WORKING PAPER

19-3 The Economic Benefits of Latino Immigration: How the Migrant Hispanic Population's Demographic Characteristics Contribute to US Growth

Gonzalo Huertas and Jacob Funk Kirkegaard
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Abstract

The Hispanic community in the United States has contributed significantly to US economic growth in recent decades and will continue to do so over the next 10 to 20 years. This contribution derives partially from demographic vitality: the fact that Hispanics are the youngest and largest minority group in America and are on a path toward becoming an increasingly large share of the US labor force. Higher fertility rates, net immigration, and growing labor force participation rates will reinforce this trend. This paper presents evidence showing that Hispanic educational attainments are now rapidly converging to the US average. The Hispanic community now exhibits significantly higher levels of opportunity-driven entrepreneurship than does the rest of the US population. These factors position the Hispanic community to increase its contribution to the US economy in coming decades, with significant positive effects on the overall economic growth rate.

Gonzalo Huertas is a research analyst at the Peterson Institute for International Economics. Before joining the Institute, Huertas worked as a researcher and teaching fellow at Harvard University. Previously he was an economic advisor at the Cabinet of the Chief of Ministers of Argentina. **Jacob Funk Kirkegaard** is a senior fellow at the Institute. He has worked with the Danish Ministry of Defense, the United Nations in Iraq, and in the private financial sector. He is a graduate of the Danish Army's Special School of Intelligence and Linguistics with the rank of first lieutenant; the University of Aarhus in Aarhus, Denmark; the Columbia University in New York; and received his PhD from Johns Hopkins University, School of Advanced International Studies. He is author of *The Accelerating Decline in America's High-Skilled Workforce: Implications for Immigration Policy* (2007).

1 INTRODUCTION

The Hispanic community in the United States has contributed significantly to US economic growth in recent decades and will continue to do so over the next 10 to 20 years.

This contribution derives partially from demographic vitality: the fact that Hispanics are the youngest and largest minority group in America. They are on a path toward becoming an increasingly large share of the US labor force because of their current higher fertility rates, net migration, and rising labor force participation rates.

This outsized contribution of Hispanic immigrants to US economic growth also results from the quality of the workforce, not just quantity. Hispanic arrivals have exceeded contemporary native-born Americans and some other migrant groups in their entrepreneurial capabilities and integration into economically relevant parts of the workforce. This phenomenon contrasts with the persistent negative (and now disproven) perceptions of Hispanics as unskilled and occupying low-impact parts of the economy (e.g., Huntington 2009).

Like other immigrant groups before them, Hispanics are converging on the native born in important aspects as their incomes rise and their children are born in the United States. In the past, the Hispanic community has stood out because of its generally lower education levels and higher fertility rates. This paper presents evidence showing that Hispanic educational attainments are now rapidly converging to the US average. Simultaneously and crucially, the Hispanic community now exhibits significantly higher levels of opportunity-driven entrepreneurship than does the rest of the US population. These factors position the Hispanic community to increase its contribution to the US economy in coming decades.

Development economists looking at countries' long-term performance have identified "demographic dividends" as sources of sustained growth. For communities with growing levels of human capital, a shift in age structure, caused by a rising share of the working age population and lower share of the nonworking age group,[1] presents an opportunity to build on that growth rate—provided that this improvement is combined with lower levels of fertility. This opportunity is usually reinforced by parents having smaller families, enabling them to endow their children with higher skill levels and correspondingly better job opportunities. The demographic dividend played a major role in the rapid development of Japan and South Korea after World War II, as well as in periods of historically high growth of the US economy, following past periods of high sustained immigration from Europe.

Our analysis shows that such a demographic dividend is emerging for the US Hispanic community, with significant positive effects on the overall US economic growth rate. Hispanic fertility rates have declined dramatically since the Great Recession, to levels very close to the US average, and this trend is very likely to persist. Given continued convergence in educational levels already well underway, the Hispanic demographic dividend will likely contribute 0.21 percentage point to the annual real GDP growth rate over the next 25 years, through its impact on the increase of employed Hispanic labor. The high rate of entrepreneurship among Hispanic

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1. Typically the nonworking age groups are defined as ages 0–14 and 65+.

immigrants suggests that this estimated effect on growth could grow, through increasing both human capital investment across generations and the employment spillovers of Hispanic convergence, although somewhat lower labor productivity today introduces a downward risk to that prospect. Sections III and V provide a more extensive explanation of the assumptions underlying this projection.

Given that Hispanics today are rapidly achieving educational levels similar to those of the rest of the US population, as well as converging towards smaller families, perceptions should similarly conform to reality. The Hispanic community's deviation from the US average on these two key parameters has historically fed political stereotypes of a growing but economically disadvantaged US minority community. The Hispanic community's recent convergence to the US average, however, tracks along largely the same path of earlier waves of immigrants coming to the United States. And, as Mexican fertility rates are also rapidly converging down to US levels, the fact that Hispanic inward migration to the United States originates from an adjacent location (as opposed to earlier waves of migration from "across the sea") means that Hispanic immigration can no longer be said to be different from earlier inflows. In general, standards of living, social circumstances, and family norms and sizes in Latin America—and in Mexico in particular—are themselves converging to the level of the United States.

If persistent over the long run, this decline in Hispanic fertility rates will also have a quantitative impact on overall US population forecasts. Importantly, Hispanic migration to the United States from Mexico—until recently, the most significant country of origin—has also begun to decline in recent years. This paper will show how inward migration from Mexico is now running significantly below levels projected by the US Census Bureau in their standard population forecasts for the United States—and, by extension, how the share of Hispanic inward migration to the US total has peaked on current trends. The demographic dividend is real and imminent but also finite in duration. The labor supply driver of Hispanic immigration is declining, with impacts that will be felt in US growth down the road. Absent some future source of sustained immigration, the US growth rate will be capped, much as Japan's is now, barring some unprecedented surge in fertility among middle income families.

In any paper discussing long-term population trends in the United States, and in particular one that argues—as this one does—that the traditional "melting pot" description of the United States continues to apply to the Hispanic community, there is a definitional data concern. Race has been recorded in every American census conducted since 1790, reflecting its central role in US history, as well as its arbitrary definition. Until 1950, respondents' race was determined by census interviewers, which generally resulted in Americans being assigned a single race category.[2] In 1960, Americans got the opportunity to choose their own race in the census, and in 2000, they got the option to identify as more than one race.

Intermarriage rates for the US Hispanic population are already among the highest of any subpopulation in the United States at around 27 percent, rising to 39 percent when counting only native-born US Hispanics.[3]

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2. Parker et al. (2015) describe how some multiracial Americans were classified into a single category of "black-and-white" and tabulated with the non-white population.

3. Data for 2015 from Livingston and Brown (2017) based on US Census data. Only Asian Americans, with 29 and 46 percent intermarriage rates in 2015 for total and native-born segments, respectively, had higher rates of intermarriage than US Hispanics.

This phenomenon again speaks to the rapid convergence and integration of Hispanic migrants and their children in American society, stereotypes notwithstanding. Consequently, though, in terms of recorded census data, a growing number of partly Hispanic respondents are likely to self-identify with the "more than one" category in terms of race and/or ethnic affiliation. In such a scenario, analysis of the kind carried out in this paper, based predominantly on government data classified into discrete racial and ethnic categories and focused on the economic and social circumstances of specific groups, will become less methodologically valid. Perhaps more importantly, such racial classifications will become far less politically and socially relevant. An increasingly Latino US population is coming, and this demographic dividend will propel that process of integration economically.

This paper is divided into five further sections. Section II analyzes the recent increase in Hispanic educational attainment in the United States and the rise in the community's entrepreneurship since 2008. This increase is all the more noteworthy, as it coincides with a decline in the overall US rate of economic dynamism and new business formation. Section III estimates the considerable additional future growth potential for the US economy stemming from the expanding Hispanic labor force, based on a standard growth accounting framework and the regular US Census population forecasts. Section IV focuses on the recent decline in Hispanic and total US fertility rates, and the changes in composition of net inward migration to the United States, and how the recent shifts in both have not (yet) been fully incorporated into the population forecasts of the US Census Bureau. Section V estimates a set of alternative growth accounting-based scenarios for the future contribution to US economic growth from the Hispanic community, based on updated assumptions about fertility, net migration levels, and human capital formation. Section VI offers a set of policy recommendations to maximize the future economic benefit to the overall US economy, and the community itself, from the developments in the Hispanic community.

II HISPANIC HUMAN CAPITAL FORMATION, EDUCATIONAL ATTAINMENT, AND ENTREPRENEURSHIP
2.1 Hispanic Human Capital Formation and Educational Attainment

A key factor in determining the long-term economic prospects for a country, a community, or even an individual is how much time and effort is devoted to education and improving human capital. Consequently, one of the enduring causes of Hispanic economic disadvantage in the United States has been the community's persistently lagging educational attainment when compared to the rest of the US population. Fortunately for the Hispanic community's future economic prospects, this deficiency is now being gradually addressed, as particularly high school graduation rates—the foundation for higher secondary and tertiary educational attainment—has increased dramatically and almost converged to today's historically high US average (figure 2.1).

Hispanic high school completion rates have improved dramatically, from about 60 percent through the mid-1990s to over 89 percent in 2016, higher than the US average prior to the onset of the Great Recession in 2008. White and Asian completion rates, in the mid-90 percent range, remain slightly higher. Significant improvements in educational attainment have also occurred at higher levels of education for Hispanics in recent years (figure 2.2).

Figure 2.2 shows the accelerating improvement in higher educational attainment for Hispanics since 1990, as the community increases its share of higher degrees conferred by US educational institutions towards its (also growing) share of the US population. Since there is no usual or statutory age of completion for higher educational degrees, and many Americans attain them only mid-career and later in life, estimating similar age-based "completion rates" for higher education categories as for high school seriously underestimates the true life-long improvement of human capital among Hispanics and other Americans. An imprecise way to gauge the level of improvement in Hispanic educational attainment is to compare the Hispanic share of total degrees issued to the community's share of the US labor force. In 1990–91, the Hispanic share of the US labor force ages 16 and older was roughly 8 percent, by 2006–07 about 13 percent, and a decade later in 2016–17 about 16 percent.[4] In 2016–17 Hispanics have more than caught up to their share of the US labor force in obtaining certificates below the associate's degree level and associate's degrees, and are closing in on their shares for bachelor's degrees, but they are still some distance away in attaining master's degrees and PhDs.

Another unbiased, if imprecise, metric would be to compare the share of higher degrees conferred to Hispanics with their share of the US population from ages 20 to 40, recognizing that this is the bracket during which the vast majority of higher degrees are earned. In 2017, the share of Hispanics in the US aged 20 to 40 was approximately 21 percent. Against this background, figure 2.2 tells roughly the same story, namely that the Hispanic community has now essentially converged to the US average in terms of certificates and associate's degrees, while still having considerable ground to make up for in terms of bachelor's, master's, and PhD degrees. These are encouraging findings for the community, as they show accelerating educational convergence with the US average, a trend likely to continue as the share of Hispanics that graduate high school (figure 2.1) converge to the historically high current US average level, providing ever more Hispanics with the platform from which to continue to improve their educational attainment.

At the same time, however, it is clear that the historical Hispanic legacy of lower educational attainment will only be ameliorated slowly, as better educated young Hispanics entering the labor force replace older ones. It takes a generation to replace the existing stock of older and less educated workers. This gradual process is illustrated in figure 2.3, which breaks down the US labor force ages 25 and older by race/ethnicity and educational attainment in 1997, 2007, and 2016.

Two things stand out from figure 2.3. First, Hispanics in the US labor force remain on average worse educated than white, black, and Asian Americans. But secondly, the educational improvement among the US Hispanic workforce is accelerating, even as educational attainment among the non-Hispanic population is also rising, improving the average composition of the US labor force.

Because of the lingering effect of historically lower levels of educational attainment than the US average among Hispanic workers, the persistently lower wages earned by Hispanics are not surprising. Figure 2.4 shows the relative wage trends since 1979.

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4. Data from the Bureau of Labor Statistics (BLS) Department of Labor (2018a).

Figure 2.4 highlights how average Hispanic wages declined relative to the US average during the 1980s and early 1990s, as many lower-skilled Hispanics found low-paying jobs in the United States. Since the mid-1990s, however, average relative Hispanic wages have begun to slowly recover, as a better educated generation enters the workforce. Given the persistently high college wage premium in the United States, however, it is not realistic to expect that the Hispanic community's average wages will be very close to the US national level until the community's members have matched non-Hispanic college graduation rates for a lengthy period of time. This outcome remains, as implied by figures 2.2 and 2.3, some time away.

The Hispanic community is making important and accelerating gains in educational attainment, but a long road remains before the legacy of many low-skilled workers has been replaced by better educated younger Hispanics. At the same time, however, while educational attainment is the most important broad determinant of economic success in the United States, it is not the only one. Entrepreneurship and willingness to take risks also play a crucial role in the success of the US economy and for many individual Americans. The next section will analyze the role of the Hispanic community in US entrepreneurship.

2.2 US Entrepreneurship, Immigration, and the Hispanic Community

The US economy is widely recognized as easily the most entrepreneurial large developed economy in the world, and compared to other advanced economies, the most valuable American firms are noticeably younger than elsewhere in the Organization for Economic Cooperation and Development (OECD).[5] At the same time, however, government time series data and a growing body of literature[6] suggest that the intensity of entrepreneurship in America has declined since the Great Recession. This is the case whether one looks at the rate of new firm creation in the United States (figure 2.5) or the creation of new establishments[7] (figure 2.6).

Figure 2.5 illustrates how new firm formation in the United States ran at an average of almost half a million in the 30 years from 1977 to 2007, but during and after the Great Recession fell to about 400,000, and by 2016 had only recovered to 433,000. Meanwhile the startup rate, i.e. the share of total firms started in the last year, was cut in half between 1977 and the Great Recession and its aftermath. Higher frequency data for new establishment formation tell a similar story, as formation rates fell far below the historical average in 2007–08, and as of 2018 have yet to recover to pre-recession levels.

The very high levels of new firm formation visible in the late 1970s in figure 2.5 illustrate the link between firm formation and general population growth, with bulges in the youth population being particularly relevant.[8] In the late 1970s, US startup formation was powered by the full entry of the very large baby boomer cohorts (the oldest baby boomers, born in 1946, were 31 years of age in 1977). The steady subsequent decline in the startup rate is hence to a degree attributable to the decline in US population growth since the 1970s, though a further level shift downwards during the Great Recession is clearly visible in figure 2.5.

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5. See Véron (2008) for comparative data on corporate demographics.
6. See for instance Hathaway and Litan (2014) or Decker et al. (2016).
7. An establishment is a discrete place of business (i.e., unique address) owned by a firm, and a single firm can have several establishments—and in some cases, like Starbucks, thousands.
8. See Hopenhayn et al. (2018).

The link between new firm formation and entrepreneurship, and population growth and the population's age profile, emphasize the increasingly important roles of the youngest components of the US population, namely the Hispanic community and, in a different way, the foreign born. The median age in 2017 for the US Hispanic community, 28.7 years of age, was nearly a decade younger than the median age of the total US population, 38.1 years of age.[9] Meanwhile, the share of the US foreign-born population that was of working age (defined here as ages 18–65) in 2017 was 79 percent, or 20 percentage points higher than the share of the working aged US native-born population. This share rises to 83 percent for the foreign-born Hispanic population and 86 percent for the foreign-born of Mexican origin. Higher levels of entrepreneurship among the foreign-born population—of Hispanic origin and as a whole—should be expected, especially as the native non-Hispanic US population ages.

A significant literature and media coverage exist on some of America's most successful foreign-born entrepreneurs—Elon Musk from SpaceX/Tesla, Sergey Brin from Google, and Garrett Camp from Uber, among others—and it is widely known that foreign-born entrepreneurs play an outsized role in US high-tech and software entrepreneurship.[10] However, it is important to realize how important the role of immigrants is for entrepreneurship in the United States more broadly.

Annual survey data of opportunity-driven[11] entrepreneurship in the United States collected by the Kauffman Foundation highlights the role of both the foreign born and the Hispanic community. Figure 2.7 shows the likelihood of Americans becoming entrepreneurs during a given year in the two decades between 1996 and 2016 broken down by nativity. In the early 2000s foreign-born US residents began to exhibit significantly higher chances of entrepreneurship than native-born Americans. During the period after the Great Recession, the foreign born have been roughly twice as likely to start their own businesses.

The far higher recent level of entrepreneurship in the US foreign-born population is also beginning to be reflected in the ownership of US businesses. The US Census survey of entrepreneurs shows the share of foreign-born owners have more than doubled for firms founded less than two years ago, when compared to older firms in business for more than 16 years (figure 2.8).

In 2016, the foreign born accounted for over 20 percent of the owners of all firms in business for less than five years (figure 2.8)—a share far higher than the roughly 13 percent of the US population that they have accounted for in recent years.

Survey data from the Kauffman Foundation also show that since the early 2000s the Hispanic community has exhibited significantly higher levels of opportunity-driven entrepreneurship than white, African American,

9. Five-year estimates from US Census Bureau (2017).

10. See National Foundation for American Policy (2018) or Saxenian (2002).

11. Two principal versions of entrepreneurship exist: the opportunity-driven entrepreneurship where the business founder starts a new firm because he or she sees a new opportunity in doing so; and the necessity-driven entrepreneurship, where individuals are driven into self-employment out of economic hardship. The former category is by far the largest in the United States, accounting for between 70 and 90 percent of the annual total between 1998 and 2016. See Kauffman Foundation (2018); details available at https://www.kauffman.org/kauffman-index/profile?loc=US&name=united-states&breakdowns=growth|overall,startup-activity|128,main-street|overall#indicator-panel-se-index.

and Asian Americans. Figure 2.9 makes the disproportionate economic contribution in recent years of Hispanic entrepreneurs to the US economy clear.

The growing role of Hispanics in US entrepreneurship is also visible at the state level, where the positive correlation between the Hispanic population share and opportunity-driven entrepreneurship levels is clear (figure 2.10).

States with a higher share of Hispanic population tend to have higher levels of opportunity-driven entrepreneurship, something particularly striking among the large states with high levels of Hispanic population, namely California, Texas, Florida, and New York. Encouraging Hispanics to move to smaller states with fewer of their members would be one way of raising local entrepreneurship rates.

Although Hispanic entrepreneurs are making inroads into America's business owner community, the situation for the Hispanic community appears less promising when considering all existing businesses in the United States, which number over 5 million.[12] Figure 2.11 shows the share of business owners in 2016 by nativity, Hispanic origin, and main US ethnic groups.

Approximately 2 percent of Americans over the age of 18 own their own business, with the native-born population marginally more likely to be business owners than the foreign-born population. This share drops to just 0.8 percent of Hispanics, though marginally more of foreign-born Hispanics are business owners. Hispanics are overall therefore less likely to own their own business than white and especially Asian Americans, though more likely to do so when compared to African Americans. Hispanics today may be far more likely than others to start a new business, but as a group they remain relatively economically disadvantaged in the United States. At even the significantly higher current rates of entrepreneurship for the Hispanic community depicted in figures 2.9 and 2.10, it will take a number of years for Hispanic business ownership to converge to the US average.

In summary, the Hispanic community is making important gains in general educational attainment and has caught up to the US average for education levels below a college degree. The community still lags behind the overall US labor force in educational attainment and, as a consequence, average wages, due to the legacy of many low-skilled labor force entrants in earlier decades. Meanwhile, Hispanics, especially the foreign born, exhibit higher levels of entrepreneurship than other ethnic groups in the United States. The community's entrepreneurial spirit is of particular relevance to a US economy that is witnessing its entrepreneurial intensity wane as other population groups age, and it may in time help Hispanics reach the same level of business ownership as economically privileged groups enjoy.

III THE CONTRIBUTION OF RISING HISPANIC LABOR TO FUTURE US ECONOMIC GROWTH

The positive qualitative economic trajectories for Hispanic educational attainment and entrepreneurship discussed in section II warrant a deeper look at the community's future role in America's economy. This section

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12. Data from the 2016 Census Annual Survey of Entrepreneurs (US Census Bureau 2018b), which estimates the total number of US firms (defined in this survey as an owner of a firm with paid employees) at 5.22 million, of which 4.39 million are owned by native-born Americans and about 830,000 owned by foreign-born Americans.

explores how much the "Latino factor" will contribute to economic growth in the United States over the long term, from the present to 2048.

The extent to which the Hispanic community will expand the available supply of labor can be understood by conducting a growth accounting exercise of the US economy for the period 2020–48, using standard demographic and economic projections from official US federal government statistics.

It is important to point out that Hispanics, like most other ethnic groups, are undergoing a demographic change: Their growth rate is gradually slowing down, they are becoming older, and their immigrant share is declining. These developments introduce important caveats to the analysis in this section, which will be explored further in sections IV and V.

3.1 Methodology and Data: The Growth Accounting Exercise

Below is a brief explanation of the growth accounting framework used to produce projections; a more detailed description, as well as a list of the assumptions made based on available official statistics, are included in the technical appendix. The second part of this section explains the data sources used. Readers pressed for time may want to jump straight to the results in section 3.2.

The Growth Accounting Methodology

Growth accounting disaggregates economic growth into three component parts: physical capital, employed labor, and a measure of productivity and other residual explanatory elements, often called the "Solow residual" or "total factor productivity." These three factors are labeled K, L, and A, respectively.[13]

This relationship can be expressed as:

$$\frac{\Delta Y_t}{Y_t} = \frac{\Delta A_t}{A_t} + \beta \frac{\Delta K_t}{K_t} + (1 - \beta) \frac{\Delta L_t}{L_t}$$

Where Y is output, and β is the share of capital in national income.

To identify the expected contribution to GDP coming from growth in employed Hispanic labor, the growth rate of L is disaggregated into Hispanics and non-Hispanics.

One key issue not explored in this analysis are changes in labor productivity among Hispanics and non-Hispanics. That is, we take "L" to be the number of actively employed laborers and do not use any quality-adjusted measures of labor, nor do we incorporate into the analysis any differences between Hispanics and non-Hispanics in average hours worked. Hence, one way to interpret our results is to consider them as representing the gains under a society where Hispanics are equally as productive and intensely employed as the US mean.

Another important point to consider are the differences in the labor force participation rate (LFPR), as well as the unemployment rate (UR). In recent decades, both indicators have been high for Hispanics compared to the national average. In 2000, the average LFPR in the United States was 67.1 percent, while the Hispanic LFPR was 69.7 percent (figure 3.1). By 2008, these figures were 66.0 and 68.5 percent, respectively, and, in 2018,

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13. Growth accounting was initially introduced in Solow (1957). For a brief review of its historical development and an analysis of the interpretation of the Solow residual, see Barro (1999).

62.9 and 66.2 percent. The driver behind Hispanics' larger participation in the labor force is primarily the age structure of their population, given that they are, on average, younger than non-Hispanic groups.[14]

In terms of labor force participation there are substantive differences across the communities that compose the Hispanic demographic: Salvadorans have the highest participation rate at 72.2 percent; "other Central Americans," 70.8 percent; South Americans, 70.0 percent; and Puerto Ricans and Cubans, 61.7 percent each.[15]

Available projections on Hispanic and non-Hispanic LFPR are available but limited in scope (see "Data" below). Unfortunately, long-term projections do not disaggregate across ethnicities. Hence, we estimate future labor force participation rates for Hispanics and non-Hispanics using a multivariate regression (see the technical appendix for details).

Turning to measures of the unemployment rate for Hispanics and non-Hispanics, we face a similar issue, and here again we estimate ethnicity-disaggregated values, with the process specifics described in the technical appendix. The main assumption made in our projection is that Hispanics will, over time, partially converge to the national average. Noting that the historical unemployment rate gap between Hispanics and non-Hispanics has been closing in recent years (figure 3.2), and following our previous description about the Hispanic community catching up to the US mean in other important indicators, we assume that the gap between the Hispanic and average unemployment rates will slowly close over the coming decades. Whether we assume full or partial convergence does not significantly alter our conclusions.

It is worth taking a moment to discuss the share of labor in national income—represented by the term β in the equation at the beginning of this section. It is well established that the shares of labor and capital in national income have not remained constant over time, which implies that, for a given growth rate in the quantity of employed labor, the resulting change in total output may vary. Mathematically this is reflected by the fact that β is time dependent, rather than a constant.

Official economic projections estimate the yearly values of the capital/income ratio until the year 2028, and this data is used to estimate β over that time period. Unfortunately, there are no official yearly statistics for this ratio over longer horizons, so this growth accounting exercise makes the important assumption that the share of labor in national income remains at its 2028 level through 2048. This is likely to introduce a slight bias in the estimates but does not significantly alter the results.

Data

This analysis relies on data from the US Census Bureau, the Bureau of Labor Statistics (BLS) (2017), the Federal Reserve Bank of St. Louis, and the Congressional Budget Office (CBO). The Census's standard population projections for Hispanics and non-Hispanics extend beyond the year 2050, while the CBO provides labor force participation and unemployment rate projections for 2019–48, as well as estimations of real GDP growth over the same time horizon.

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14. Bureau of Labor Statistics, "Hispanics will make up nearly 20 percent of the labor force in 2024," *The Economics Daily,* September 28, 2016 (https://www.bls.gov/opub/ted/2016/hispanics-will-make-up-nearly-20-percent-of-the-labor-force-in-2024.htm?view_full).

15. Bureau of Labor Statistics, "Labor force participation rate of Hispanics at 66.1 percent in 2017," *The Economics Daily,* September 25, 2016 (https://www.bls.gov/opub/ted/2018/labor-force-participation-rate-of-hispanics-at-66-point-1-percent-in-2017.htm).

3.2 Growth Accounting Model Results

The estimates here suggest that the contribution to US GDP coming from growth in employed Hispanic labor will hover around an average of 0.24 percentage point between 2019 and 2048 (figure 3.3). There is no significant downward trend in this growth path: The economic contribution of the change in employed Hispanic labor will average 0.25 percentage point from 2020 to 2029, 0.24 percentage point from 2030 to 2039, and 0.24 percentage point from 2040 to 2048.

The comparison of the estimated contributions of employed Hispanic and non-Hispanic labor in figure 3.4 shows two different developments. The first is the significant contribution to GDP growth achieved through the fall in the unemployment rate over recent years. Short-term estimates suggest a noticeable but temporary negative growth contribution from non-Hispanic labor's expected contribution to GDP growth,[16] as the unemployment rate increases back up from its current extremely low levels to its natural long-term level (official projections suggest this reversion will start later in 2019). Second, over the medium-term horizon, it is clear that the expansion of employed Hispanic labor will become an important contributor to economic growth. This trend is likely to continue over the long term, reflecting the changing demographics of the country.

The figure highlights how the growth in employed Hispanic labor will soon account for a larger share of the total contribution to GDP growth from labor than the increase coming from the (much larger) non-Hispanic population.

IV US AND HISPANIC DEMOGRAPHIC CHANGE: ASSUMPTIONS ABOUT FUTURE MORTALITY, FERTILITY, AND NET IMMIGRATION

Section II highlighted Hispanic educational attainment and entrepreneurship helping the community converge towards the US average in terms of workforce skill levels and business ownership. Section III underlined the relative increase in the contribution to US economic growth from the change in gainfully employed Hispanic workers. These qualitative and quantitative advances, combined with a projected rising share of Hispanics in the working age population (while the non-Hispanic share declines), set up the US economy to reap a long-term "Latino demographic dividend" (figure 4.1).

At the same time, significant changes are unfolding regarding the number of children Americans and especially Hispanics have, as well as the level of inward migration to the United States from Latin America, especially neighboring Mexico. Meanwhile, the projections in section III are driven predominantly by projected growth rates in the US population until 2050, making them susceptible to these changes, too.

These projections by the US Census Bureau rely on the so-called cohort-component method beginning with a base-year population, adjusted each year for the projection period based on a set of assumptions about the three dominant demographic components of change—mortality, fertility, and net international immigration to the United States.[17]

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16. The non-Hispanic labor contribution falls below the zero line and turns negative during 2020–23 in figure 3.4, as the current low unemployment rates begin to converge back up to a level consistent with estimated potential output.

17. See US Census Bureau (2014) for a detailed discussion of the agency's cohort-component population projection methodology.

4.1 US Census Mortality Assumptions

Life expectancy at birth for the overall US population dropped from 78.9 to 78.6 years during 2014–17,[18] an unprecedented decline not witnessed in the United States since the early 20th century[19] and not seen recently in other advanced economies.[20] This recent unwelcome increase in US mortality rates has now pushed actual life expectancy at birth and at age 65 in the United States below the assumptions made by the US Census in its population projections (table 4.1).

Table 4.1 highlights how, among the three ethnic/origin groups that Census assumes mortality developments for—white, black, and Hispanic—Hispanics are assumed to have considerably longer life expectancy at birth and at age 65 than other the other groups. The well-known gender life expectancy gap in favor of women is also evident. Table 1 further makes it clear how actual US mortality rates, Hispanics excluded, are now well below Census assumptions of life expectancy, particularly at birth, though most of the difference disappears by age 65. In other words, actual US mortality rates in youth and during working years account for most of the relative decline in US life expectancies when compared to assumed values.

That difference, however, remains relatively minor and concentrated at younger ages and hence over long projection periods can be remedied by enlightened public policies. Census assumptions concerning US mortality trends are not at present a source of material divergence in assumed US population trends in comparison to actual vital statistics. Hispanics currently have a high life expectancy, and Census assumes they will continue to do so until at least 2035.

4.2 US Census Fertility Assumptions

Census assumptions about future fertility levels are derived from historical trends in US birth registration data collected by the National Center for Health Statistics, under the Centers for Disease Control and Prevention (CDC). The 2014 Census population forecasts for 2015–60 used in this paper rely on historical US fertility levels from 1990 to 2011 to inform its assumptions[21] about future US fertility levels. Long-term assumptions based on historical facts invariably suffer from the risk of missing turning points in the data occurring around the beginning of the forecast period.

Census makes a number of assumptions about long-term future fertility in the United States for the age group 15–54 years of age. Fertility levels are assumed to differ between ethnic groups and the mother's country of birth, with foreign-born mothers assumed to have higher fertility levels than natives. Individual population categories demarcated by ethnicity, nativity, and Hispanic origin exhibiting similar fertility levels and trends in the historic data from 1990 to 2013 are aggregated for simplicity, leaving Census with individual fertility projections for the total US population and five subcategories with distinct fertility trends: foreign-born Hispanics,

18. See CDC (2018a and 2018b).

19. The last time life expectancy dropped three years in a row in the United states was during 1915–18; see CDC (2017).

20. The only closely comparable development is in the United Kingdom, where life expectancy stopped improving from 2015 to 2017, but did not outright fall. See ONS (2018).

21. A specific short-term projection was made for 2012 and 2013 fertility levels, based on 2011 final data. See US Census Bureau (2014:3-6f).

foreign-born non-Hispanic Asian Pacific Islanders (API), foreign-born non-Hispanic other, native API, and native all others.

The 2014 fertility projections assume linear convergence—at varying speeds—of all individual population groups by the year 2100 to the average total fertility rate (TFR) of the native US population between 1990 and 2013: 1.86 children per woman in the 15–54 years of age bracket. Projected TFR levels for the total US population consequently move very little over the forecast horizon, starting at 1.87 in 2014 and converging to the endpoint at 1.86 as early as 2031.

Only two groups—foreign-born Hispanics and the smaller foreign-born non-Hispanic other—are assumed to have a TFR above the replacement rate of 2.1 during the forecast period. Foreign-born Hispanics are assumed to have by far the highest fertility level at a TFR of 3.11 in 2014, gradually declining to 2.88 by 2030 and 2.44 by 2060 (reaching 1.86 by 2100), while foreign-born non-Hispanic others start at 2.48 in 2014 before gradually declining to 2.37 by 2030 and 2.15 by 2060. The native-born US population is consequently assumed to have TFR levels even further below the replacement level: 1.75 in 2014, gradually rising to 1.77 in 2030 and 1.81 in 2060 (and 1.86 in 2100). In other words, continuing immigration, especially of Hispanics, into the United States is an important element in maintaining US fertility levels at the assumed TFR levels of 1.86 for the duration of the forecast.

Census assumes total fertility levels for the entire US population are significantly below the replacement rate level of 2.1 during the entire forecast period. This fact alone highlights how the United States will rely increasingly more on continued immigration to maintain its relatively youthful population age profile and overall population numbers. Further compounding the problem, recorded US fertility levels have declined significantly in recent years and do not reach even the relatively low assumed levels (compared to 19th and 20th century levels) in Census projections. Figure 4.2 shows the most recent recorded US fertility statistics by total population and major ethnic and origin groups.

Figure 4.2 highlights how US fertility, at around 1.75 in the first half of 2018, has fallen to near the lowest levels recorded since at least 1960 and probably in US history.[22] This level is well below the Census long-term forecast of 1.86 and below the most recent values for many Northern European countries and even Russia.[23]

Fertility rates among different ethnic groups have clearly been converging early in the 21st century, as especially African American fertility rates decline towards the levels of white women and the US average, while that of Asian Americans converge slightly upward towards the same average. This development is associated with especially significant improvements in educational attainment and labor market outcomes among African American women in the 1990s,[24] as well as the gradual rise of out-of-wedlock childbirths among white women (which boosted white fertility rates from their lows of the 1970s), a development African American women experienced

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22. Data in Jones and Tertilt (2007: figure 1) from 1826 to 1960 suggests US TFR values in 2018 are historical lows, essentially equaling the previous brief record low of 1.74 in 1976.

23. The data for other countries are from 2016, so they cannot be immediately compared to the latest available US data.

24. Burr and Bean (1996) shows how the higher levels of African-American fertility in the 1970s and 1980s were also associated with persistently higher levels of unwanted births from lower contraceptive use in the community.

in earlier decades.[25] The overall equalizing factor of converging educational and labor market circumstances for American women of different ethnic groups drove this development from the 1990s onwards and is likely also an important element in the recent convergence towards the lower US average witnessed among the Hispanic community.

A widespread fertility decline across ethnic and origin groups is clearly visible after the start of the recession in 2007, as Asian American TFR drops to 1.6, white Americans to 1.67, and African Americans to 1.83 by the latest available subgroup data from 2017. Hispanics at TFR levels at 2.01 in 2017 are the only group above the Census forecast level of 1.86, though their level too is now below the replacement rate of 2.1. In other words, in order to sustain the current number of Hispanics in the United States in the long run, continued immigration would be required, even if the share of Hispanics grows as a result of other population groups witnessing faster declines in their native-born numbers. Moreover, figure 4.2 makes it clear that Hispanics have suffered by far the most dramatic fertility decline in recent years, dropping from a TFR level of 2.9 as late as 2007. As such, the degree to which total US TFR levels are supported by high Hispanic fertility has declined dramatically in recent years.

In their annual report, the Social Security Trustees assume for the long-range 75-year projection period a TFR level of 1.8 in their high-cost (i.e. bad) scenario,[26] implying that the recent decline in US TFR to below this level, unless reversed in the future, will have negative long-term implications for US potential growth rates. More importantly, however, the recent fertility decline, particularly among Hispanics, to well below Census forecast assumptions has significant implications for the validity of the population forecast and the results presented in section III. Figure 4.3 compares the Census fertility assumptions for relevant categories with recent actual US recorded TFR data.

As discussed above, Census forecasts only six specific population subgroups with distinct trends during the forecast period, of which the three most relevant are included in figure 4.3, using the latest available data.[27] The two blue lines for the native-born US population highlights how Census forecast values and actual data for this category—by far the largest of the population subgroups—are approximately equal at 1.75. Meanwhile, the two green lines highlight how actual fertility among foreign-born Hispanics is at 2.38 (latest available data from 2015), over 20 percent below the assumed level of 3.09 for that year. Or in other words, the data suggest that the vast majority of the undershooting of actual total US TFR levels compared to total projected US total (red lines) can be traced to rapid convergence of the foreign-born Hispanic population's fertility levels to the US average. Hence the largest share of missing new babies in the Census population forecast are likely to be Hispanic, implying a potential Census overestimate of this population group.

This raises the question as to whether the TFR among the foreign-born Hispanic population might recover to levels near the projected Census levels. This appears unlikely, as the rapid decline in the TFR among US

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25. See Yang and Morgan (2003) for more details.
26. See SSA (2018).
27. The other three categories—foreign-born non-Hispanic Asian Pacific Islanders, native-born Asian Pacific Islanders, and foreign-born non-Hispanic other races—are all relatively small population groups.

foreign-born Hispanics mirrors a general rapid decline in TFR levels across the Latin American region, where TFR levels are now almost converged with the low levels of the United States. This development is illustrated in figure 4.4.

Figure 4.4 shows how TFR levels near or below the replacement level are now the norm in Latin America. Mexico—from which more than half of US Hispanic mothers originate[28]—has a TFR level close to replacement levels, at 2.1, far below the levels assumed by Census for the US foreign-born population until 2060. While it cannot be ruled out that foreign-born Hispanic mothers will have more children in the United States than they would have had in their native countries, continued convergence to the US average appears far more likely. This is supported by the fact that the average age of Hispanic mothers at the first birth was close to 25 years old in 2017, not far from the US average of just below 27 years old.

Census TFR assumptions for the Hispanic foreign-born population group hence appear overly optimistic and likely bias estimates for the total US Hispanic population upwards.

4.3 US CENSUS NET MIGRATION ASSUMPTIONS

Fertility and mortality levels for large populations spread across continent-sized countries like the United States are complex social phenomena on which individual public policies usually have only limited direct influence and hence usually change only slowly over time. Importantly for long-term forecasts like the ones carried out by Census, fertility and mortality levels usually count among the variables with the least amount of uncertainty. Net migration assumptions in the Census forecast on the other hand are different, and outcomes are easily altered by changes in public policies that affect US immigration rules, regulations, and enforcement. This paper, however, will not attempt to quantify the recent changes to US immigration policies and enforcement or—if these policies are sustained—their hypothetical future long-term effect on the level of net US international migration.

US Census projects future net US international migration based on a set of assumptions concerning immigration to the United States, emigration from the United States, and the net migration to/from the United States. As historically the recipient of large numbers of immigrants, the former set of assumptions for immigration play the largest role by far in determining future projected net US international migration.

US Census bases projections for immigration to the United States on rates of emigration from sending countries, incorporating information about population projections for sending countries into its US forecast. Census first estimates the population for six separate country-of-birth regions in 1980–2011:[29] Mexico, Latin America/Caribbean/South America, Asia, sub-Saharan Africa, Middle East/North Africa, and Europe/Canada/Oceania. Subsequently, the number of foreign-born migrants coming to the United States for each of the six categories is calculated for the same date range,[30] and annual emigration rates (i.e. the number of migrants from each region coming to the United States divided by the sending region's population) for each of the six regions

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28. See CDC (2018c: table 12).

29. The source for these international population projections are the Census Bureau International Data Base (IDB) at https://www.census.gov/programs-surveys/international-programs/about/idb.html.

30. Census relies on data from the 1990 and 2000 Census, and the American Community Survey (ACS) in 2001–12.

are calculated. The regional emigration rate is then projected into the future using a linear power function model. Figure 4.5 reproduced from the Census 2014 population projection methodology and assumptions[31] shows both the calculated historical regional emigration rates for 1980–2011 and the model projected ones for 2014–60.

The reproduced Figure 4.5 illustrates how historical emigration rates to the United States from neighboring Mexico (right-hand side) have historically been far higher—reaching 7 per thousand in the 1990s—than those of other regions in the world. Moreover, emigration rates to the United States from the neighboring region of Latin America and the Caribbean, ranging from over 1 per thousand in the 1980s to 0.4 by 2011, greatly exceed the emigration rates for the rest of the world, which generally do not surpass 0.2 per thousand. Figure 4.5 further highlights the risk of relying on a long historical time series data for a forward projection, as average values risk missing important turning points right before the projection period begins. For example, a dramatic decline in Mexican emigration rates to the United States after 2007—a drop from over 4 to around 1 per thousand by 2011—is clearly visible on the left of figure 4.5 but is not at all captured in the projected emigration rates of around 3.5 per thousand for the 2014–60 period. In other words, unless actual Mexican emigration rates to the United States picked up significantly after 2011, the projected rates of Mexican immigration to the United States after 2014 would suffer from significant upward bias.

The projected emigration rates for Mexico of around 3.5 per thousand (right-hand side) and for Latin America and the Caribbean of around 0.5 per thousand (left-hand side) translates into a projected level of inward migration to the United States for 2014–20 of 415,000 to 430,000 and 285,000 to 295,000 respectively. The projected levels for Mexico, however, are well above what actual immigration has been after 2014. This is illustrated in figure 4.6.

Figure 4.6 combines Census projected immigration levels for Mexico and Latin America/Caribbean for 2014–20 with actual data for recorded immigration from the two regions during 2011–17. The Census's annual American Community Survey (ACS) Survey records the year of entry of polled immigrants in the United States, while the data from the Department of Homeland Security refer to the number of new green card recipients by country of last residence. Census projections for Latin America/Caribbean (excluding Mexico) are roughly accurate for the period of overlapping data, but actual Mexican immigration to the United States has, at approximately 150,000[32] annually, undershot projected levels by about 250,000 each year since projections began. This implies that actual new inward migration from all of Latin America and the Caribbean has only been roughly two thirds of levels projected by Census in its 2014 population forecast.

This decline in arrivals from the most important country of origin for inward US migration has potentially significant long-term implications. First, it is suggestive of the overall success of the strategic US policy of seeking to integrate Mexico into the North American economy though the North American Free Trade Agreement (NAFTA). Counterfactuals can never be fully known, but it appears unlikely that the recent significant decline

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31. US Census Bureau (2014).

32. The level around 150,000 annually after 2011 indicates that Mexican immigration to the United States did not recover in subsequent years from the low level it reached that year in the reproduced Census figure 4.5.

in outward Mexican migration to the United States would have occurred at the same level, had Mexico not experienced both political (democratization) and economic progress after joining NAFTA in the mid-1990s.[33] This again implies that a change in US policy towards Mexico, and the potential abandonment of NAFTA, would likely cause significant political and economic stress in the Latin American country, which would cause northward migration to the United States to rebound to earlier, higher levels. Second, without a significant, unforeseen deterioration in the economic situation and political stability in the region, it is unlikely that the large supply of new migrants to the United States from Mexico would be replaced by migrants from other Latin American countries further away from the US border. Mexico is a neighboring country and has a far bigger population than the other Central American nations, where emigration rates, while higher than for the rest of the world, remain lower than for neighboring Mexico. This makes Central America incapable of supplying the United States with the migrants required to replace the now less numerous Mexicans.

As a consequence, the United States has probably passed the point of peak inward migration from Latin America, a point illustrated in figures 4.6 and 4.7.

Figure 4.7 highlights how the Hispanic share of the US foreign-born population rose dramatically from 1960 to reach around 50 percent by the time of the 2010 Census and accounted for the vast amount of the increase in the total foreign-born US population share during the same period. However, with more recent data from the Department of Labor, the figure shows this trend has completely stagnated if not marginally reversed in the years since 2010. Figure 4.8 demonstrates the same development using issuance data for new US permanent residence permits. It exhibits a dramatic decline in the European share initially made up by growth in green card issuance to Latin Americans, and, following the peak of green cards to the region during the 1990s, continuing growth in the share of Asian green card recipients. Figure 4.8 hence highlights how the future of the United States as a major migration destination will be more tied to the Asian region than neighboring Latin America. This development is likely to have a significant impact on the long-term US immigration debate, as it implies the US foreign-born population will become more diverse and migration from neighboring and adjacent Latin American countries will lessen. The focus of the US political debate about immigration is accordingly likely to shift away from the Hispanic community, as it will no longer pose the same imaginary peril to America's existing white majority population.

The fact that the recent decline in Hispanic fertility and net migration from Mexico exceed Census Bureau assumptions has long-term implications for the projected Hispanic population in the United States. Both the number of new US-born Hispanics and the level of new foreign-born Hispanics are biased upwards in the Census forecast relative to the latest trends discussed above. If instead of Census's older assumptions, one assumes that the most recent Hispanic fertility and inward migration developments in the United States are the starting points for the projection period to 2060, a lower projection of Hispanic population growth emerges. This adjusted population forecast is presented in figure 4.9.[34]

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33. For authoritative reviews of the positive impact of NAFTA, see Hufbauer and Schott (2005), and PIIE (2014).

34. Figure 4.9 assumes 1) that Mexican net migration to the United States starts the projection period at a conservative level of 250,000 per year, or about 100,000 above the levels reported in figure 4.6, and then develops over

Figure 4.9 shows how, if the latest observed Hispanic fertility and net migration trends are sustained throughout the projection period, the US Hispanic population will still nearly double by 2060 to approximately 105 million but be 14 million below the Census 2014 estimates of 119 million. By 2030 the projected US Hispanic population would be around 5 million less than estimates, or about 72.1 million, a significant reduction of about 13 percent in the expected 2060 Hispanic population growth in the United States. However, even if Census forecasts for other ethnic groups in the United States were left unchanged and proved correct, Hispanics would still witness the largest growth in population by any one group in the United States by 2060.

Section V will analyze the impact on the projected growth contribution from the growth in employed Hispanic labor on the US economy by 2060.

V FORECAST WITH UPDATED ASSUMPTIONS FOR HUMAN CAPITAL FERTILITY AND MIGRATION

This section updates estimates of the Hispanic contribution to economic growth, using the modified demographic projections for the community described in the previous section but keeping the growth rates of the rest of the US population fixed.[35] The results suggest that the contribution to US GDP coming from growth in employed Hispanic labor will hover around an average of 0.21 percentage point between 2019 and 2048 (figure 5.1), in contrast with the average of 0.24 reported in section III.

Our conclusions from these updated projections are more or less in line with those from section III: Over the medium-term horizon, Hispanic labor will become an ever more important source of US economic growth. This trend is likely to continue over the long term, reflecting the changing demographics of the country described in the previous section.

Compared to section III, however, our updated demographic projections suggest that the contribution to US GDP growth from changes in employed Hispanic labor would be slightly lower, on the order of 0.03 percentage point. Despite this drop, figure 5.2 shows the adjusted Hispanic growth contribution still exceeds that of the non-Hispanic US population.

In other words, the adjustments to the population forecast to reflect the latest observed Hispanic fertility and net migration data do not change the fact that the Hispanic community is expected to be the majority contributor to rising labor input in the United States. It is important to keep in mind, however, that we do not adjust for labor quality or differences in average hours worked, only growth in estimated employed laborers.

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time in line with the Census forecast from this lower starting point relative to the original Census forecast; and 2) that Hispanic fertility starts the projection period according to actual reported Hispanic births data in 2014–17 (these are lower than those forecast by Census) and continues to develop according to the lower fertility starting point according to the Census forecast for the duration of the projection period.

35. It is, with regard to the contribution of the Hispanic population to US growth, a relatively conservative assumption to keep non-Hispanic population growth fixed at the Census 2014 forecast levels, as the fertility rates for this population subgroup have also been falling recently and therefore the Census forecast for its growth might be biased upwards as well.

Finally, figure 5.3 compares the updated Hispanic contributions versus the results based on the original official demographic projections. Although the oscillations driven by changes in labor force participation and unemployment remain,[36] the gap between both scenarios reflects the lower number of Hispanics in the economy.

The results presented above suggest that downward changes in net Hispanic migration (stemming, for example, from more restrictive immigration policies, or a rise in anti-immigrant sentiment that creates a more hostile environment for foreigners) would have a negative effect in economic growth over the coming decades.

VI CONCLUSION AND POLICY IMPLICATIONS

The US Hispanic community is rapidly converging towards the US average on crucial social and economic indicators. As the Hispanic contribution to the US economy continues to grow, the "melting pot" depiction of America continues to be applicable. The recent wave of Hispanic migration to the United States is achieving American living standards in the same manner that earlier groups of migrants from more distant origins succeeded in doing.

Hispanic educational attainment, previously lagging behind the rest of the United States, is now converging to the (rising) US average at levels up to just below college graduation. With the foundation for further educational gains in place, the Hispanic community is likely to continue to catch up at the college and higher levels as well, and the skills profile of the entire Hispanic workforce will in time resemble that of the rest of the US population. Our analysis suggests that the community will in the future earn the same wages as the rest of the country, on average.

Meanwhile, as the overall level of US economic dynamism and new firm creation have declined in recent decades, especially after 2008, the proclivity of the foreign-born and Hispanic communities for opportunity-driven entrepreneurship has now become an important growth factor. The Hispanic community is considerably more likely to start their own businesses than the non-Hispanic US population, and US states with higher shares of Hispanic residents generally enjoy higher levels of opportunity-driven entrepreneurship. This, and especially the role played by foreign-born US entrepreneurs, highlights another important channel through which the Hispanic community is increasing its contribution to overall US economic growth. Higher levels of Hispanic entrepreneurship also improve the prospects for members of the community, as, in time, it seems reasonable to assume that they will enjoy the same rate of overall business ownership as white and Asian Americans and the general economic (and political) empowerment associated with higher levels of business ownership.

The growth accounting analysis suggests that the Hispanic community will continue to contribute to US economic growth from increases in employed labor in the coming decades, in stark contrast to the decline in the contribution of the aging non-Hispanic labor force. By the end of the forecast period in 2048, relying on the standard Census population forecasts and other government-provided labor market assumptions, the Hispanic

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36. As in figure 3.4, the non-Hispanic employed labor contribution to US GDP growth turns temporarily negative during 2020–23 as the current exceptionally low unemployment rates begin to converge back up to a level consistent with estimated potential output.

community's contribution will account for a majority of the total growth from rising labor input in the US economy (without adjusting for differences in labor quality).

In addition to enjoying rising educational attainment, as its fertility rate declines, the Hispanic community is converging rapidly to the (historically low) US average number of children. This combination sets the community up for enjoying a potentially substantial demographic dividend in the coming years, which will help the rest of the US economy ameliorate the effects of a generally aging population. At the same time, inward migration from Mexico has declined significantly since around the time of the Great Recession and is now—as are Hispanic fertility levels—well below levels assumed by the US Census Bureau in their standard population projections. This implies that Hispanic migration to the United States has likely peaked and that the focus of future US immigration debates will shift away from the Hispanic community, as lower numbers of Mexicans are unlikely to be replaced by Hispanics from regional countries further from the US border. The far more populous Asian region and to a smaller extent Africa will instead continue to gain importance as sources of US inward migration.

The latest available data show that the rapidly declining Hispanic fertility and reduced inward migration from Mexico are both significantly below the levels assumed by the Census Bureau, implying that Census forecasts for the Hispanic population are biased upwards. We estimate a revised population forecast for the Hispanic community for the 2014–60 period, relying on a starting point observed in the latest available fertility and net migration data. This forecast projects that by 2030 the US Hispanic population will be roughly 5 million lower than the US Census forecast of 71 million, and that by 2060 this difference will have grown to about 14 million; still, the US Hispanic population will nearly double to 105 million.

Based on our revised population forecast we estimate that the Hispanic contribution to US economic growth from rising labor input to the economy will decline a little but still remain a majority share by the end of the forecast period in 2048. In other words, the recent convergence in Hispanic fertility rates towards the US average and declines in Mexican inward migration will not change the fact that the Hispanic community will account for most of the growth contribution from rising labor input in the US economy until 2048.

Our research has several policy implications.

First, declining US fertility among both the native and foreign-born populations makes maintaining net migration levels at least at recent historical US levels a policy priority. Whereas growth in the native-born population previously accounted for the bulk of US population growth since the mid-20th century, net inward migration now accounts for approximately half of this (shrinking) source of US economic growth. Maintaining it at least at recent historical levels is consequently necessary to avoid further declines in projected long-term US potential economic growth rates. More restrictive immigration policies would be harmful to US growth prospects.

Second, even when the recent declining Hispanic fertility and net migration data is taken into account, the community will still account for the majority of the contribution to GDP growth from labor input in the future, a finding that underlines that it is important to continue fostering increased labor productivity among

Hispanics. The continued numerical growth of the Hispanic community makes it imperative that their positive trend in educational attainment be sustained and strengthened to include the highest tertiary levels of education. Only then can the Hispanic community reap the full demographic dividend and convergence in wage levels be achieved.

Third, our finding of higher levels of Hispanic opportunity-driven entrepreneurship than among the rest of the US population emphasizes the importance in securing the community full access to financing and other business support crucial to grow start-up businesses to scale.

Fourth, our finding of significantly declining net migration from Mexico stresses the very broad implications for US policies towards Mexico and the interest the United States should have in supporting continued political stability and economic growth in the country and indeed in the rest of Central America. Dramatic US policy changes towards Mexico and the region—for instance in the form of a US withdrawal from NAFTA and/or the Central American Free Trade Agreement (CAFTA), or the erection of a more comprehensive physical border barrier combined with intensified anti-immigrant political discourse in the United States—would risk undermining recent decades of political and economic gains, especially in Mexico, and could lead to a renewed inflow of mostly economically motivated migrants to the United States.

Fifth, the decline in native US fertility and net migration from neighboring Mexico highlights the need for the United States to maintain its global appeal as a destination for migrants from all over the world. The United States will need more migrants to sustain its potential growth rate in the future and can no longer take for granted that these will come from its nearest borders. Maintaining an immigration system that is open and appealing to a more diverse set of new migrants will be an important component on the continued economic success of the United States.

Fortunately, it is likely that the United States still retains its global attraction, and it is increasingly important to its economic future that its political leaders keep it that way.

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TECHNICAL APPENDIX
The Growth Accounting Methodology

Growth accounting is a methodology that disaggregates economic growth into its component parts: physical capital, employed labor, and a measure of productivity and other residual explanatory elements, often called the "Solow residual" or "total factor productivity." These three factors are labeled K, L, and A, respectively.[37]

This relationship can be expressed as:

$$\frac{\Delta Y_t}{Y_t} = \frac{\Delta A_t}{A_t} + \beta \frac{\Delta K_t}{K_t} + (1 - \beta)\frac{\Delta L_t}{L_t}$$

Where Y is output, and β is the share of capital in national income.

To identify the impact of the Hispanic community in the growth of employed labor, we disaggregate the growth rate of L into the growth rate of Hispanic and non-Hispanic labor:

$$\frac{\Delta Y_t}{Y_t} = \frac{\Delta A_t}{A_t} + \beta \frac{\Delta K_t}{K_t} + (1 - \beta)\left[\alpha \frac{\Delta L_t^H}{L_t^H} + (1 - \alpha)\frac{\Delta L_t^{NH}}{L_t^{NH}}\right]$$

Where alpha is the share of Hispanics in L at time t. One key assumption made by this model is that Hispanic and non-Hispanic labor is equally productive. In spite of our previous description of trends in Hispanic convergence to the population mean, we realize that this assumption is unrealistic, especially for short-term projections. Hence the correct way to interpret our results is to consider them as representing the gains from having achieved a society where Hispanic labor is made as productive as the US standard.

The specific definition of L, L^H and L^{NH} is as follows. In terms of available labor, it is standard to consider the civilian population aged 16 or older as the potential pool of available employment in the economy. Of course, not every person aged 16 or more is able or willing to work; the rate at which the civilian population actively participates in the labor force—also known as the "labor force participation rate," which we will refer to as $LFPR$—determines the total share of working-age people who choose to participate in the labor market at any given moment. In addition, people in the labor force may be employed or unemployed, and only actively employed laborers contribute to output, so our measure of L should account for this issue by factoring in the unemployment rate (or UR for short).

Thus, to calculate actively employed labor we compute:

$$L = Civilian\ Population(16 +) \cdot LFPR \cdot (1 - UR)$$

Which, following equation (2), we disaggregate as:

$$L^H = Hispanic\ Civilian\ Population(16 +) \cdot LFPR^H \cdot (1 - UR^H)$$
$$L^{NH} = Non - Hispanic\ Civilian\ Population(16 +) \cdot LFPR^{NH} \cdot (1 - UR^{NH})$$

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37. Growth accounting was initially introduced in Solow (1957). For a brief review of its historical development and an analysis of the interpretation of the Solow residual, see Barro (1999).

Calculating the Ethnicity-Disaggregated UR and LFPR

The labor force participation and unemployment rate of the Hispanic and non-Hispanic communities differ. Indeed, the Hispanic labor force participation rate has been markedly higher than the national average over the past decades. In 2000, average LFPR in the United States was 67.1 percent, while the Hispanic LFPR was 69.72 percent. By 2008, these figures were 66.0 and 68.5 percent, respectively, and, in 2018, 62.9 and 66.2 percent. The driver behind Hispanics' larger participation in the labor force is primarily the age structure of their population, given that they are, on average, younger than non-Hispanic groups.[38]

Unfortunately, the CBO and BLS do not provide ethnicity-disaggregated long-term projections of the labor force participation rate or the unemployment rate. We therefore impute these values and make some important assumptions about the convergence rate of Hispanics and non-Hispanics to the national average.

Unemployment Rate

The CBO publishes long-term projections for the total unemployment rate, without disaggregating into Hispanic and non-Hispanic workers. To impute these disaggregated values, we make use of the fact that the gap between the total and Hispanic unemployment rates, as well as the gap between the total and non-Hispanic unemployment rates, have been narrowing. Specifically, the former was 0.77 percentage point in 2018, and the latter was –0.15 percentage point.

We assume a scenario of "partial convergence," where this gap in unemployment rates will have been reduced to half its original size by 2048, in a linear trajectory. So, for example, the CBO estimates that the US unemployment rate in 2048 will be 4.8 percent, and we assume that by then the Hispanic unemployment rate gap, which was originally 0.77 percentage point, will have been reduced by half, to 0.39 percentage point, leading to a Hispanic unemployment rate of 5.09 percent. In 2033, we assume that the gap is 0.58 percentage point, which, combined with a national unemployment rate of 4.8 percent, leads to a Hispanic unemployment rate of 5.38 percent.

Labor Force Participation Rate

To find the LFPR for future years, we built our own projections using a simple multivariate regression to capture both the average LFPR and some measure of the demographic difference between Hispanics and the rest of the population.

For the period 2000–2017, we computed the ratio of the number of Hispanics ages 65+ over the number of Hispanics ages 16+, and the same ratio for the total population. Then we regressed the Hispanic LFPR during 2000–2017 on total LFPR and the difference in the age ratio variables (that is, the difference in the ratios between both ethnic categories).

$$\text{LFPR}_t^{Hispanic} = \beta_0 + \beta_1 \cdot LFPR_t^{Total} + \beta_2 \cdot AgeDif_t$$

38. Bureau of Labor Statistics, "Hispanics will make up nearly 20 percent of the labor force in 2024," *The Economics Daily,* September 28, 2016 (https://www.bls.gov/opub/ted/2016/hispanics-will-make-up-nearly-20-percent-of-the-labor-force-in-2024.htm?view_full).

Where "AgeDif" is the difference between the ratio of the number of people aged 65+ over the number of people aged 16+, between Hispanics and the total US population.
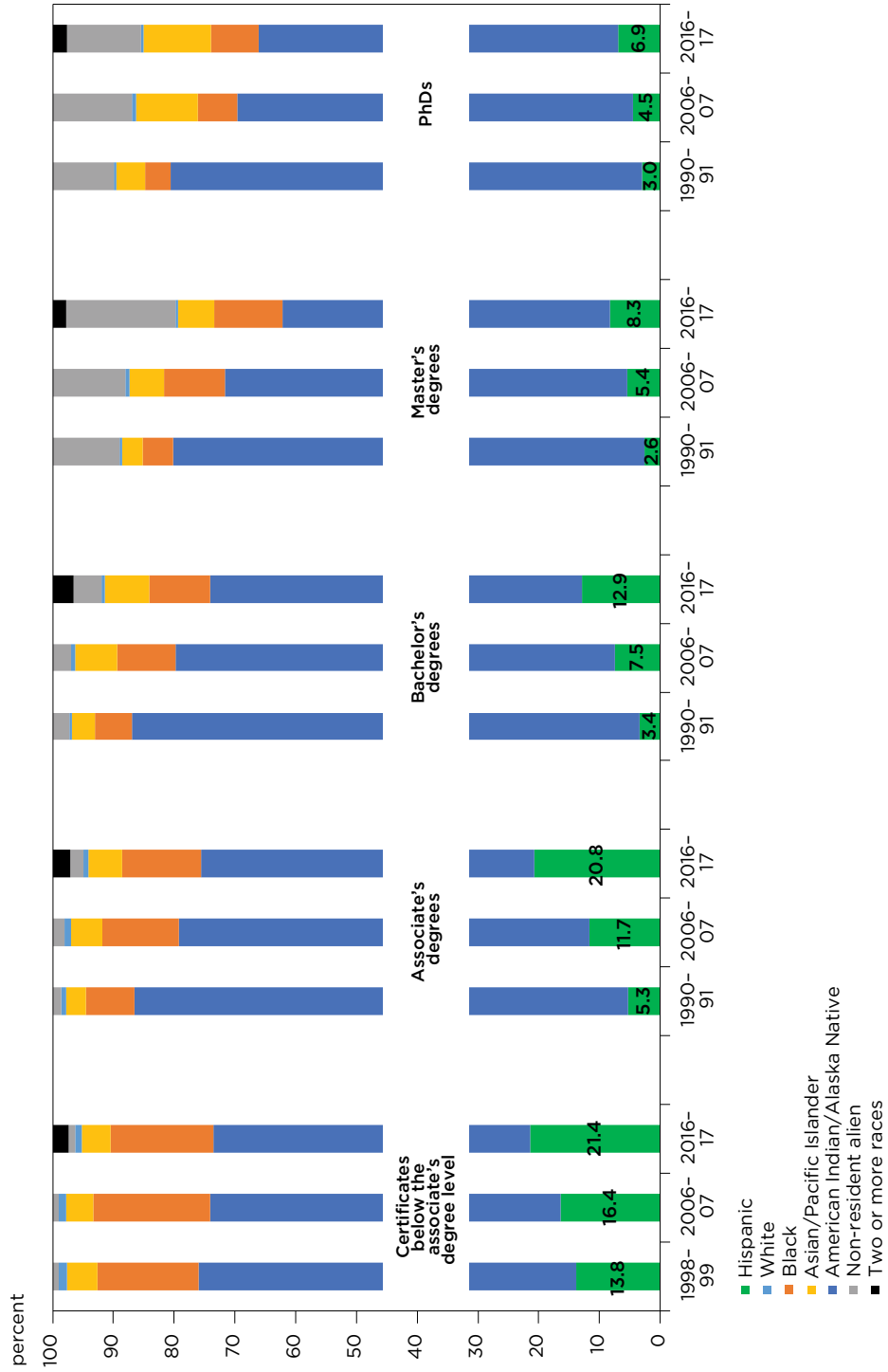
The resulting coefficients were used to compute future Hispanic labor force participation rates. Non-Hispanic LFPRs can be solved for algebraically with the Hispanic and total LFPR projections.

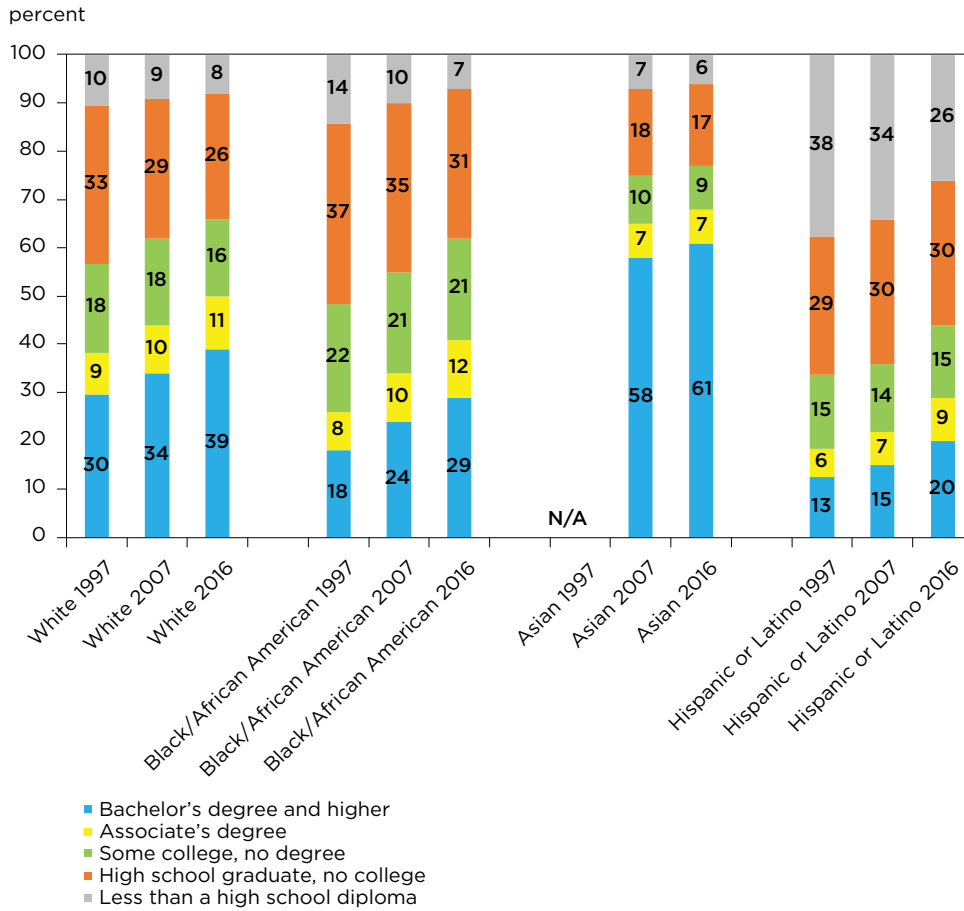**Figure 2.1   High school completion rate of 18–24-year olds, by race/ethnicity, 1972–2016**

percent
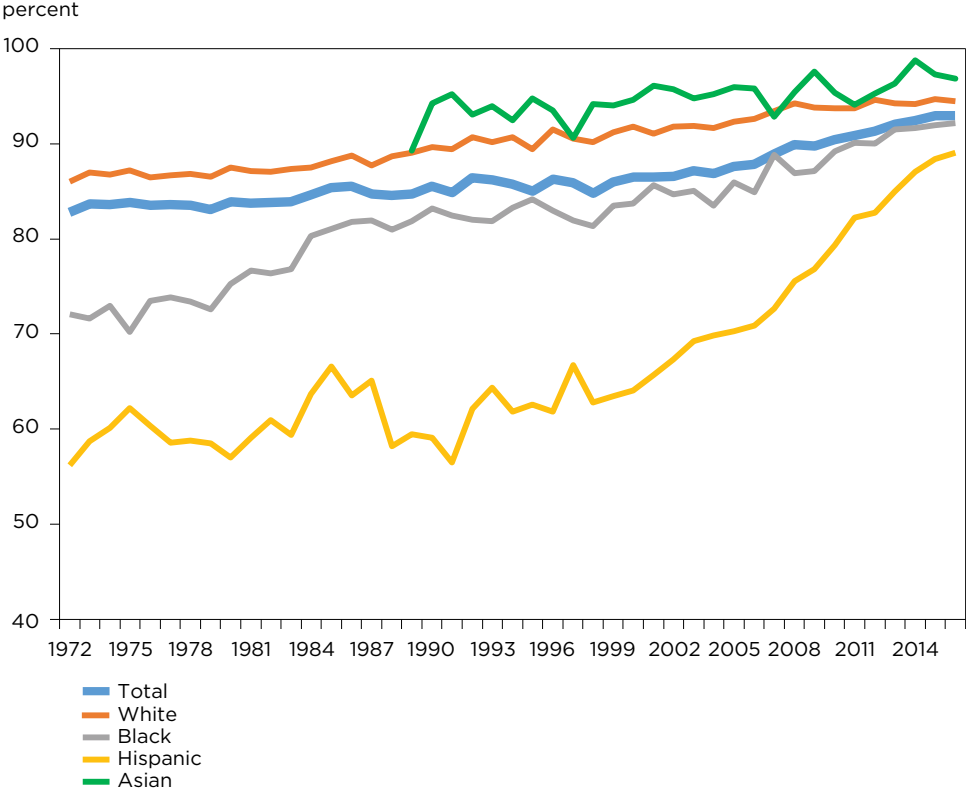
Source: US Department of Commerce, Census Bureau, Current Population Survey (CPS), October, 1972 through 2016.

Figure 2.2 Share of degrees conferred by US educational institutions, select years, by race/ethnicity/non-resident status

percent

Certificates below the associate's degree level
Associate's degrees
Bachelor's degrees
Master's degrees
PhDs

Legend: Hispanic, White, Black, Asian/Pacific Islander, American Indian/Alaska Native, Non-resident alien, Two or more races

Source: National Center For Education Statistics; Digest of Education Statistics 2018.

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Figure 2.3 Educational attainment of the labor force, ages 25 and older by race and Hispanic or Latino ethnicity, 1997, 2007, and 2016

percent

- ■ Bachelor's degree and higher
- ■ Associate's degree
- ■ Some college, no degree
- ■ High school graduate, no college
- ■ Less than a high school diploma

Source: US Department of Labor.

Figure 2.4   Median usual weekly earnings of full-time wage and salary workers by race and Hispanic or Latino ethnicity, 1979–2018 annual and quarterly (NSA) averages
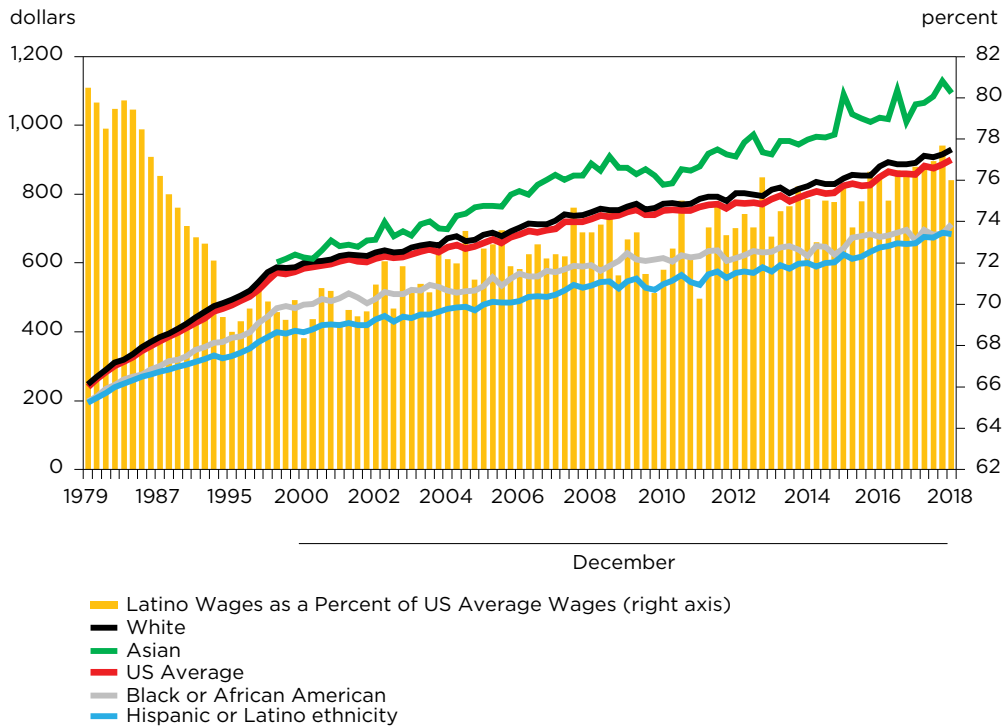
NSA = not seasonally adjusted
Source: Bureau of Labor Statistics Current Population Statistics Database.

Figure 2.5   Annual US startups and the startup rate (share of total firms) 1977–2016

percent

Number of new startups created (left axis)
Startup rate (right axis)
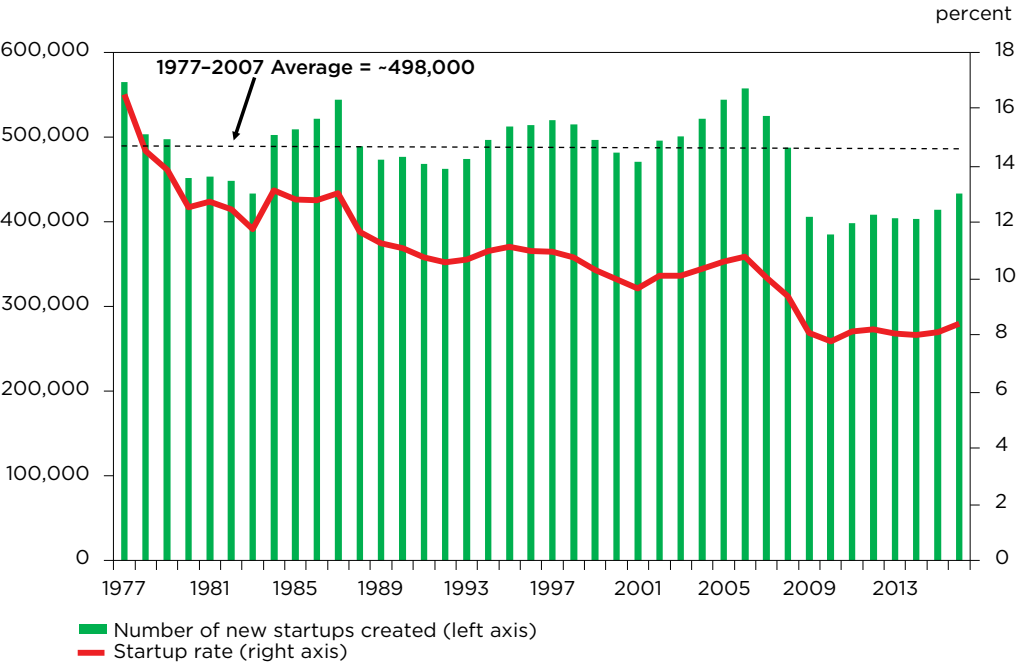
Source: US Census Bureau (2018a), Business Dynamics Statistics (BDS).

Figure 2.6   US new establishment rate (share of total establishments) Q3 1992–Q1 2018

percent of total

Average Q3 1992–Q3 2008: 3.4 percent

········· Establishment rate (SA)
▬▬ 4-quarter moving average
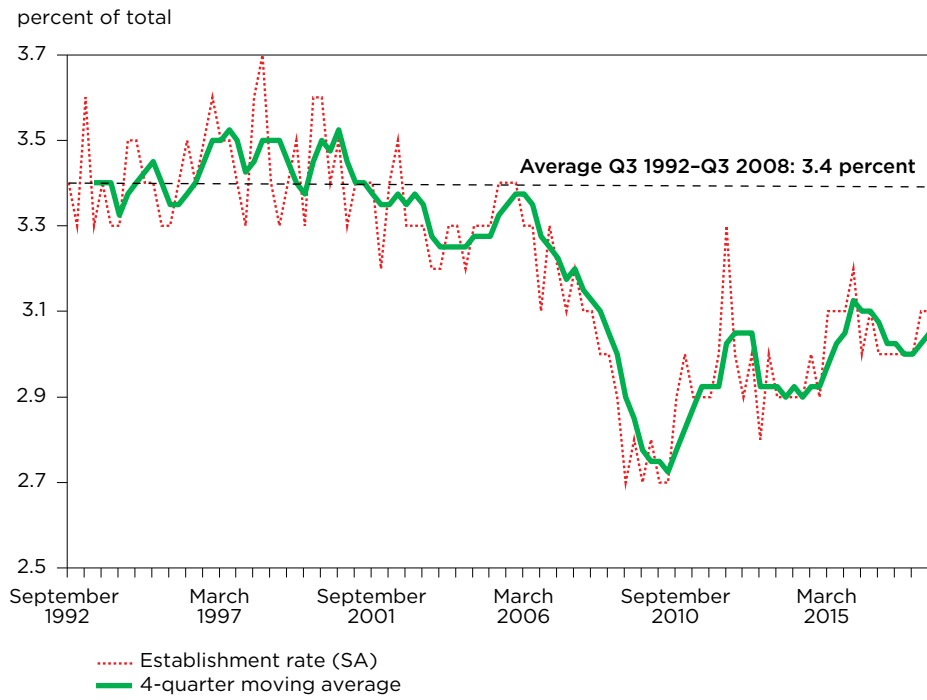
Source: Bureau of Labor Statistics Business Employment Dynamics (BED).

Figure 2.7 US rate of new entrepreneurs, by nativity, 1996–2016
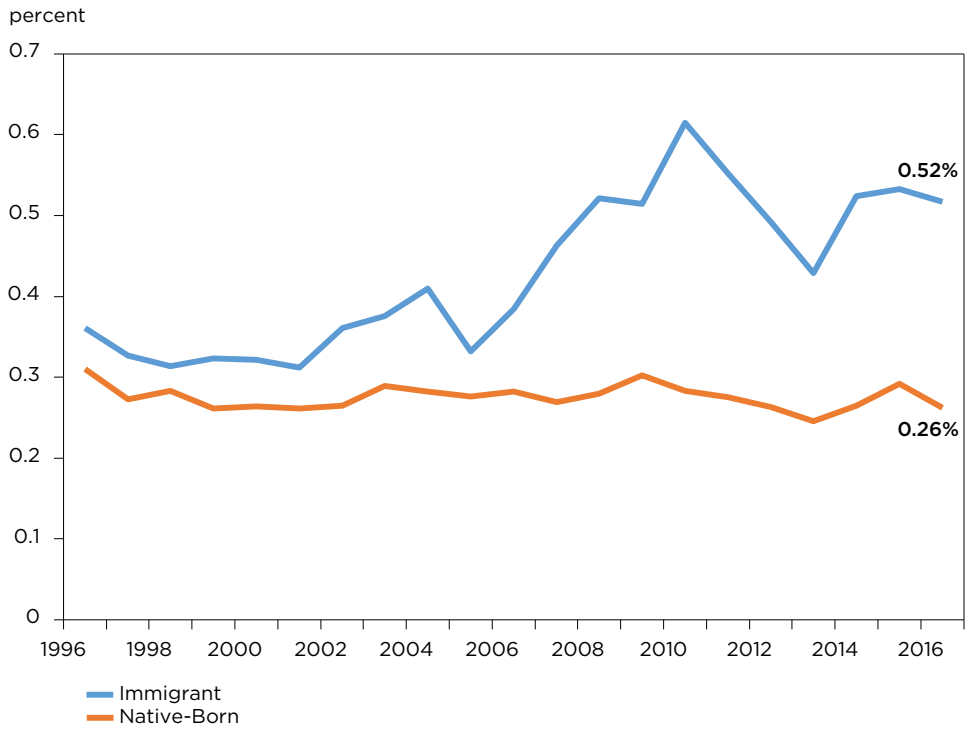
percent

Note: Question measures the share of the adult population aged 20–64 who became entrepreneurs in a given year.
Source: Kauffman Foundation.

Figure 2.8   US firms by nativity of all owners 2016, percent share of total

percent

■ Born a citizen of the United States
■ Not born a citizen of the United States
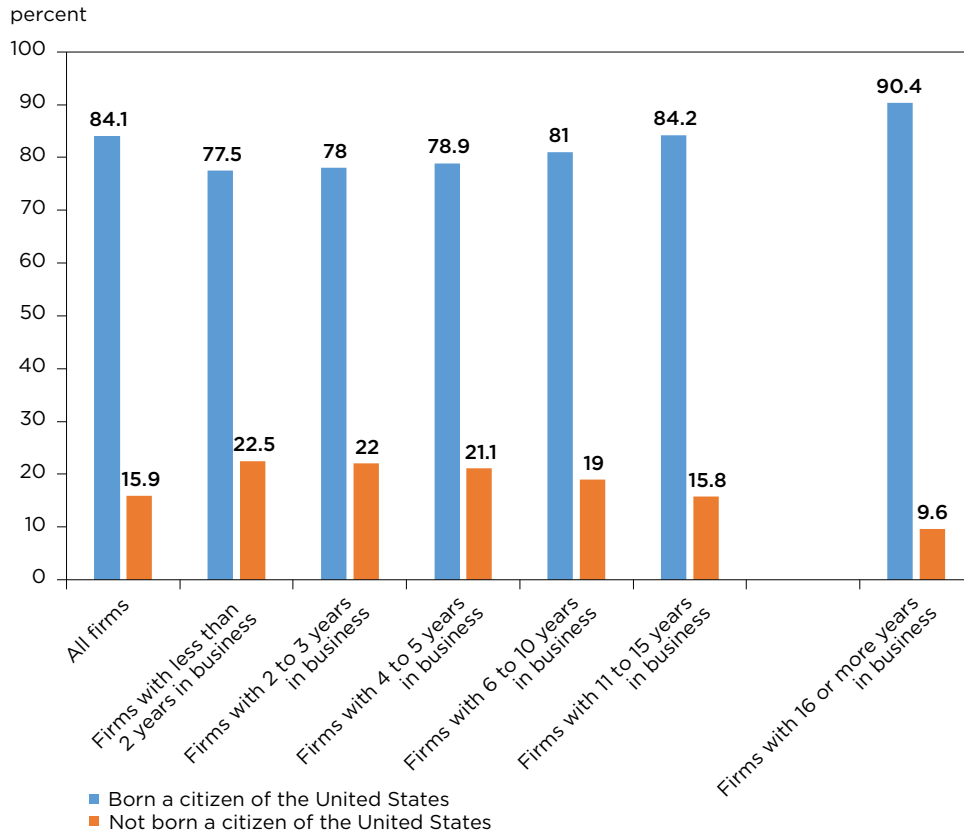
Source: US Census Bureau (2018b), 2016 Annual Survey of Entrepreneurs.

Figure 2.9   US rate of new opportunity-driven entrepreneurs, by ethnic group and Hispanic origin, 1996–2016

percent

Latino

Average of White, AA and Asian Entrepreneurship

Asian

African-American

White
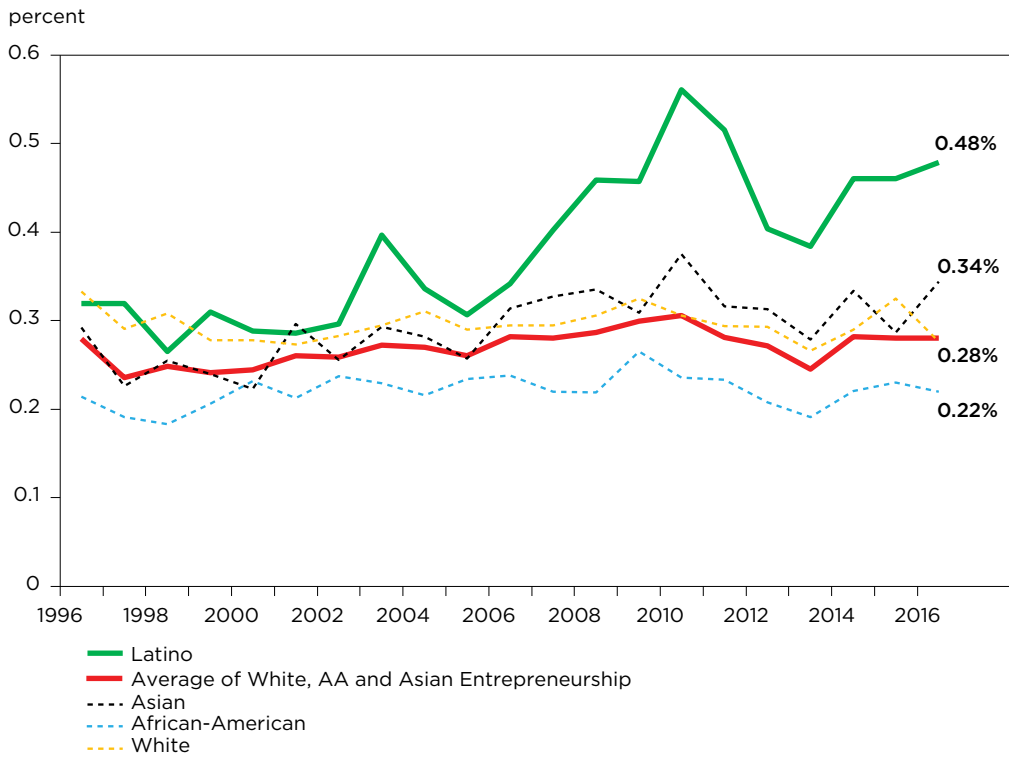
AA = African-American
Note: Question measures the share of the adult population aged 20–64 who became entrepreneurs in a given year.
Source: Kauffman Foundation.

Figure 2.10 Hispanic share of population and US opportunity-driven entrepreneurship

rate of opportunity entrepreneurs, monthly (2016)

Hispanic population, as percent of total (2017)

$y = 0.0028x + 0.0022$
$R^2 = 0.189$
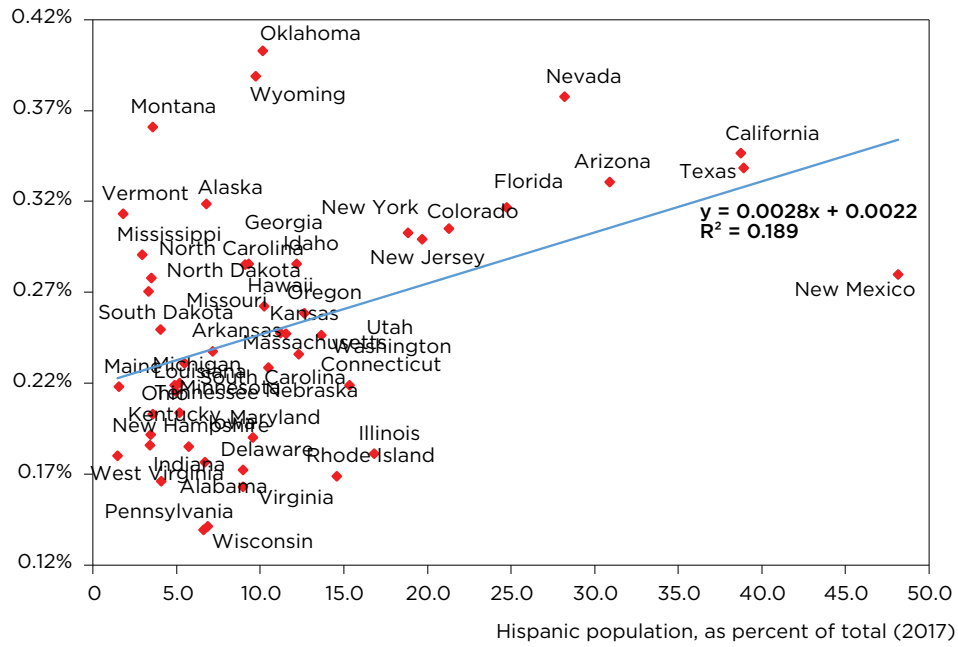
Source: Kauffman Foundation and Bureau of Labor Statistics.

Figure 2.11   US business ownership by nativity, Hispanic origin, and main US ethnic groups, percent share of total population over age 18, 2016
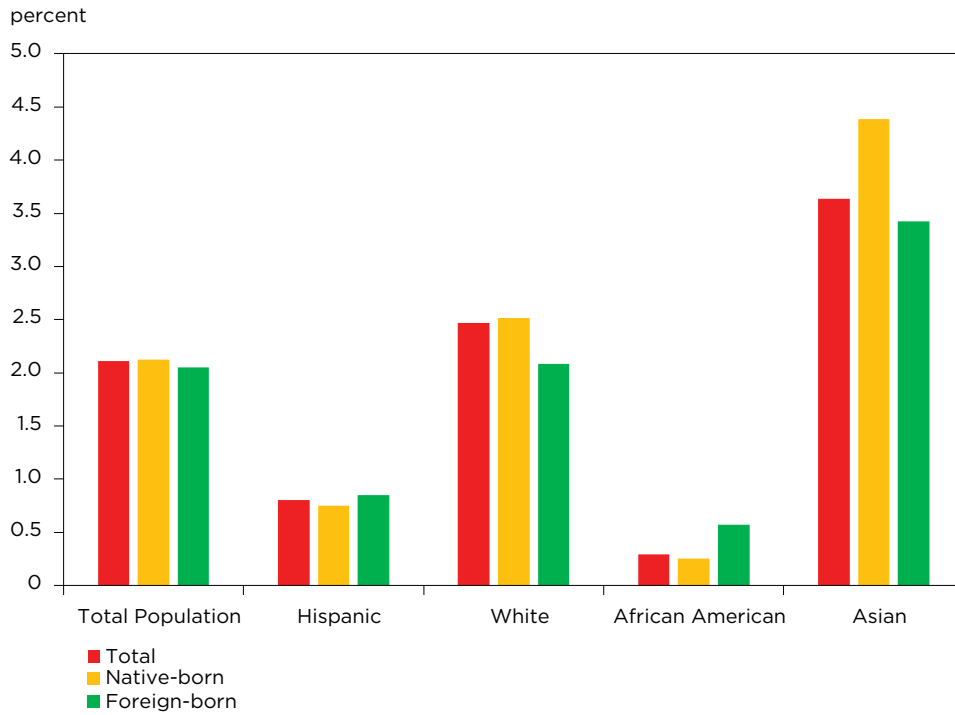
percent

Total
Native-born
Foreign-born

Sources: US Census Bureau (2018b), 2016 Annual Survey of Entrepreneurs; US Census Bureau (2017), American Community Survey.

Figure 3.1   Labor force participation rates
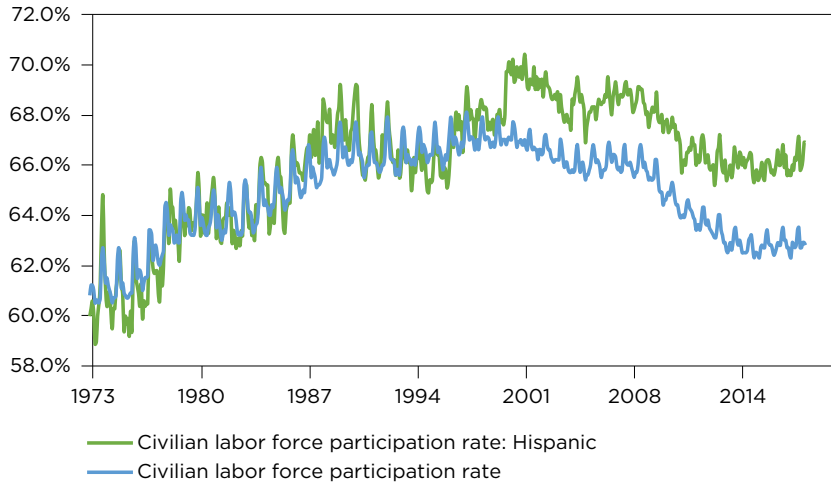
Source: Federal Reserve Bank of St. Louis (2019)

Figure 3.2   US unemployment rates
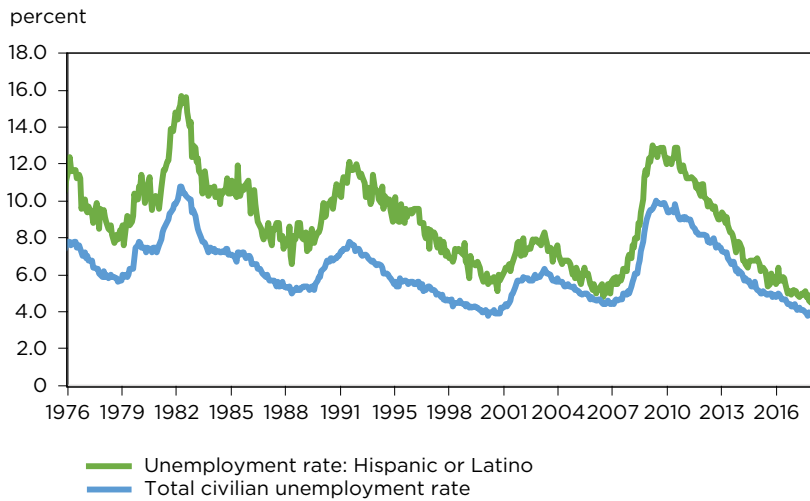
Source: Federal Reserve Bank of St. Louis (2019).

Figure 3.3   Projected contribution to GDP growth from changes in employed Hispanic labor
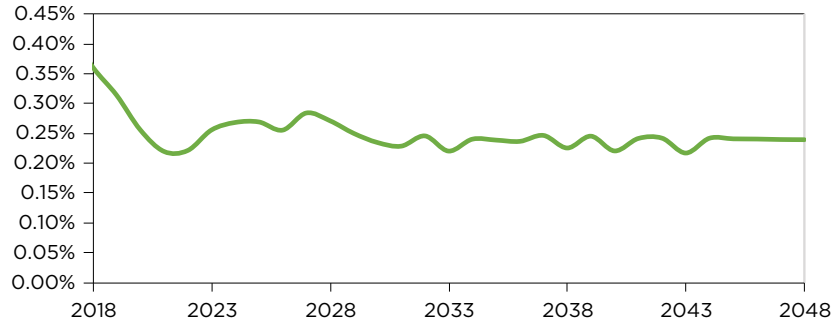
Figure 3.4   Projected contribution to GDP growth from changes in employed labor
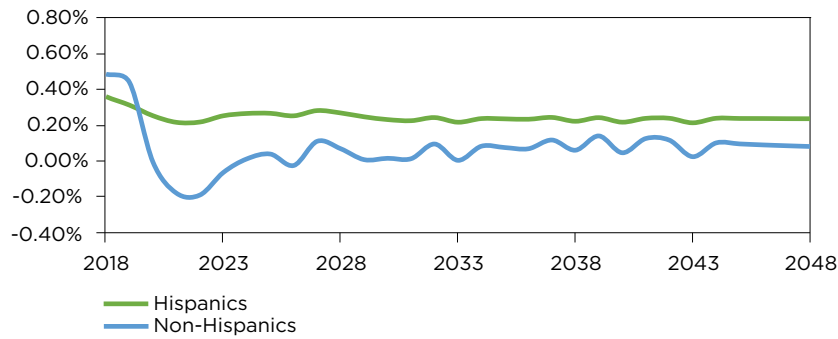
Hispanics
Non-Hispanics

Figure 4.1   US population pyramid 2017, Hispanic and non-Hispanic population

working age range, ages 15–65
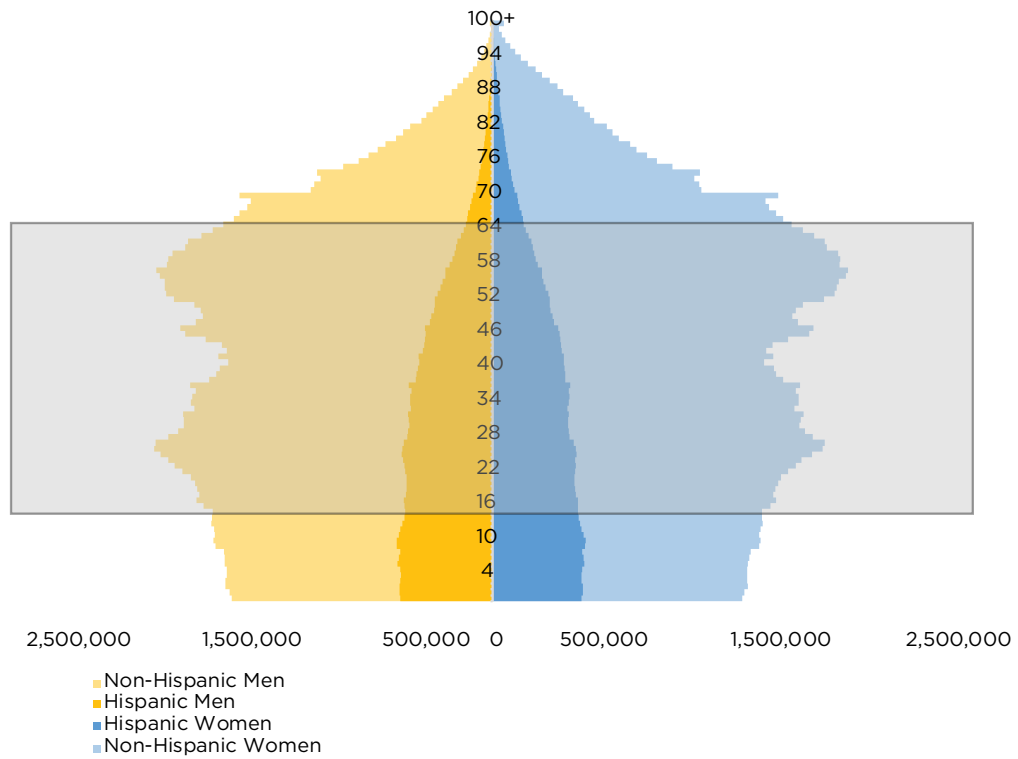
Source: US Census.

Table 4.1   US assumed and actual life expectancies 2014, 2016, and 2020, at birth and at age 65

| | Life expectancy at birth | | | | | |
| | Male | | | Female | | |
Population group	Non-Hispanic White	Non-Hispanic Black	Hispanic	Non-Hispanic White	Non-Hispanic Black	Hispanic
Census assumptions 2014	77.4	72.4	79.6	81.8	78.6	84.2
Census assumptions 2020	78.4	73.7	80.0	82.7	79.6	84.3
Actual mortality 2016	76.1	71.5	79.1	81.0	77.9	84.2
Difference between actual 2016 and assumed 2020	2.3	2.2	0.9	1.7	1.7	0.1

| | Life expectancy at age 65 | | | | | |
| | Male | | | Female | | |
Population group	Non-Hispanic White	Non-Hispanic Black	Hispanic	Non-Hispanic White	Non-Hispanic Black	Hispanic
Census assumptions 2014	18.4	16.6	20.0	20.8	19.8	22.4
Census assumptions 2020	18.8	17.1	20.0	21.3	20.3	22.4
Actual mortality 2016	18.0	16.2	19.7	20.5	19.5	22.7
Difference between actual 2016 and assumed 2020	0.8	0.9	0.3	0.8	0.8	-0.3

Sources: US Census Bureau (2014) and CDC (Centers for Disease Control and Prevention) (2018).

Figure 4.2   US total fertility rate (TFR) by race and origin (Hispanic) of mother


1960–Q2 2018
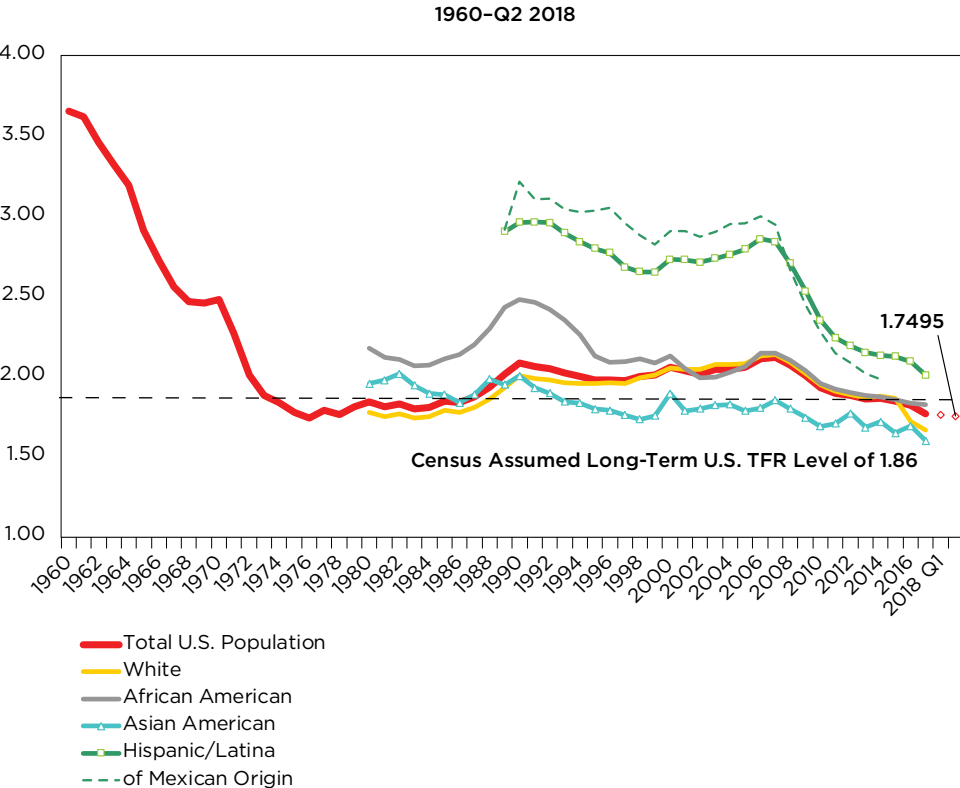
Note: Race and Hispanic Origin are reported separately on birth certificates. Persons of Hispanic origin may be of any race. Data for Q1 and Q2 2018 are for 12-month ending periods based on provisional CDC data from the NVSS Rapid Release.
Sources: US Centers for Disease Control and Prevention (CDC); National Center for Health Statistics; National Vital Statistics System Rapid Release (NVSS).

Figure 4.3 Actual and projected US total fertility rates, 2006–Q2 2018

total fertility rates
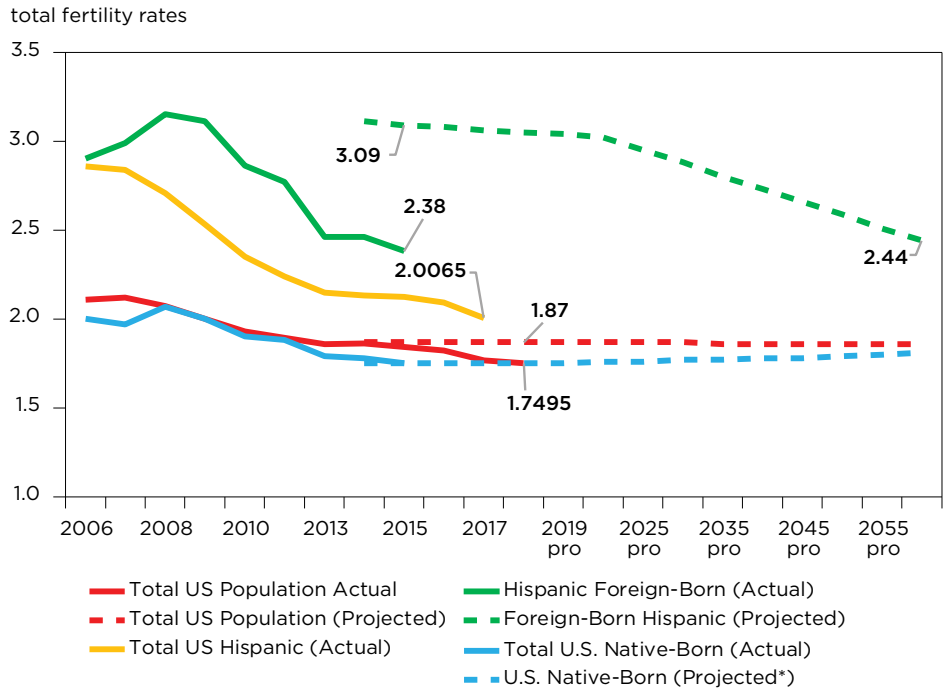
Note: * Census forecasts for native-born persons exclude Asian Pacific Islanders. No 2012 data available from Camarota and Zeigler. (2017). Data for 2018 Q2 are preliminary.
Sources: US Census 2014 Population Projections; Centers for Disease Control and Prevention and Camarota and Zeigler (2017).

**Figure 4.4   Total fertility rates, 1960–2016, United States and select Latin American countries**

2.18

2.04

1.82

United States	Average of Six Latin American Countries
Mexico	Costa Rica
Colombia	Peru
Brazil	Argentina
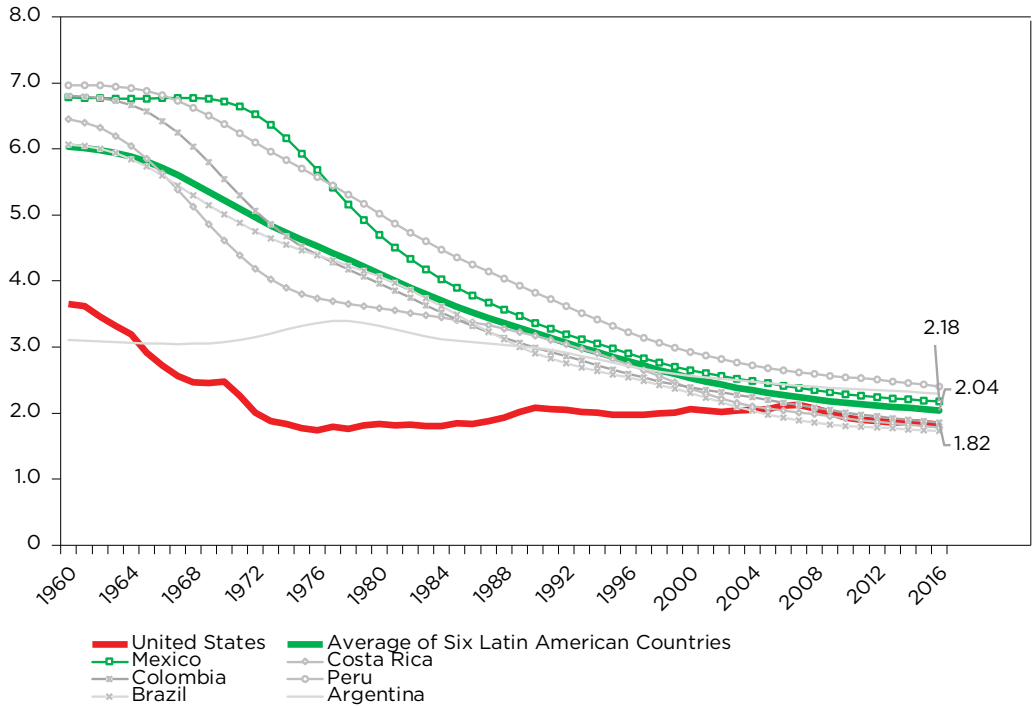
Source: OECD (Organization for Economic Cooperation and Development) (2018), Family Database.

Figure 4.5   Emigration Rates From Sending Regions to the United States: 1980–2060
(Reproduced from Census (2014; Figure 7))
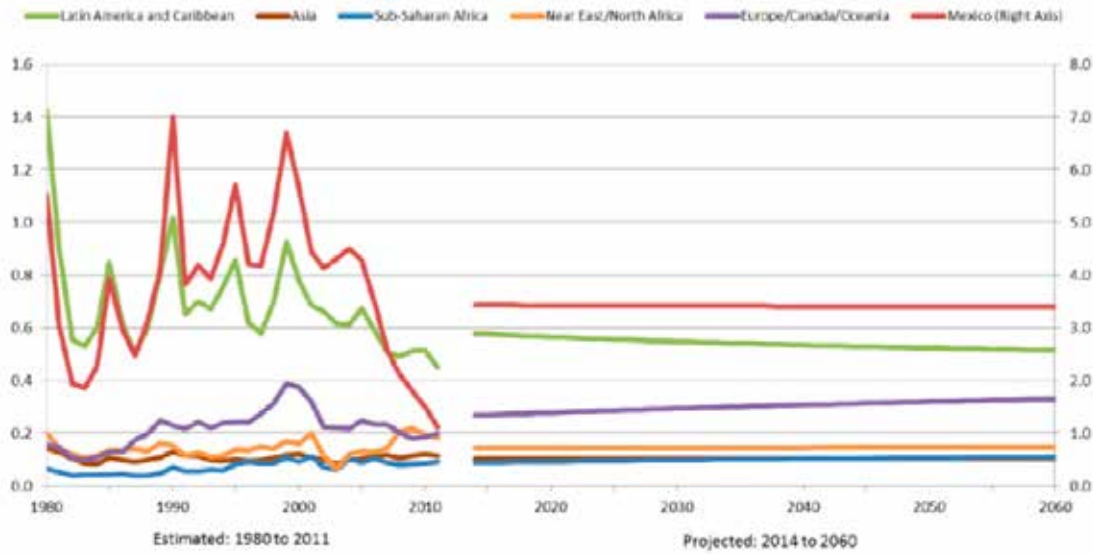
Note: Emigration rates from Mexico are much larger than those from other sending regions. A secondary scale shown, on the right of the figure, applies to rates from Mexico, while
all other rates use the scale from the primary axis.
Source: US Census Bureau, 2014 National Projections.

Figure 4.6 Actual and projected annual immigration to the United States from Mexico and Latin America/Caribbean 2011–2020
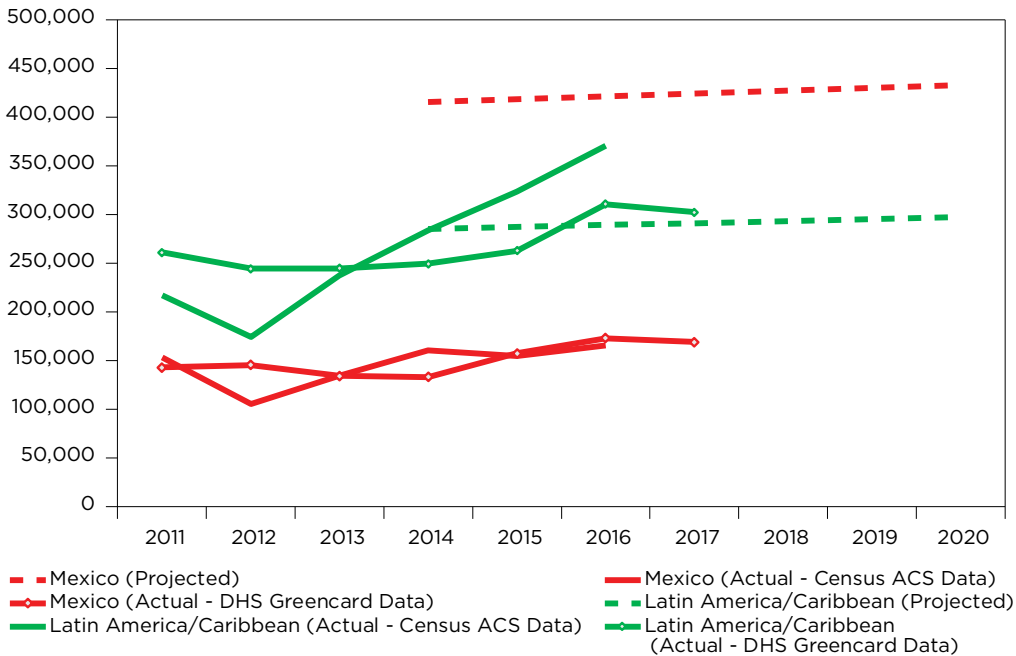
ACS = American Community Survey; DHS = Department of Homeland Security
Note: DHS data are for fiscal years.
Soruce: US Census 2014 Population Projection Methodology and Assumptions; US Census ACS Survery; DHS Annual Yearbook of Immigration Statistics 2011–2017.

**Figure 4.7 Numbers and share of total and Hispanic foreign-born population in the United States, 1830–2017**

number of foreign born in
United States, millions

Share of total foreign born in US population
and share of Hispanic in US foreign-born
population, percent
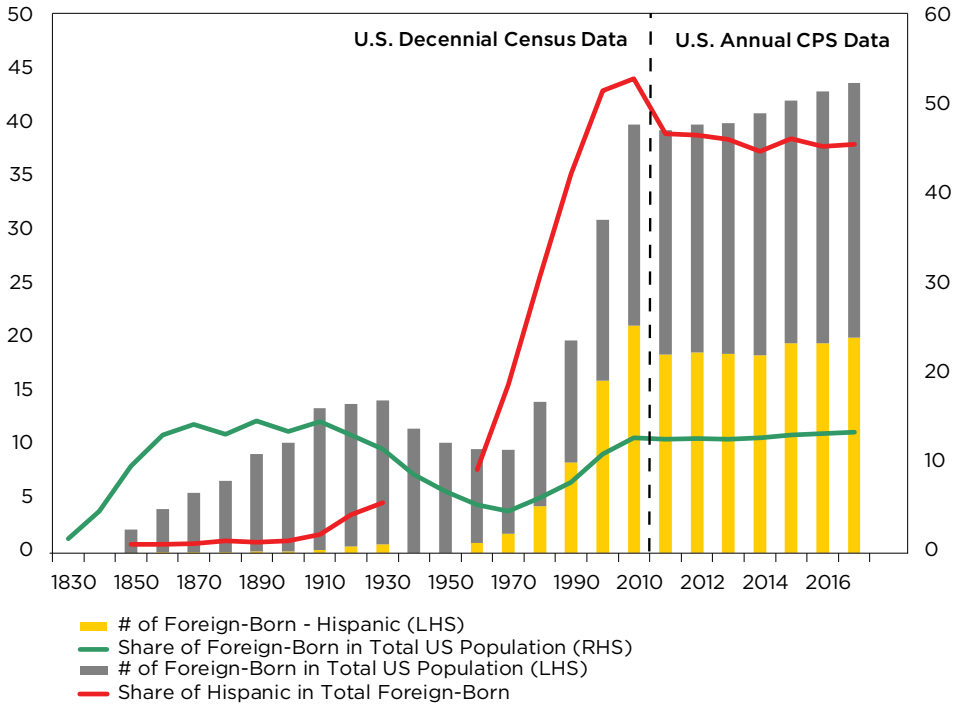
Note: Data on Hispanic numbers and shares not available in 1940 and 1950 US Census data.
Sources: US Census 1830–2010; US Department of Labor Current Population Statistics,
Annual Social and Economic Supplement 2011–2017.

**Figure 4.8 Share of greencards issued by region of origin/last residence, 1820–2016**
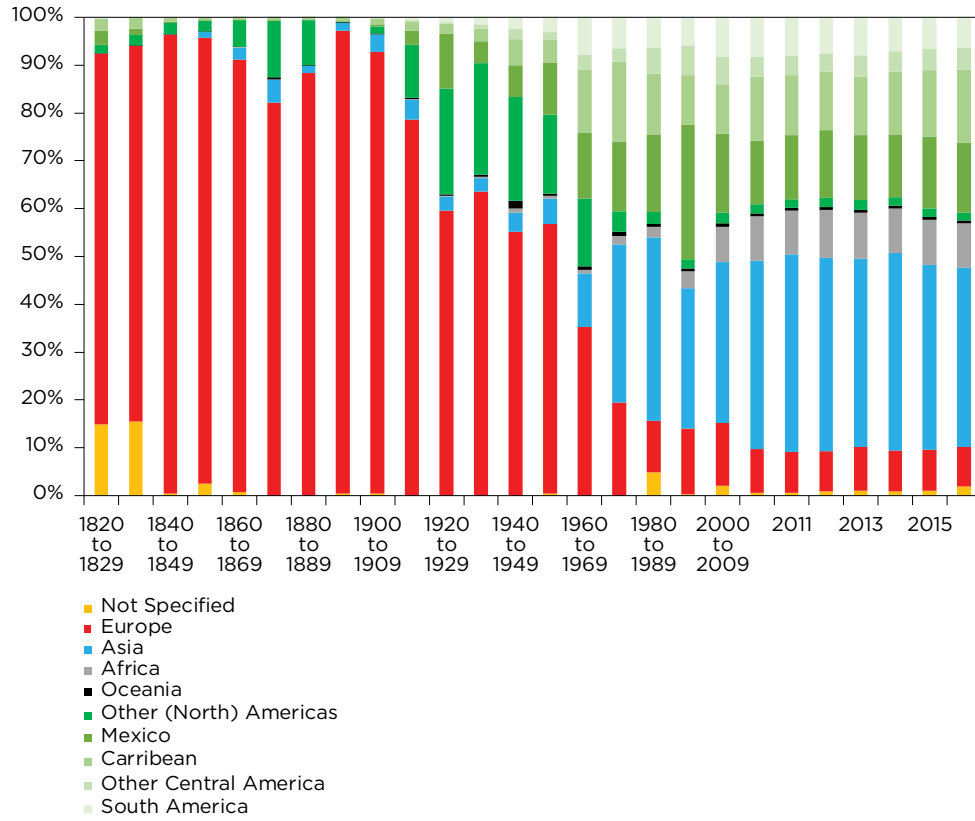
Note: Official recording of immigration to the United States began in 1820 after the passage of the Manifest of Immigrants Act of March 2, 1819.
Source: US Department of Homeland Security.

Figure 4.9   Projected US total Hispanic population, 2014–2060
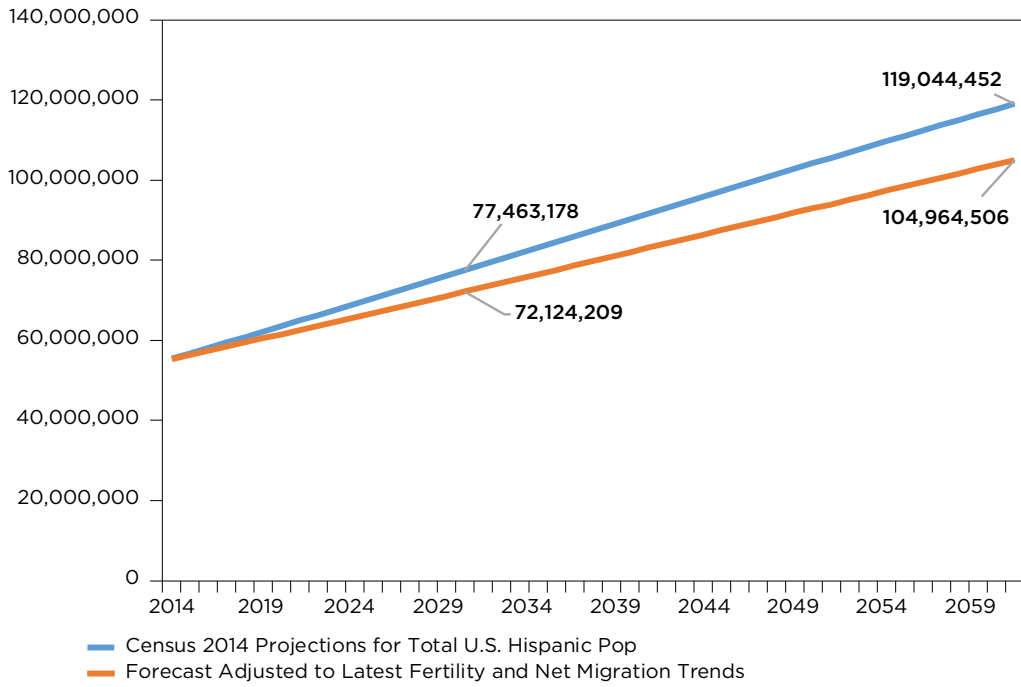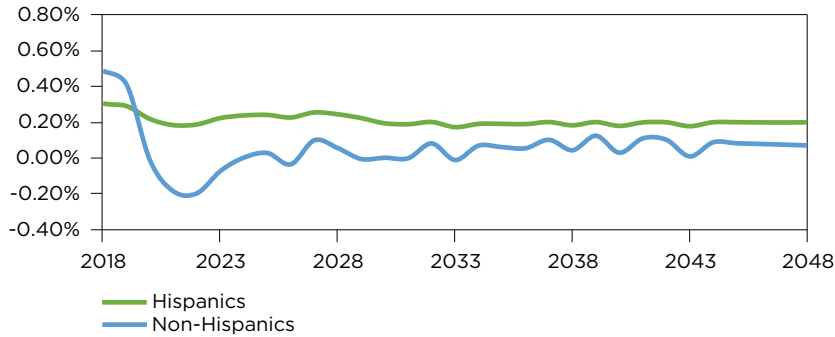

Sources: *US Census Bureau; authors' calculations.*

Figure 5.1   Contribution to GDP growth from changes in employed Hispanic labor, using modified projections
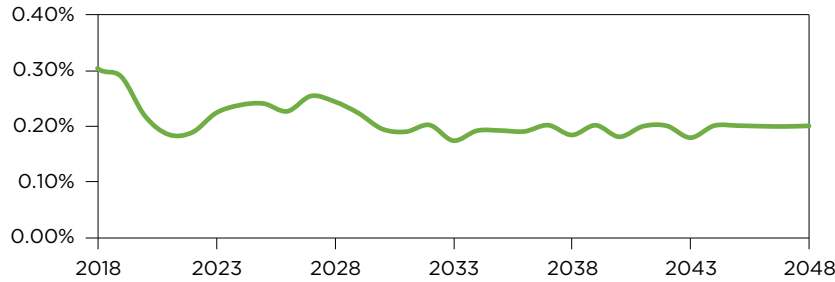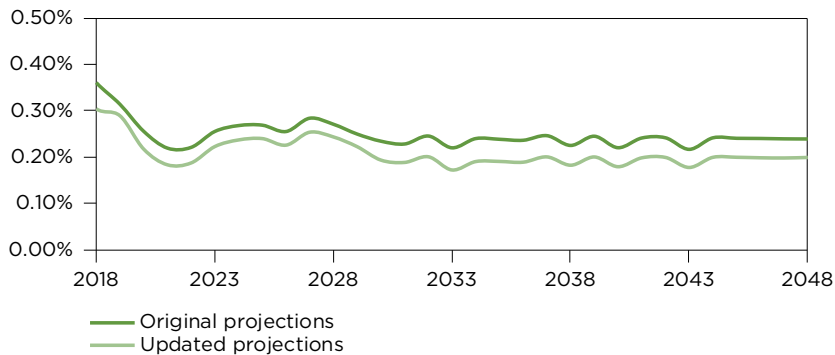

Sources: Authors' calculations, based on data from Congressional Budget Office (CBO 2017, 2018a, 2018b); Federal Reserve Bank of St. Louis (2019); Bureau of Labor Statistics, Labor Force Statistics from the Current Population Survey (accessed January 2019); and US Census Bureau.

Figure 5.2   Contribution to GDP growth from changes in employed labor, using modified projections

Sources: Authors' calculations, based on data from Congressional Budget Office (CBO 2017, 2018a, 2018b); Federal Reserve Bank of St. Louis (2019); Bureau of Labor Statistics, Labor Force Statistics from the Current Population Survey (accessed January 2019); and US Census Bureau.

Figure 5.3   Contribution to GDP growth from changes in employed Hispanic labor, previous projections versus updated figures

Sources: Authors' calculations, based on data from Congressional Budget Office (CBO 2017, 2018a, 2018b); Federal Reserve Bank of St. Louis (2019); Bureau of Labor Statistics, Labor Force Statistics from the Current Population Survey (accessed January 2019); and US Census Bureau.