearch.org/short-reads/2020/08/20/key-findings-about-u-s-immigrants/>.

U.S. is at an all-time high. The working-age foreign-born population from the rest of the world also grew slightly less than projected over 2016-2022 (not shown).

Figure 5
Working-Age Foreign-Born Population in 2022 Relative to Projected Size, by State



Notes: Calculations based on American Community Survey data on foreign-born adults ages 18-64. Projections for 2022 are based on the trend in each state during 2010-2015.

Where the working-age foreign born live in the U.S. shifted as well, with some states experiencing faster growth than projected based on their 2010-2015 trend and other states experiencing slower growth than projected or even a drop in their working-age foreign-born population. In 18 states, the working-age foreign-born population grew faster than projected. Those states are in shades of blue in Figure 5, with the hue darker the more a state exceeded its forecast. Three of those states – Alabama, Maine, and Missouri – not only exceeded projected growth but were actually forecast to see a drop in their working-age foreign-born population. Those states reversed the downward trend in their working-age foreign-born population.

Meanwhile, growth in the working-age foreign-born population was below trend in 32 states and the District of Columbia. Those states are in shades of red or orange in Figure 5, with the hue darker the more a state was below

its forecast. For 11 of those states, the working-age foreign-born population was projected to grow but instead fell. This occurred in Alaska, California, DC, Illinois, Kansas, Louisiana, Mississippi, New Mexico, New York, Vermont, and Wyoming. The other states experienced slower growth than projected but still had a larger working-age foreign-born population in 2022 than in 2015.

CONSEQUENCES FOR ECONOMIC GROWTH, LABOR MARKETS, AND BUSINESS FORMATION

Growth in the working-age foreign-born population is important to the economy because of those adults' potential as workers, consumers, innovators, and entrepreneurs, among other reasons. Foreign-born workers can help fill gaps in the labor force. The evidence indicates that not only do foreign-born workers not displace U.S.-born workers, on average, but their presence can enable businesses to expand and hire other, complementary workers.⁹ The foreign born are also job creators as founders of new businesses and inventors.¹⁰ Foreign-born workers boost labor productivity, which ultimately increases wages.¹¹ In addition, increases in labor supply due to foreign-born workers reduce upward pressure on prices in labor-intensive service sectors.¹² Having access to affordable labor-intensive services, such as childcare and eldercare, enables many Americans to work. The drop in the non-college-graduate foreign-born adult population (Figure 3) has contributed to price pressures in labor-intensive services and difficulty finding childcare and home health care providers.

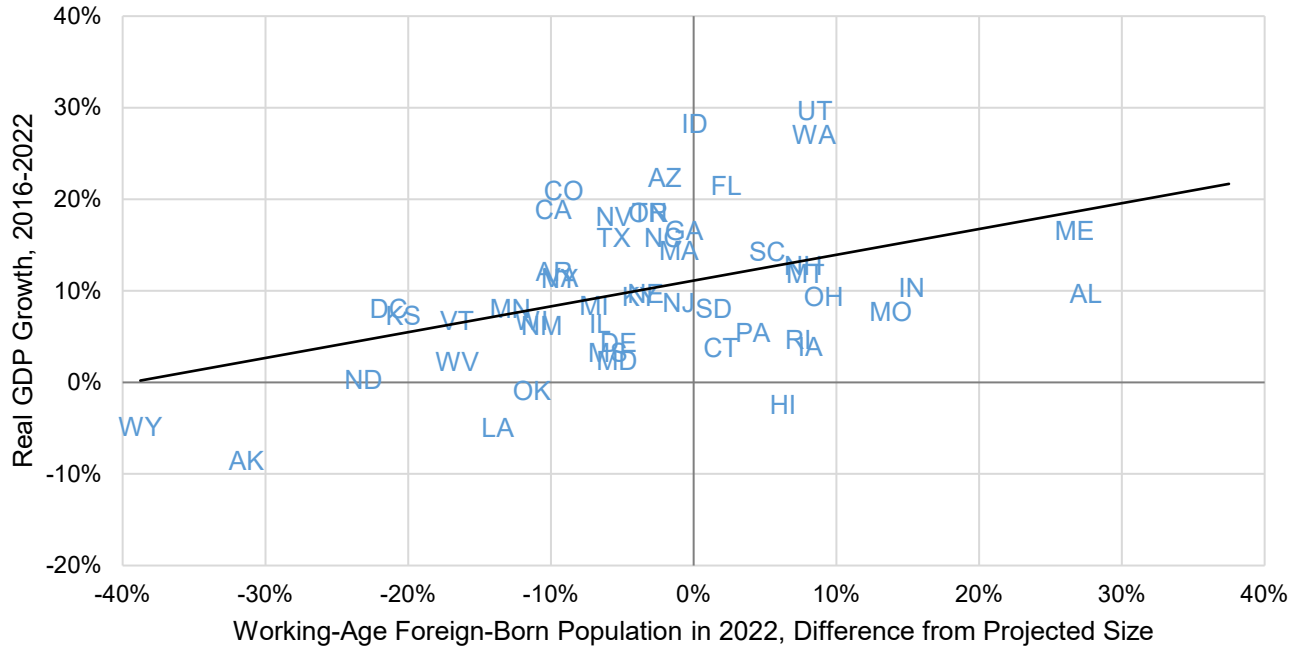
⁹ For recent evidence that foreign-born workers do not displace U.S. workers, see, for example, Michael A. Clemens and Ethan G. Lewis (2022), "The Effect of Low-Skill Immigration Restrictions on US Firms and Workers: Evidence from a Randomized Lottery," National Bureau of Economic Research working paper no. 30589, <http://www.nber.org/papers/w30589>; Catalina Amuedo-Dorantes, et al. (2023), "Low-Wage Jobs, Foreign-Born Workers, and Firm Performance," Institute of Labor Economics discussion paper no. 16438, <https://www.iza.org/de/publications/dp/16438/low-wage-jobs-foreign-born-workers-and-firm-performance>.

¹⁰ Pierre Azoulay, et al. (2022), "Immigration and Entrepreneurship in the United States," *American Economic Review: Insights* 4(1): 71-88, <https://doi.org/10.1257/aeri.20200588>; Sari Pekkala Kerr and William R. Kerr (2022), "Immigration Policy Levers for US Innovation and Start-Ups," *Innovation and Public Policy* (eds. Austan Goolsbee and Benjamin Jones), University of Chicago Press, pp. 85-115, <https://www.nber.org/books-and-chapters/innovation-and-public-policy/immigration-policy-levers-us-innovation-and-start-ups>.

¹¹ See, for example, Giovanni Peri (2012), "The Effect Of Immigration On Productivity: Evidence From U.S. States," *Review of Economics and Statistics* 94(1): 348-358, https://doi.org/10.1162/REST_a_00137; Christian Gunadi (2019), "An Inquiry on the Impact of Highly-Skilled STEM immigration on the U.S. Economy," *Labour Economics* 61: 101751, <https://doi.org/10.1016/j.labeco.2019.101751>.

¹² Patricia Cortes (2008), "The Effect of Low-Skilled Immigration on U.S. prices: Evidence from CPI Data," *Journal of Political Economy* 116(3): 381-422, <https://doi.org/10.1086/589756>; Kristin F. Butcher, Kelsey Moran, and Tara Watson (2022), "Immigration Labor and the Institutionalization of the U.S.-Born Elderly," *Review of International Economics* 30(5): 1375-1413, <https://doi.org/10.1111/roie.12607>.

Figure 6
Relationship between Working-Age Foreign-Born Population and Real GDP Growth



Notes: The horizontal axis is the estimated working-age foreign-born population in a state in 2022 compared with its projected size based on the trend in that state during 2010-2015. The vertical axis is the growth rate of real GDP in a state over 2016-2022. The line is the best linear fit to the data. Calculations based on American Community Survey data on foreign-born adults ages 18-64 and real GDP data from the Bureau of Economic Analysis.

States that saw their working-age foreign-born population grow more than forecast experienced stronger economic growth, on average. Figure 6 shows, for each state, the difference between the actual and the projected size of the working-age foreign-born population in 2022 and the growth rate of real gross domestic product (GDP), or the value of output after adjusting for inflation, as reported by the Bureau of Economic Analysis, in that state over 2016-2022. The line gives the best linear fit to the data. It indicates a significant positive relationship between the ratio of actual to predicted foreign-born population and real GDP growth. States with above-trend growth in their foreign-born potential workforce had more robust economic growth, while those with below-trend growth had slower economic growth. Of course, it could be the case that stronger economic growth attracted more working-age foreign born to a state, or location choice among the foreign born is endogenous with respect to economic conditions. However, studies that carefully control for possible bias due to endogenous location choice among the foreign born conclude that the foreign born have a positive causal impact on economic growth within the U.S.¹³

¹³ See, for example, Konrad B. Burchardi, et al. (2021), "Immigration, Innovation, and Growth," National Bureau of Economic Research working paper no. 27075, <http://www.nber.org/papers/w27075>; and Peri (2012), https://doi.org/10.1162/REST_a_00137.

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Figure 6 suggests that the slowdown in growth in the working-age foreign-born population over 2016-2022 acted as a brake on economic growth. The estimated relationship in the figure suggests that the slower growth in the working-age foreign-born population reduced U.S. real GDP growth by up to 1.3 percentage points during that period.¹⁴ In other words, if the working-age foreign-born population had maintained the same pace of growth during 2016-2022 as it posted during 2010-2015, real GDP growth would have been considerably stronger during that period than it was. In 2022, for example, U.S. real GDP rose by 1.9 percentage points.¹⁵ The estimated relationship in Figure 6 suggests that real GDP would instead have risen by up to 3.2 percentage points in 2022 if the working-age foreign-born population had continued to grow at the same rate it did during the first half of the 2010s. The slowdown in growth in the working-age foreign-born population therefore reduced the growth rate of real GDP by up to 40 percent. The “lost,” or foregone, GDP as a result of slower growth in the working-age foreign-born population after 2015 is equivalent to about \$335 billion in 2022 alone – if GDP had increased by 3.2 percent instead of 1.9 percent that year, total output and total income would have been \$335 billion larger.¹⁶ The sizable adverse effect is because the foreign born have been a critical source of growth in the U.S. labor force in recent years. Indeed, the foreign-born were the only source of growth in the U.S. working-age population in 2021 and 2022.¹⁷

As growth in the working-age foreign-born population eased and then that workforce fell precipitously during the early phases of the pandemic, labor market tightness became widespread. Employers across much of the U.S. in a wide variety of sectors had difficulty finding workers to fill vacant jobs, leading to historic spikes in the job vacancy rates reported by the Bureau of Labor Statistics’ Job Openings and Labor Turnover Survey (JOLTS) program.

States that experienced above-trend growth in their foreign-born potential workforce had lower job vacancy rates in 2022 than states that experienced below-trend growth, on average, as Figure 7 shows. States with a larger working-age foreign-born population than predicted had fewer unfilled jobs, whereas states with a smaller working-age foreign-born population than predicted had more unfilled jobs. The negative relationship is not surprising given that recently arrived foreign-born workers disproportionately went to states with higher job vacancy rates, helping employers fill open positions.¹⁸ Even so, however, the job vacancy rate (the share of positions that are unfilled) and the ratio of job openings to unemployed workers remained well above their historical averages at the end of 2023

¹⁴ The estimated slope of the regression line in Figure 6 is 0.282 and the working-age foreign-born population in the U.S. was 4.7% below its projected size in 2022, resulting in the estimate of 1.3 percentage points slower GDP growth. Another study reaches a similar estimate of 1.1% smaller GDP due to less international migration in 2020 and 2021; see Jose Ivan Rodriguez-Sanchez (2022), “Immigrants in Strategic Sectors of the U.S. Economy and America’s Labor Shortage Crisis,” Center for the U.S. and Mexico research paper, Baker Institute for Public Policy, Rice University, <https://www.bakerinstitute.org/research/immigrants-in-strategic-sectors-of-the-us-economy-and-americas-labor-shortage-crisis>.

¹⁵ <https://fred.stlouisfed.org/graph/?g=1e9sO>.

¹⁶ U.S. GDP was \$25,744 billion in 2022; a 1.3% increase would total \$335 billion.

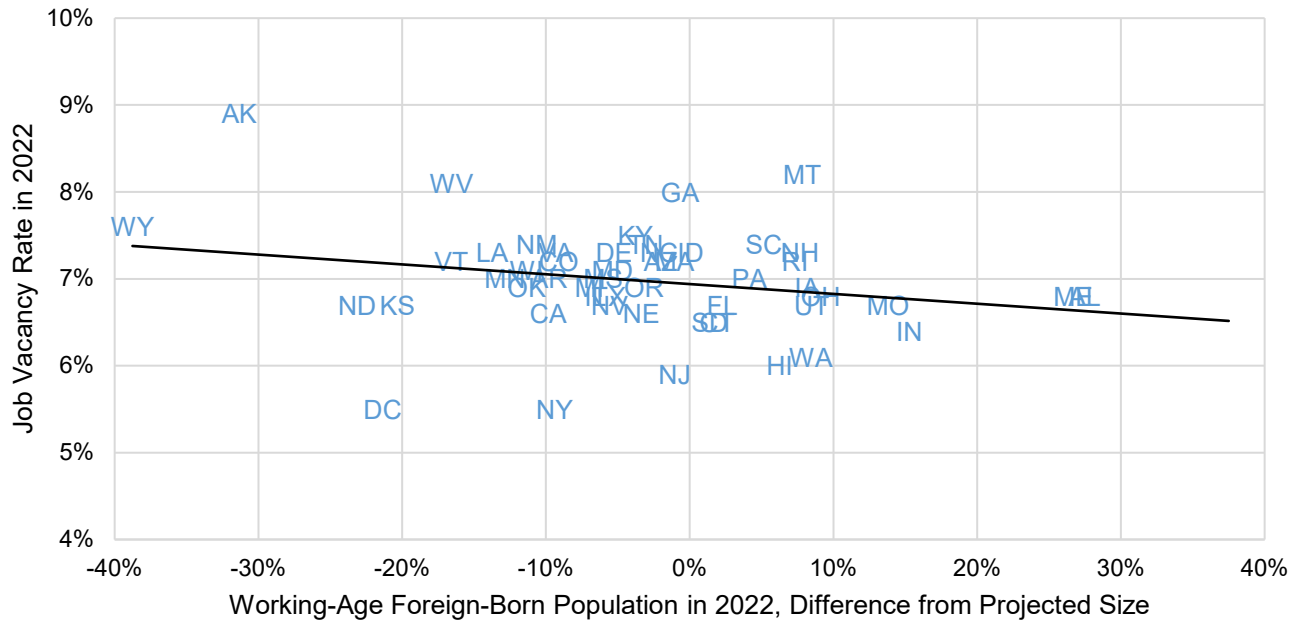
¹⁷ Zavodny (2023), <https://nfap.com/research/new-nfap-policy-brief-why-the-united-states-still-needs-foreign-born-workers/>.

¹⁸ Zavodny (2023), <https://nfap.com/research/new-nfap-policy-brief-why-the-united-states-still-needs-foreign-born-workers/>.

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while the unemployment rate remained low, suggesting that the resumed growth in the foreign-born potential workforce has not been enough to fully alleviate tightness in many labor markets.

Figure 7
Relationship between Working-Age Foreign-Born Population and Job Vacancy Rate



Notes: The horizontal axis is the estimated working-age foreign-born population in a state in 2022 compared with its projected size based on the trend in that state during 2010-2015. The vertical axis is the job vacancy rate in a state in 2022. The line is the best linear fit to the data. Calculations based on American Community Survey data on foreign-born adults ages 18-64 and JOLTS data from the Bureau of Labor Statistics.

Other research indicates that U.S. natives did not fill the state-level population and workforce gaps created by slower growth or contraction in the working-age foreign-born population. U.S. natives were not more likely to move to geographic areas or sectors that experienced smaller gains (or larger declines) in the number of working-age foreign born in recent years.¹⁹ States and industries that depend more heavily on foreign-born workers had more difficulty filling job openings as the foreign-born potential workforce grew more slowly and then contracted.²⁰ The slower growth or contraction in the foreign-born potential workforce may have also contributed to the greater

¹⁹ Giovanni Peri and Reem Zaiour (2023), "Changes in International Migration and Internal Native Mobility after COVID-19 in the USA," *Journal of Population Economics* 36: 2389-2428, <https://doi.org/10.1007/s00148-023-00972-y>.

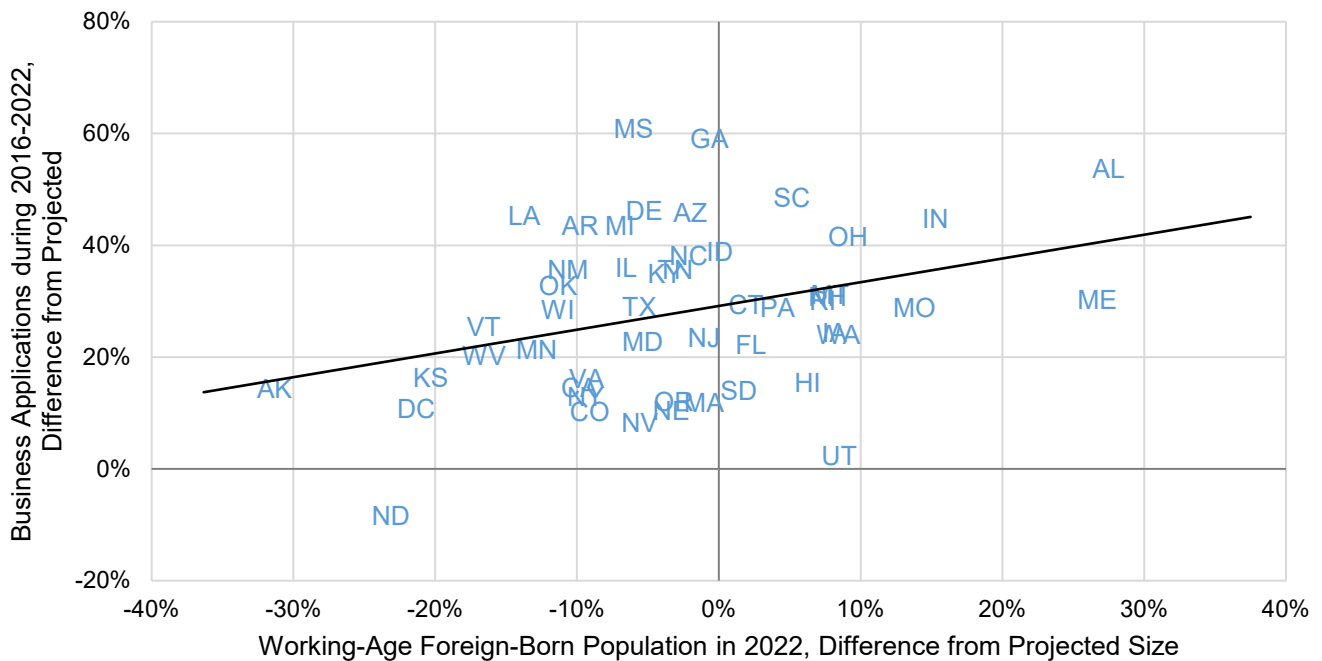
²⁰ Elior Cohen and Samantha Shampine (2022), "Immigration Shortfall May Be a Headwind for Labor Supply," Federal Reserve Bank of Kansas City Economic Bulletin, <https://www.kansascityfed.org/research/economic-bulletin/immigration-shortfall-may-be-a-headwind-for-labor-supply/>; Zavodny (2022), <https://nfap.com/studies/the-impact-of-the-covid-19-drop-in-international-migration-on-the-u-s-labor-market/>; Duzhak (2023), <https://www.frbsf.org/economic-research/publications/economic-letter/2023/february/role-of-immigration-in-us-labor-market-tightness/>; Peri and Zaiour (2023), <https://doi.org/10.1007/s00148-023-00972-y>; <https://www.frbsf.org/economic-research/publications/economic-letter/2023/february/role-of-immigration-in-us-labor-market-tightness/>

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difficulty filling jobs through indirect, or “knock-on,” effects: if labor-intensive services like childcare and home health care are less available or cost more, fewer people may be willing and able to work.

One surprising upside of the pandemic was a surge in new business startups. The number of new business applications, as tracked by the Census Bureau’s Business Formation Statistics (BFS) program, rose from about 3.5 million in 2019 to over 4.3 million in 2020 and over 5.3 million in 2021, then downshifted slightly to 5 million in 2022. The BFS data are based on requests for an Employer Identification Number, the identification numbers used by businesses for tax purposes, and are an indicator of the number of new businesses in the process of being created.

Figure 8
Relationship between Working-Age Foreign-Born Population and Business Applications



Notes: The horizontal axis is the estimated working-age foreign-born population in a state in 2022 compared with its projected size based on the average annual change in that state during 2010-2015. The vertical axis is the number of business applications in a state during 2016-2022 compared with the projected number based on the trend in that state during 2010-2015. The line is the best linear fit to the data. Calculations based on American Community Survey data on foreign-born adults ages 18-64 and Business Formation Statistics data from the Census Bureau.

In almost every state, the number of new business applications during the period 2016-2022 far exceeded the number projected based on the trend in that state during 2010-2015. That said, new business applications exceeded projections more in states that also exceeded their projected working-age foreign-born population. As Figure 8 shows, there is a significant positive relationship between the ratio of the actual to the predicted working-age foreign-

born population and the ratio of actual business applications to predicted business applications during 2016-2022.²¹ There is also a significant positive relationship between excess growth in the working-age foreign-born population and excess growth in business applications with a high propensity of turning into a business with a payroll (as predicted by the Census Bureau) (not shown).

The positive relationship between growth in the foreign-born potential workforce and growth in new business applications could be due to relatively high rates of entrepreneurship among the foreign-born or to better availability of workers and more customers in states that have larger-than-predicted foreign-born workforces, among other reasons. Regardless of the exact mechanism, the growth in new business applications is a marked change after decades of declining economic dynamism in the U.S.²² If sustained, the shift bodes well for future economic growth since new and young businesses are the primary source of job creation and an important source of innovation. That said, the relationship in Figure 8 suggests that the growth in new business applications experienced in the U.S. would have been even stronger if the working-age foreign-born population had continued to grow at its pre-2016 trend.

DISCUSSION AND CONCLUSION

The U.S. has experienced sizable swings in international migration in recent years. In the second half of the 2010s, growth in the working-age foreign-born population slowed and then reversed. The estimated foreign-born population plummeted during the early phases of the pandemic. International migration resumed in 2021, but the working-age foreign-born population finished 2022 well below its pre-2016 trend. The number of foreign born was below trend in many key demographic groups, including the prime working ages of 35-54 and working-age migrants from China and India. The number of foreign born ages 25-34, without a bachelor's degree, or from Mexico were not just below trend but below their mid-2010s levels. There were also fewer foreign born ages 18-24 in 2022 than in the mid-2010s.

The result of a smaller-than-projected foreign-born potential workforce is tighter labor markets in much of the country. The consequences in the near term include slower real GDP growth, jobs left unfilled, and reduced growth in new business applications. The shift toward foreign-born adults with at least a bachelor's degree means a more-educated, higher-earning foreign-born population, but the drop in the number of less-educated foreign-born adults can mean higher prices for many labor intensive-services and greater difficulty finding the childcare or home health

²¹ Wyoming is not included in Figure 8. The difference between actual and projected business applications in Wyoming was almost double that of the next highest state (Mississippi), making the state a clear outlier in growth in new business applications for unclear reasons. The Census Bureau BFS data indicate over 170,000 new business applications in Wyoming over 2016-2022, or about 1 new business application for every 3 residents, by far the highest ratio in the U.S.

²² Madeline Zavodny (2023), "Immigration, Employment Growth and Economic Dynamism," National Foundation for American Policy policy brief, <https://nfap.com/research/new-nfap-policy-brief-immigration-employment-growth-and-economic-dynamism/>.

care providers that enable many Americans to work. Adverse economic impacts may be even larger in the longer run if the slow growth in the working-age foreign-born population continues given the importance of that group to future labor force growth.

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