



# Citizenship for Undocumented Immigrants Would Boost U.S. Economic Growth

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# Introduction and summary

Today, 10.2 million undocumented immigrants are living and working in communities across the United States.<sup>1</sup> On average, they have lived in this country for 16 years and are parents, grandparents, and siblings to another 10.2 million family members.<sup>2</sup> At the same time, it has been nearly 40 years since Congress has meaningfully reformed the U.S. immigration system, leaving a generation of individuals and their families vulnerable. Poll after poll has illustrated that the vast majority of Americans support putting undocumented immigrants on a pathway to citizenship. And as the nation emerges from the COVID-19 pandemic and looks toward the future, legalization is a key component of a just, equitable, and robust recovery.<sup>3</sup>

As the Biden administration and Congress craft their recovery legislation and consider how best to move the nation's policies toward a more fair, humane, and workable immigration system, the Center for American Progress and the University of California, Davis's Global Migration Center modeled the economic impacts of several proposals that are currently before Congress. Using an aggregate macro-growth simulation, the model illustrates the benefits to the whole nation from putting undocumented immigrants on a pathway to citizenship. Such legislation would increase productivity and wages—not just for those eligible for legalization, but for all American workers—create hundreds of thousands of jobs, and increase tax revenue.<sup>4</sup>

To help inform policymakers and advocates, this report looks at four potential scenarios where Congress grants a pathway to citizenship to: all undocumented immigrants; undocumented immigrants working in essential occupations; Dreamers and those eligible for Temporary Protected Status (TPS); and a combination of Dreamers, those eligible for TPS, and essential workers.<sup>5</sup>

The report finds that during the next decade:

### Scenario 1

Providing a pathway to citizenship for all undocumented immigrants in the United States would boost U.S. gross domestic product (GDP) by a cumulative total of \$1.7 trillion over 10 years and create 438,800 new jobs.<sup>6</sup>

- Five years after implementation, those eligible would earn annual wages that are \$4,300 higher.
- Ten years after implementation, those annual wages would be \$14,000 higher, and all other American workers would see their annual wages increase by \$700.<sup>7</sup>

### Scenario 2

Providing a pathway to citizenship for undocumented immigrants who are essential workers would boost the GDP by a cumulative total of \$989 billion over 10 years and create 203,200 new jobs.

- Five years after implementation, those eligible would experience annual wages that are \$4,300 higher.
- Ten years after implementation, those annual wages would be \$11,800 higher, and all other American workers would see their annual wages increase by \$300.

### Scenario 3

Enacting the American Dream and Promise Act (H.R. 6) would increase U.S. GDP by a cumulative total of \$799 billion over 10 years and create 285,400 new jobs.

- Five years after implementation, those eligible would experience annual wages that are \$4,300 higher.
- Ten years after implementation, those annual wages would be \$16,800 higher, and all other American workers would see their annual wages increase by \$400.

### Scenario 4

Providing a pathway to citizenship for H.R. 6-eligible and undocumented essential workers would boost the GDP by a cumulative total of \$1.5 trillion over 10 years and create 400,800 new jobs.<sup>8</sup>

- Five years after implementation, those eligible would experience annual wages that are \$4,300 higher.
- Ten years after implementation, those annual wages would be \$13,500 higher, and all other American workers would see their annual wages increase by \$600.

Importantly, this analysis considers only these direct economic benefits. The model does not capture the potentially large additional benefits to eligible immigrants' children in education, health, and future productivity gains, as these effects would take place likely more than 10 years from implementation.

As the findings above show, creating a pathway to citizenship for undocumented immigrants not only is the right thing to do but also would be a substantial stimulus to the U.S. economy. Undocumented immigrants are critical to the nation's social infrastructure—a fact that has become even more widely understood amid the coronavirus pandemic. Across the country, they are building families and starting businesses, they are keeping hospitals open and functioning, and they are caring for Americans' loved ones. To that extent, legalization and a pathway to citizenship—which would raise wages for all workers, create hundreds of thousands of new jobs, and boost the GDP—is an investment in the country's infrastructure in and of itself. As the United States continues to address the coronavirus pandemic and works toward a just and equitable recovery, Congress must consider these proposals.

# Road map to the report

This report begins with the parameters that the model uses when estimating the economic impacts of legalization and a pathway to citizenship for undocumented immigrants. From there, it discusses the short-term (implementation to five years) and long-term (five to 10 years post-implementation) nature of the effects, before presenting the simulation's economic effects for four scenarios protecting different subsets of undocumented immigrants.

The report is followed by a methodological appendix detailing how the undocumented population is measured, a discussion of the impacts of the coronavirus pandemic on employment rates, and a review of literature measuring the impacts of legalization and citizenship on wages and human capital of undocumented immigrants. Lastly, a technical appendix includes summary tables of data included in the model, additional detail on model inputs, and technical definitions.

## Undocumented immigrants are embedded in the United States' infrastructure

Undocumented immigrants have long been essential to the nation's economic growth and prosperity. As the country battled the coronavirus pandemic and economic fallout over the past year, the role of undocumented immigrants in ensuring the well-being and safety of all Americans formed part of the national conversation surrounding essential work. Nearly 3 in 4 undocumented individuals in the workforce—an estimated 5 million—are essential workers.<sup>9</sup> At great risk to themselves and their families, these individuals keep food supply chains running; care for patients in hospitals and support medical systems; maintain the country's roads and buildings; provide critical care and services for children and the elderly; and educate future generations of Americans. All are critical members of the human infrastructure that powers the nation each day.

Despite playing a pivotal role in keeping the country functioning, undocumented immigrants are among the communities hardest hit by COVID-19 and have been continually excluded from past economic recovery efforts and aid programs, all while living under the daily threat of deportation.<sup>10</sup> The reality is that the United States will not rebuild an economy that works for all until it recognizes the ways undocumented immigrants have contributed to the country's success, and economic recovery legislation considers the needs of the undocumented community. As this report details, legalization and a pathway to citizenship would provide the necessary relief and security for undocumented families and would bring a much-needed boost to the U.S. economy.

# Parameters used to model impacts of legalization and citizenship for the undocumented

In order to model the economic effects of legalization and a pathway to citizenship for undocumented immigrants, one must first identify who would be eligible. Using the 2019 and 2020 Current Population Survey's (CPS) Annual Social and Economic Supplement (ASEC) conducted by the U.S. Census Bureau, the authors identified 10.2 million undocumented immigrants living in the United States. Using an average of these two years of data allowed the authors to establish a picture of the undocumented workforce both before and at the onset of the pandemic, providing a more realistic picture of the undocumented labor force as the country recovers.

Once the authors established the eligible population, they considered the previous literature on the economic impacts of legalization and citizenship for undocumented immigrants on a host of different inputs. The authors based calculations on a model of economic growth with documented and undocumented workers; human capital depending on labor effectiveness and schooling; and total factor productivity, which depends positively on average human capital.<sup>11</sup> They include:

- A 10 percent wage bump from legalization<sup>12</sup>
- An additional 5 percent wage bump that comes from citizenship<sup>13</sup>
- Productivity increases resulting from additional educational attainment and on-the-job training<sup>14</sup>

For more details, see the methodological appendix.

# What this model measures

Using the conditions described above, the model simulates the effects that legalization and naturalization would have on four segments of the undocumented adult population. Such policies result in permanent changes in labor effectiveness, productivity, and capital investments that are evaluated in a model of an economy growing in a balanced trajectory. The model includes estimates of the effect on average wages of eligible workers, average wages of all other workers, GDP, and number of permanent new jobs using—as base measure of employment—an average of the 2019 and 2020 CPS ASEC.

These effects are estimated for two time frames: the short- to medium-term run (the first five years after implementation) and the long-term run (five to 10 years after implementation).

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## Short- to medium-run effects

Short-run effects derive mainly from increased productivity of legalized workers. These individuals can move to higher-paying jobs, improve the effectiveness and productivity of their skills, and are less constrained in job searches and opportunities. At the same time, their increased income and spending leads to businesses in their communities being more willing to invest and to take advantage of increased purchasing power that raises returns to investments. This generates increased consumption and demand and higher returns to investment, and it leads to additional investment and production capacity.

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## Long-run effects

Additional effects need to be considered in the longer run of these policy implementations. On this time horizon, younger undocumented immigrants see their additional schooling translate to higher wages and productivity, especially as one of the ways through which Dreamers can pursue citizenship is by attaining additional



education or degrees. These educational advances generate higher efficiency and adoption of better technology and innovation. Other legalized workers are likely to improve their on-the-jobs skills, including their language abilities. In addition to these gains, naturalization, which is likely to occur in this five- to 10-year window, leads to further gains, access to more jobs, and additional wage gains.<sup>15</sup>

This increased human capital in turn increases productivity at established businesses and in local economies. It will also stimulate investments in new businesses and increase productivity and wages of other workers as well as generate permanent new jobs.

# Findings from the 4 scenarios

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## Scenario 1: All undocumented immigrants

Who is eligible in this scenario?

Under this scenario, all undocumented immigrants would be eligible for immediate legalization and a five-year path toward naturalization. The model includes all undocumented workers along with Dreamers, regardless of work status. The authors estimate that 7.7 million of the 10.2 million undocumented individuals eligible for protection using 2019–2020 CPS data were either employed in the year prior to the COVID-19 crisis or were Dreamers.<sup>16</sup>

### Short-run impacts (implementation to year five):

- Increase in annual wages of undocumented workers: \$4,300 (10 percent)<sup>17</sup>

### Long-run impacts (year five to year 10):

- Increase in annual wages of undocumented workers: \$14,000 (32.4 percent)
- Increase in annual wages of all other workers: \$700 (1.1 percent)

Total cumulative GDP increase through the decade: \$1.7 trillion

Total number of new jobs created: 438,800

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## Scenario 2: Undocumented immigrants working in essential roles

Who is eligible in this scenario?

Under this scenario, all undocumented immigrants working in essential jobs, as defined by the U.S. Department of Homeland Security (DHS), would be eligible to legalize immediately and access a pathway to citizenship after five years.<sup>18</sup> The authors estimate that 5 million undocumented individuals are eligible for protection using 2019–2020 CPS data.

### Short-run impacts (implementation to year five):

- Increase in annual wages of undocumented workers: \$4,300 (10 percent)



To view downloadable one-page PDFs of each of the four scenarios, see the digital version of [“Citizenship for Undocumented Immigrants Would Boost U.S. Economic Growth”](#) by Giovanni Peri and Reem Zaiour.

**Long-run impacts (year five to year 10):**

- Increase in annual wages of undocumented workers: \$11,800 (27.3 percent)
- Increase in annual wages of all other workers: \$300 (0.5 percent)

Total cumulative GDP increase through the decade: \$989 billion

Total number of new jobs created: 203,200

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Scenario 3: Undocumented immigrants eligible for the American Dream and Promise Act

Who is eligible under this scenario?

Undocumented immigrants are considered eligible for a conditional permanent resident status under the Dream provisions of the law if they arrived in the United States prior to 2021 at the age of 18 or younger and have a high school diploma or are enrolled in high school. They are eligible for permanent residency after completing any of the following three criteria: two years of study toward an advanced degree or technical training; two years of military service; or three years of employment, 75 percent of which must be performed while work authorized.<sup>19</sup> The authors estimate that 2 million undocumented individuals are eligible for protection using 2019–2020 CPS data.

Undocumented immigrants are considered eligible under the Promise provisions of the law if they were eligible for either TPS as of September 2017 or Deferred Enforced Departure as of January 2021.<sup>20</sup>

**Short-run impacts (implementation to year five):**

- Increase in annual wages of undocumented workers: \$4,300 (10 percent)

**Long-run impacts (year five to year 10):**

- Increase in annual wages of undocumented workers: \$16,800 (38.9 percent)
- Increase in annual wages of all other workers: \$400 (0.7 percent)

Total cumulative GDP growth through the decade: \$799 billion

Total number of new jobs created: 285,400

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## Scenario 4: Undocumented immigrants who are either essential workers or eligible for the American Dream and Promise Act

Who is eligible under this scenario?

Undocumented immigrants who were either employed as essential workers or eligible for the American Dream and Promise Act are eligible for legalization and a pathway to citizenship. Undocumented immigrants are considered eligible for a conditional permanent resident status under the Dream provisions of the law if they arrived in the United States prior to 2021 at the age of 18 or younger and have a high school diploma or are enrolled in high school. They are eligible for permanent residency after completing any of the following three criteria: two years of study toward an advanced degree or technical training; two years of military service; or three years of employment, 75 percent of which must be performed while work authorized. Undocumented immigrants are considered eligible under the Promise provisions of the law if they were eligible for either TPS as of September 2017 or Deferred Enforced Departure as of January 2021.<sup>21</sup> The authors estimate that 6 million undocumented individuals are eligible for protection using 2019–2020 CPS data.<sup>22</sup>

### **Short-run impacts (implementation to year five):**

- Increase in annual wages of undocumented workers: \$4,300 (10 percent)

### **Long-run impacts (year five to year 10):**

- Increase in annual wages of undocumented workers: \$13,500 (31.3 percent)
- Increase in annual wages of all other workers: \$600 (1 percent)

Total cumulative GDP growth through the decade: \$1.5 trillion

Total number of new jobs created: 400,800

# Conclusion

Undocumented immigrants are longtime members of their communities, and the nation as a whole, and have made significant economic contributions. By putting them on a pathway to citizenship, Congress and the administration can turn those contributions into massive gains for the entire economy and for all workers—by as much as a cumulative \$1.7 trillion during the next decade. As Congress debates further recovery and immigration reform legislation, it must include legalization in those discussions.

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## About the authors

**Giovanni Peri** is a professor of economics at the University of California, Davis; the director of the university's Global Migration Center, a multidisciplinary research center focused on migrations; and a research associate at the National Bureau of Economic Research in Cambridge, Massachusetts. His research focuses on the economic determinants and consequences of international migrations. Peri has published extensively in academic journals and has received grants from the MacArthur Foundation, the Russel Sage Foundation, the World Bank, and the National Science Foundation. His research is often featured in media outlets such as *The Economist*, *The New York Times*, *The Wall Street Journal*, and NPR.

**Reem Zaiour** is a Ph.D. student in the Department of Economics at the University of California, Davis, and a graduate student affiliate in the university's Global Migration Center. Her research interests lie at the intersection of migration, labor, and public economics.

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## Acknowledgements

The authors would like to thank Michael Madowitz, Francesc Ortega, and Madeline Zavodny for reviewing the report. They would also like to thank Nicole Prchal Svajlenka for her work bringing this report to fruition.

# Methodological appendix

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## Measuring the undocumented immigrant community

While undocumented individuals are not explicitly identified in U.S. Census Bureau surveys, researchers have developed methodologies to identify likely undocumented immigrants in these datasets. This analysis uses one such method applied to CPS data.<sup>23</sup>

Among adults in the United States, undocumented immigrants represent 3.8 percent of the total population but 4.4 percent of the employed, working-age population. Their employment rates, average age, and average level of schooling indicate that they are more likely to work in lower-wage jobs than other immigrants or U.S.-born workers.

Undocumented immigrants are slightly more likely to be employed in jobs identified as part of the DHS' critical infrastructure.<sup>24</sup> Many occupations in the food supply chain and several in construction, transportation, and logistics have very large shares of undocumented workers, indicating that those crucial sectors rely heavily on them.

For more detailed summary statistics comparing characteristics of the adult U.S.-born population, documented immigrants, and undocumented immigrants, see Table 1 in the technical appendix.

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## How do these estimates differ from other CAP analyses?

Using the CPS-based methodology developed by economists George Borjas and Hugh Cassidy, the authors' analysis estimates the undocumented adult population to be 9.5 million, or 10.2 million in total, including undocumented children, on average between 2019 and 2020.<sup>25</sup> The Center for American Progress estimates the undocumented adult population to be 9.4 million, or 10.4 million in total, including undocumented children, in 2018 and 2019 based on pooled American Community Survey data.<sup>26</sup> These small differences are due to different methodologies that rely on similar, but ultimately distinct, assumptions to estimate undocumented immigrants from two surveys.

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## How has the coronavirus pandemic affected the employment rate of undocumented immigrants?

Researchers have found that undocumented immigrants, especially undocumented men, have a very high propensity to work and are overrepresented in essential occupations. However, with high levels of employment in more precarious and lower-paying jobs, they can be more vulnerable to an economic slowdown and recession. Research on undocumented immigrants during previous periods of economic peril, including the Great Recession, supports this, particularly for undocumented immigrants with lower levels of educational attainment and for undocumented immigrants from Mexico.<sup>27</sup>

Unfortunately, the picture looked similar for undocumented immigrants in 2020. The coronavirus pandemic and ensuing economic crisis confirmed such volatility. Likely due to the precarious and less protected nature of their employment, the undocumented were among the first workers to lose their jobs when states began stay-at-home efforts to contain the pandemic.

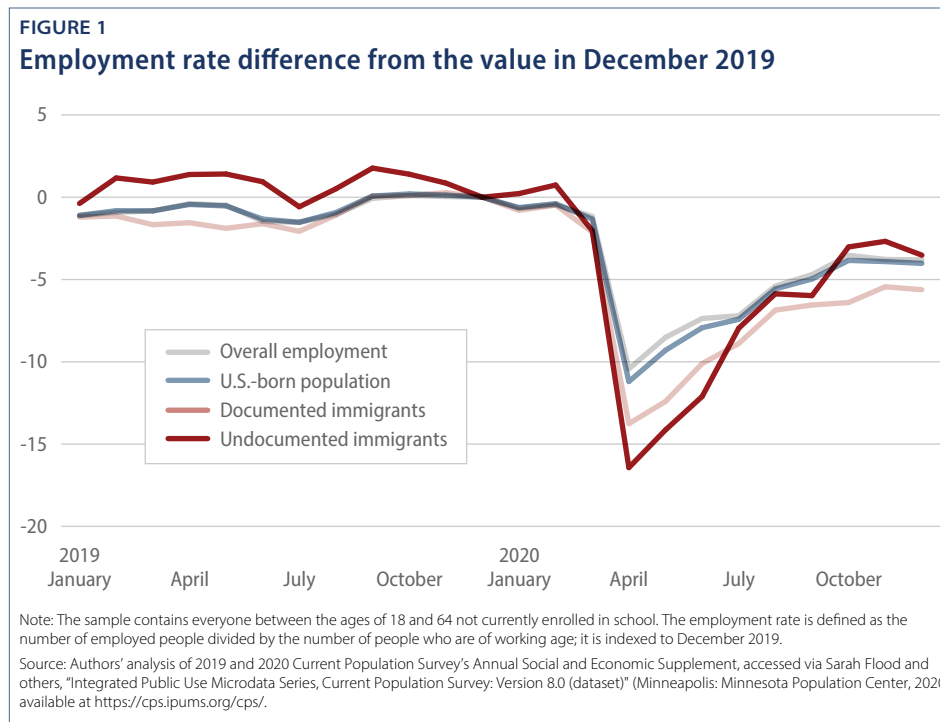




Figure 1 shows the employment rate of the U.S.-born population, documented immigrants, and undocumented immigrants, as well as the total population from January 2019 through December 2020. The data are indexed to December 2019—just before the impacts of the coronavirus would appear in the workforce. For all groups of workers, the employment rate is relatively steady through February 2020. All three groups experienced sharp declines beginning in March 2020, with undocumented immigrants experiencing the most severe drops. Between December 2019 and April 2020, the employment-to-population ratio for undocumented immigrants dropped by 16 percent, compared with 13 percent for the U.S.-born population and documented immigrants.

Though millions in the United States remain unemployed and the employment rate continues to be well below that of December 2019, to an extent, it has recovered since April 2020. Just as is true for the U.S.-born population, undocumented immigrants have experienced a sizable rebound in employment—likely because their income depends fully on jobs, and they returned to in-person work as soon as the opportunity arose. As of December 2020, the employment rate for both undocumented immigrants and the U.S.-born population was 4 percent below that of the December 2019 benchmark.

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## Measuring the impact of legalization and citizenship on wages and human capital

A crucial component of estimating the economic outcomes that result from putting undocumented immigrants on a pathway to legal status or citizenship is assessing the impact in two areas: their wages and education attainment or specialized on-the-job training and skills.

### Wages

The impact of legalization and citizenship on the wages and productivity of undocumented workers has been studied extensively in the field, particularly after the Immigration Reform and Control Act of 1986 (IRCA)—the last major overhaul of the U.S. immigration system that put 2.7 million undocumented immigrants on a path toward citizenship through a general legalization as well as the Special Agricultural Worker program.<sup>28</sup> Researchers estimate that those who pursued legal status under IRCA experienced a 20 percent rise in their annual wages.<sup>29</sup> This research was also used as a basis for efforts to predict the effects of various iterations of the Dream Act, with a consensus landing somewhere between a 20 percent to 25 percent wage bump for those eligible.<sup>30</sup>

That said, the economy and U.S. labor market look very different more than 30 years later, and the most recent economic research finds the wage increase—through estimating the inverse, the wage penalty for undocumented workers compared with others—to be about 5 percent, substantially lower than the IRCA-related increase.<sup>31</sup>

The authors used a Mincerian regression, one in which individual (log) wages are regressed on a large set of control variables to estimate this wage penalty on data from the 2019 and 2020 CPS. This method allows for researchers to control for certain characteristics.<sup>32</sup> Generally, the wage difference between documented and undocumented workers is much higher when measured in raw values, but when controlling for characteristics such as educational attainment, year of immigration, and country of birth, the difference attributable to different legal status is much smaller. (for details, see tables 4 and 5) The outcome—a gap of 4 percent when comparing undocumented male workers with all others—is in line with the recent prevailing research on the wage penalty that undocumented immigrants face.<sup>33</sup>

The largest contributor to the wage penalty for undocumented immigrants is productivity or efficiency differences—mostly that undocumented workers have limited access to certain types of jobs and activities that are considered, in the economic sense, more productive.<sup>34</sup>

Given this wide range, then, what is the best wage increase rate to include in a model projecting the benefits of legalization for undocumented immigrants? Informed by both the traditional IRCA-based estimates and the more recent evaluation of the penalty, this analysis uses a 10 percent wage increase, which is an average of those estimates, as a result of legalization.

However, most legislative proposals go beyond legalizing undocumented workers and instead push for putting undocumented immigrants on a pathway to citizenship. Citizenship has additional boosts on the efficiency and productivity of workers that go beyond those associated with legalization. Researchers estimate there is an additional 5 percent increase in wages resulting from citizenship due to an individual's access to a larger variety of better-paid jobs.<sup>35</sup>

This simulation assumes a 100 percent takeup rate of the eligible individuals for legalization and naturalization. In this sense, the simulation shows the full potential of such a program, if all those eligible pursue it.

## Educational attainment or on-the-job learning

Another effect that must be considered is the additional postsecondary schooling that undocumented immigrants, namely young undocumented immigrants, would acquire as a result of the incentives from legalization. Research on legalization, along with Deferred Action for Childhood Arrivals (DACA), shows that such policies have a positive impact on educational attainment.<sup>36</sup>

This model considers additional investments in education that undocumented immigrants would make within the first 10 years of legalization, generating economic returns to their human capital above and beyond the increased wages and productivity. The model includes provisions that all undocumented immigrants who are younger than 30 and still enrolled in school will complete two additional years of schooling, on average, after legalization and before naturalization. Following the literature, the model assumes that their additional schooling will have a positive effect on the productivity of other workers. This will increase by 10 percent for one extra year of average postsecondary schooling among the employed.<sup>37</sup>

Aside from education, legalization and a pathway to citizenship would result in more on-the-job learning, especially in terms of language, and ultimately an increase in efficiency. Research estimates that lower levels of English proficiency among undocumented immigrants lead to wages that are 5 percent lower compared with those of documented immigrants.<sup>38</sup> This model includes provisions that assume in the long-run estimates (five to 10 years after enactment), undocumented workers will see gains in efficiency, on-the-job learning, and language proficiency, all of which increase their productivity.

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## Model components

Calculations are based on a model of economic growth with documented and undocumented workers, where human capital depends on labor effectiveness and schooling, and total factor productivity depends on schooling due to a positive externality. This is based on chapters 4 and 5 of Charles I. Jones and Dietrich Vollrath's *Introduction to Economic Growth: Third Edition*. The model assumes an efficiency effect of legalization of 10 percent, consistent with an average wage penalty obtained by combining the authors' estimate for undocumented workers in the 2019 and 2020 CPS ASEC; the estimates by George J. Borjas and Hugh Cassidy in their article "The wage penalty to undocumented immigration"; and earlier estimates of the impact of IRCA.<sup>39</sup> The model includes the positive externality of schooling as measured by Susana Iranzo and Giovanni Peri in their article "Schooling Externalities, Technology, and Productivity:

Theory and Evidence from U.S. States” and returns to postsecondary schooling as share of labor income in GDP equal to 0.54, as estimated by David Autor, Claudia Goldin, and Lawrence F. Katz in their article “Extending the Race between Education and Technology.”<sup>40</sup> The short run considers only the increased labor effectiveness for legalized workers and the response of business investments. The long run also includes the additional schooling effect, the on-the-job skills effects, the positive schooling externality, and the response of business investments.

This model assumes that the response of investment is on an equilibrium path, as in a model of economic growth with human and physical capital and technological change, as in Jones and Vollrath’s 2013 book, where the country grows at a constant rate and businesses respond to higher rates of returns to capital by investing and maintaining the ratio of physical capital to effective labor proportional to the productivity level.<sup>41</sup> These mechanisms translate to higher GDP and higher investment and business income for U.S.-born and other documented individuals in the short run. The wage earnings of American workers will not change in the short run, and total wage income will only increase due to higher wages of the legalized immigrants.

As average productivity increases, there will be higher demand for labor, assuming an upward sloping labor supply for the group of other American workers and an elasticity of supply around 0.27; the reforms will also generate new, permanent jobs.<sup>42</sup>

For a full components of the growth model, please see the “Macro-Growth Model To Calculate the Effects of Legalization.”<sup>43</sup>

# Technical appendix

## Identifying undocumented individuals in the CPS ASEC data

Table 1 shows the series of edits used to identify likely undocumented immigrants in the 2019 and 2020 CPS ASEC. The initial universe is individuals who were born abroad and are not citizens. The table shows the number of weighted observations subtracted in each round and the total number of weighted observations remaining.

**TABLE 1**  
**Estimating the undocumented immigrant population in the United States**

Criteria	Total (weighted cases, in thousands)
Remove people who arrived before 1980	(-) 5,881
Remove citizens	
a) Born in United States, born in U.S. outlying areas, born abroad to American parents	(-) 292,434
b) Naturalized	(-) 17,499
Remove those receiving Social Security benefits, Supplemental Security Income, Medicaid, Medicare, or military insurance	(-) 5,809
Remove veterans	(-) 46
Remove those working in the government sector or currently serving in the Armed Forces	(-) 652
Remove those who reside in public housing, receive rental subsidies, or have a spouse who does	(-) 274
Remove individuals born in Cuba	(-) 378
Remove those with occupations that require some form of licensing (e.g., physicians, registered nurses, air traffic controllers, lawyers)	(-) 576
Remove people who likely hold H-1B visas	(-) 499
Remove people with authorized immigrant or citizen children or spouses	
a) Spouses	(-) 989
b) Children	(-) 2,782
<b>Total undocumented</b>	<b>10,241</b>

Source: Authors' analysis of 2019 and 2020 Current Population Survey's Annual Social and Economic Supplement, accessed via Sarah Flood and others, "Integrated Public Use Microdata Series, Current Population Survey: Version 8.0 (dataset)" (Minneapolis: Minnesota Population Center, 2020), available at <https://cps.ipums.org/cps/>.

Table 2 shows summary statistics comparing characteristics of the U.S.-born population, documented immigrants, and undocumented immigrants in the 2019 and 2020 CPS ASEC.

TABLE 2

**Demographic and employment characteristics of U.S.-born, documented, and undocumented immigrant populations**

	U.S.-born	Documented	Undocumented
Percentage of total U.S. population	83.0	13.2	3.8
Percentage male	48.4	46.8	54.3
<b>Age</b>			
Average age	47.8	49.7	39.8
Percentage under 30	23.8	14.1	25.2
Percentage under 40	40.2	32.7	54.7
<b>Education attainment</b>			
Average years of education	14.1	13.2	11.9
Did not complete high school	7.5	20.0	33.8
High school diploma or equivalent	28.7	24.6	27.4
Some college	29.8	18.4	12.6
Bachelor's or advanced degrees	34.0	36.9	26.2
<b>State of residence</b>			
California	9.9	24.2	19.0
New York	5.3	10.8	6.9
Texas	8.0	9.5	14.8
<b>Employment rate</b>			
Aggregate	58.3	58.6	68.8
Men	62.5	69.2	82.4
Women	54.4	49.4	52.6
<b>Employment in essential sectors-to-total employment ratio</b>			
Aggregate	74.9	73.9	75.7
Men	72.7	73.4	79.6
Women	77.2	74.5	68.5
Sample size	207,831	33,257	9,543

Note: Calculations include all individuals 18 years and older. U.S.-born population includes individuals born in the United States, in U.S. outlying regions, or abroad to American parents. Documented immigrants are those who are naturalized or assumed to have authorized presence in the United States due to characteristics described in Table 1. The remaining individuals are assumed to be likely undocumented immigrants.

Source: Authors' analysis of 2019 and 2020 Current Population Survey's Annual Social and Economic Supplement, accessed via Sarah Flood and others, "Integrated Public Use Microdata Series, Current Population Survey: Version 8.0 (dataset)" (Minneapolis: Minnesota Population Center, 2020), available at <https://cps.ipums.org/cps/>.

## Eligibility provisions

- Individuals eligible under the Dream provisions of the American Dream and Promise Act include those who arrived in the United States before 2021, were 18 years old or younger at arrival, and who either are enrolled in school, have a high school diploma, or are in the military. They are also young individuals between the ages of 4 and 18 who have not yet enrolled in secondary school.<sup>44</sup>
- Individuals eligible for protection in this analysis under the Promise provisions of the American Dream and Promise Act include individuals based the following countries of origin and dates of arrival: El Salvador (arrival prior to February 13, 2001); Guinea (arrival prior to November 20, 2014); Haiti (arrival prior to January 12, 2011); Honduras (arrival prior to December 30, 1998); Liberia (arrival prior to November 20, 2014); Nepal (arrival prior to June 24, 2015); Nicaragua (arrival prior to December 30, 1998); Sierra Leone (arrival prior to November 20, 2014); Somalia (arrival prior to May 1, 2012); South Sudan (arrival prior to January 25, 2016); Sudan (arrival prior to January 9, 2013); Syria (arrival prior to August 1, 2016); and Yemen (arrival prior to January 4, 2017).<sup>45</sup>
- Essential sectors correspond to the industries and occupations indicated as essential by the DHS in 2020.<sup>46</sup>

TABLE 3

### Number of undocumented individuals eligible for protections under different scenarios

Scenarios	Number eligible
Scenario 1:	
All undocumented immigrants	10,212,731
Employed undocumented immigrants and Dreamers	7,652,277
Scenario 2:	
Undocumented workers in essential sectors	4,988,720
Scenario 3:	
Dream and Promise Act-eligible individuals	2,009,202
Dream Act and SECURE Act-eligible individuals	1,784,607
Scenario 4:	
Dreamers, TPS-eligible individuals, and undocumented essential workers	6,047,182

Source: Authors' analysis of 2019 and 2020 Current Population Survey's Annual Social and Economic Supplement, accessed via Sarah Flood and others, "Integrated Public Use Microdata Series, Current Population Survey: Version 8.0 (dataset)" (Minneapolis: Minnesota Population Center, 2020), available at <https://cps.ipums.org/cps/>.

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## Definition of employment and wages

The authors consider all individuals older than 18 years of age who report an employment status as “working” to be employed. Hourly wages are calculated as yearly wages divided by the number of weeks worked last year times the number of hours usually worked in a week. The authors trim the top and bottom 0.5 percent of the hourly wage distribution.

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## Basic regression estimating the earning penalty from being undocumented

The wage penalty for undocumented immigrants is estimated considering the population of all foreign-born adults and regressing the logarithm of their wages on a set of demographic characteristics, including controls for survey year, age, educational attainment, state of residence, years since migration, and birthplace. The authors include a dummy equal to 1 if the individual is undocumented. The coefficient on this dummy is the estimated wage penalty, in log points, for being undocumented. The decomposition analysis is conducted using the STATA package “b1x2.”<sup>47</sup>

**TABLE 4**  
**Mincerian regression estimates of the undocumented wage penalty**

	Aggregate	Men
Difference	0.219 [0.011]	0.230 [0.014]
Explained	0.207 [0.0075]	0.192 [0.00987]
Unexplained	0.011 [0.0104]	0.038 [0.0132]
Fraction explained by:		
Age	0.001 [0.0019]	0.005 [0.00281]
State of residence	0.001 [0.0018]	-0.002 [0.00248]
Years since migration	0.045 [0.0032]	0.032 [0.00405]
Education	0.113 [0.00487]	0.107 [0.00603]
Birthplace	0.047 [0.00463]	0.050 [0.00633]

Note: The sample includes immigrants between the ages of 21 and 64 who are not enrolled in school and who report positive usual hours worked, wages, and salary incomes. The “years since migration” variable is added as a fourth-order polynomial; the “age,” “education,” “state of residence,” and “birthplace” variables are added as fixed effects. The rows labeled “difference,” “explained,” and “unexplained” indicate the raw wage gap between documented and undocumented immigrants, the amount of the gap that is explained by the covariates, and the amount that remains unexplained. Source: Authors’ analysis of 2019 and 2020 Current Population Survey’s Annual Social and Economic Supplement, accessed via Sarah Flood and others, “Integrated Public Use Microdata Series, Current Population Survey: Version 8.0 (dataset)” (Minneapolis: Minnesota Population Center, 2020), available at <https://cps.ipums.org/cps/>.



TABLE 5

### Summary statistics on wages of U.S.-born, documented, and undocumented immigrant workers

	U.S.-born	Documented	Undocumented
<b>Aggregate</b>			
Annual wage	\$60,109	\$58,306	\$45,469
Weeks worked	49.92	49.81	49.58
Yearly hours worked	2,382.06	2,277.30	2,100.31
Hourly wage	\$28.10	\$27.94	\$22.47
Log annual wage	\$10.72	\$10.66	\$10.42
Log wage	\$3.12	\$3.08	\$2.86
Sample size	94,614	15,557	5,306
<b>Men</b>			
Annual wage	\$68,755	\$65,904	\$50,095
Weeks worked	50.19	50.21	50.02
Yearly hours worked	2,618.95	2,473.01	2,177.19
Wage	\$30.54	\$30.25	\$23.96
Log annual wage	\$10.87	\$10.81	\$10.55
Log wage	\$3.20	\$3.17	\$2.94
Sample size	48,116	8,318	3,342

Note: Sample is comprised of individuals between the ages of 21 and 64 who are not enrolled in school and report positive usual hours worked, wages, and salary incomes.

Source: Authors' analysis of 2019 and 2020 Current Population Survey's Annual Social and Economic Supplement, accessed via Sarah Flood and others, "Integrated Public Use Microdata Series, Current Population Survey: Version 8.0 (dataset)" (Minneapolis: Minnesota Population Center, 2020), available at <https://cps.ipums.org/cps/>.

## Full simulation findings

TABLE 6

### Scenario 1: Simulated effects of legalization and naturalization of all undocumented immigrants

	Short-medium run (one to five years)		Long run (five to 10 years)		Cumulated, with linear adjustment over 10 years
	Dollars	Percentage	Dollars	Percentage	Dollars
Average wage of eligible undocumented immigrants	\$4,316	10.0%	\$13,962	32.4%	\$63,465
Average wage of all other workers	\$-	0.0%	\$684	1.1%	\$2,051
Aggregate earnings of eligible undocumented immigrants	\$28.4 B	10.0%	\$91.9 B	32.4%	\$417.9 B
Aggregate earnings of all other workers	\$-	0.0%	\$98.1 B	1.1%	\$294.3 B
Aggregate gross domestic product (GDP)	\$66.8 B	0.3%	\$446.4 B	2.1%	\$1.673 T
GDP per person	\$202	0.3%	\$1,349	2.1%	\$5,055
Number of new jobs			438,768	0.3%	

Note: The short-medium run includes efficiency increase and investment response whereas the long run includes schooling response, productivity effect, and further human capital adjustment.

Source: Authors' analysis of 2019 and 2020 Current Population Survey's Annual Social and Economic Supplement, accessed via Sarah Flood and others, "Integrated Public Use Microdata Series, Current Population Survey: Version 8.0 (dataset)" (Minneapolis: Minnesota Population Center, 2020), available at <https://cps.ipums.org/cps/>.

TABLE 7

### Scenario 2: Simulated effects of legalization and naturalization of all undocumented essential workers

	Short-medium run (one to five years)		Long run (five to 10 years)		Cumulated, with linear adjustment over 10 years
	Dollars	Percentage	Dollars	Percentage	Dollars
Average wage of eligible undocumented immigrants	\$4,316	10.00%	\$11,785	27.3%	\$56,932
Average wage of all other workers	\$-	0.00%	\$316	0.5%	\$948
Aggregate earnings of eligible undocumented immigrants	\$21.5 B	10.00%	\$58.8 B	27.3%	\$284.0 B
Aggregate earnings of all other workers	\$-	0.00%	\$45.3 B	0.5%	\$136.0 B
Aggregate gross domestic product (GDP)	\$50.6 B	0.2%	\$245.5 B	1.2%	\$989.3 B
GDP per person	\$153	0.2%	\$742	1.2%	\$2,989
Number of new jobs			203,247	0.1%	

Note: The short-medium run includes efficiency increase and investment response, whereas the long run includes schooling response, productivity effect, and further human capital adjustment.

Source: Authors' analysis of 2019 and 2020 Current Population Survey's Annual Social and Economic Supplement, accessed via Sarah Flood and others, "Integrated Public Use Microdata Series, Current Population Survey: Version 8.0 (dataset)" (Minneapolis: Minnesota Population Center, 2020), available at <https://cps.ipums.org/cps/>. Essential sectors correspond to the industries and occupations indicated as essential by the U.S. Department of Homeland Security in 2020. See U.S. Department of Homeland Security Cybersecurity and Infrastructure Security Agency, "Guidance on the Essential Critical Infrastructure Workforce: Ensuring Community and National Resilience in COVID-10 Response: Version 4.0," available at [https://www.cisa.gov/sites/default/files/publications/Version\\_4.0\\_CISA\\_Guidance\\_on\\_Essential\\_Critical\\_Infrastructure\\_Workers\\_FINAL%20AUG%2018v3.pdf](https://www.cisa.gov/sites/default/files/publications/Version_4.0_CISA_Guidance_on_Essential_Critical_Infrastructure_Workers_FINAL%20AUG%2018v3.pdf) (last accessed March 2021). For a list of occupations and industries included, see the methodological appendix in Nicole Prchal Svajlenka, "Protecting Undocumented Workers on the Pandemic's Front Lines: Immigrants Are Essential to America's Recovery" (Washington: Center for American Progress, 2020), available at <https://www.americanprogress.org/issues/immigration/reports/2020/12/02/493307/protecting-undocumented-workers-pandemics-front-lines/>.

TABLE 8

**Scenario 3: Simulated effects of legalization and naturalization of Dreamers and TPS-eligible individuals**

	Short-medium run (one to five years)		Long run (five to 10 years)		Cumulated, with linear adjustment over 10 years
	Dollars	Percentage	Dollars	Percentage	Dollars
Average wage of eligible undocumented immigrants	\$4,316	10.00%	\$16,802	38.9%	\$71,983
Average wage of all other workers	\$-	0.00%	\$444	0.7%	\$1,332
Aggregate earnings of eligible undocumented immigrants	\$8.7 B	10.0%	\$33.8 B	38.9%	\$144.6 B
Aggregate earnings of all other workers	\$-	0.00%	\$63.7 B	0.7%	\$191.1 B
Aggregate gross domestic product (GDP)	\$20.4 B	0.1%	\$232.4 B	1.1%	\$799.1 B
GDP per person	\$62	0.1%	\$702	1.1%	\$2,414
Number of new jobs			285,401	0.2%	

Note: This scenario considers eligibility under H.R. 6, the Dream and Promise Act of 2021. Individuals eligible under the “dream” provisions of the Dream and Promise Act include those who arrive in the United States before 2021, who are less than 18 years old at arrival, or who either are enrolled in school, have a high school diploma, or are in the military. They also include young individuals—between the ages of 4 and 18—who have not yet enrolled in secondary school. Individuals eligible for protection in this analysis under the “promise” provisions of the Dream and Promise Act include individuals based the following countries of origin and dates of arrival: El Salvador, arrival prior to February 13, 2001; Guinea, arrival prior to November 20, 2014; Haiti, arrival prior to January 12, 2011; Honduras, arrival prior to December 30, 1998; Liberia, arrival prior to November 20, 2014; Nepal, arrival prior to June 24, 2015; Nicaragua, arrival prior to December 30, 1998; Sierra Leone, arrival prior to November 20, 2014; Somalia, arrival prior to May 1, 2012; South Sudan, arrival prior to January 25, 2016; Sudan, arrival prior to January 9, 2013; Syria, arrival prior to August 1, 2016; and Yemen, arrival prior to January 4, 2017. The short-medium run includes efficiency increase and investment response, whereas the long run includes schooling response, productivity effect, and further human capital adjustment.

Source: Authors’ analysis of 2019 and 2020 Current Population Survey’s Annual Social and Economic Supplement, accessed via Sarah Flood and others, “Integrated Public Use Microdata Series, Current Population Survey: Version 8.0 (dataset)” (Minneapolis: Minnesota Population Center, 2020), available at <https://cps.ipums.org/cps/>. See also, American Dream and Promise Act of 2021, H.R. 6, 117th Cong., 1st sess. (March 18, 2021), available at <https://www.congress.gov/bill/117th-congress/house-bill/6>.

TABLE 9

**Scenario 3 alternative: Simulated effects of legalization and naturalization of Dreamers and TPS-eligible individuals**

	Short-medium run (one to five years)		Long run (five to 10 years)		Cumulated, with linear adjustment over 10 years
	Dollars	Percentage	Dollars	Percentage	Dollars
Average wage of eligible undocumented immigrants	\$4,316	10.0%	\$16,745	38.8%	\$71,814
Average wage of all other workers	\$-	0.0%	\$387	0.6%	\$1,161
Aggregate earnings of eligible undocumented immigrants	\$7.7 B	10.0%	\$29.9 B	38.8%	\$128.2 B
Aggregate earnings of all other workers	\$-	0.0%	\$55.5 B	0.6%	\$166.6 B
Aggregate gross domestic product (GDP)	\$18.1 B	0.1%	\$203.8 B	1.0%	\$701.8 B
GDP per person	\$55	0.1%	\$616	1.0%	\$2,120
Number of new jobs			248,813	0.2%	

Note: This scenario approximates the components of the Dream and Promise Act as they move through the Senate independent of one another. S. 264, the Dream Act of 2021, has slightly different requirements than does H.R. 6, the most important of which is an entry date four years prior to enactment as opposed to 2021. This model uses the adjusted entry date to determine eligibility. S. 306, the Safe Environment from Countries Under Repression and Emergency (SECURE) Act, has the same eligibility provisions for TPS-eligible individuals as does the Promise Act provisions of H.R. 6. The short-medium run includes efficiency increase and investment response, whereas the long run includes schooling response, productivity effect, and further human capital adjustment.

Source: Authors’ analysis of 2019 and 2020 Current Population Survey’s Annual Social and Economic Supplement, accessed via Sarah Flood and others, “Integrated Public Use Microdata Series, Current Population Survey: Version 8.0 (dataset)” (Minneapolis: Minnesota Population Center, 2020), available at <https://cps.ipums.org/cps/>. See also, Dream Act of 2021, S. 264, 117th Cong., 1st sess. (February 4, 2021), available at <https://www.congress.gov/bill/117th-congress/senate-bill/264>; Safe Environment from Countries Under Repression and Emergency (SECURE) Act, S. 306, 117th Cong., 1st sess. (February 8, 2021), available at <https://www.congress.gov/bill/117th-congress/senate-bill/306>.

TABLE 10

### Scenario 4: Simulated effects of legalization and naturalization of all Dreamers, TPS-eligible individuals, and undocumented essential workers

	Short-medium run (one to five years)		Long run (five to 10 years)		Cumulated, with linear adjustment over 10 years
	Dollars	Percentage	Dollars	Percentage	Dollars
Average wage of eligible undocumented immigrants	\$4,316	10.0%	\$13,497	31.3%	\$62,068
Average wage of all other workers	\$-	0.0%	\$624	1.0%	\$1,873
Aggregate earnings of eligible undocumented immigrants	\$26.1 B	10.0%	\$81.6 B	31.3%	\$375.3 B
Aggregate earnings of all other workers	\$-	0.0%	\$89.6 B	1.0%	\$268.7 B
Aggregate gross domestic product (GDP)	\$61.3 B	0.3%	\$402.8 B	1.9%	\$1.515 T
GDP per person	\$185	0.3%	\$1,217	1.9%	\$4,576
Number of new jobs			400,823	0.3%	

Note: This scenario considers those eligible for protection under scenarios two and three. Because of eligibility overlap, the totals for this scenario are not the same as summing the totals presented for scenarios two and three. The short-medium run includes efficiency increase and investment response whereas the long run includes schooling response, productivity effect, and further human capital adjustment.

Source: Authors' analysis of 2019 and 2020 Current Population Survey's Annual Social and Economic Supplement, accessed via Sarah Flood and others, "Integrated Public Use Microdata Series, Current Population Survey: Version 8.0 (dataset)" (Minneapolis: Minnesota Population Center, 2020), available at <https://cps.ipums.org/cps/>.

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## Endnotes

- 1 Authors' analysis of the 2019 and 2020 Current Population Survey's Annual Social and Economic Supplement. See Sarah Flood and others, "Integrated Public Use Microdata Series, Current Population Survey: Version 8.0 (dataset)" (Minneapolis: Minnesota Population Center, 2020), available at <https://cps.ipums.org/cps/>. For a discussion of why this estimate differs from previous CAP estimates, please see the methodological appendix.
- 2 Center for American Progress analysis of pooled 2018 and 2019 1-year American Community Survey microdata. See Steven Ruggles and others, "Integrated Public Use Microdata Series, U.S. Census Data for Social, Economic, and Health Research, 2018 and 2019 American Community Surveys: 1-year estimates" (Minneapolis: Minnesota Population Center, 2020), available at <https://usa.ipums.org/usa/>.
- 3 FWD.us, "Polling Update: Pathway to Citizenship for Undocumented Immigrants Remains Overwhelmingly Popular," March 24, 2021, available at <https://www.fwd.us/news/polling-update-pathway-to-citizenship-for-undocumented-immigrants-remains-overwhelmingly-popular/>; Nicole Narea, "Poll: Most Americans support a path to citizenship for undocumented immigrants," Vox, February 4, 2021, available at <https://www.vox.com/policy-and-politics/2021/2/4/22264074/poll-undocumented-immigrants-citizenship-stimulus-biden>; Morning Consult and *Politico*, "National Tracking Poll #2102103: February 19-22, 2021" (Washington: 2021), available at [https://assets.morningconsult.com/wp-uploads/2021/02/24092632/2102103\\_crosstabs\\_POLITICO\\_RVs\\_v1\\_AUTO.pdf](https://assets.morningconsult.com/wp-uploads/2021/02/24092632/2102103_crosstabs_POLITICO_RVs_v1_AUTO.pdf).
- 4 "Eileen Applebaum and others," FWD.us, February 11, 2021, available at <https://www.fwd.us/wp-content/uploads/2021/02/Economists-Letter-on-Legalization-and-Recovery.pdf>.
- 5 This analysis's economic modeling is based on essential workers, TPS eligible who are in the workforce, and Dreamers—some of whom are working and others who have yet to enter the workforce. Dreamers and TPS-eligible people are defined as those eligible under H.R. 6, the American Dream and Promise Act of 2021. For economic impacts of the Senate versions of these bills—S. 264, or the Dream Act of 2021, and S. 304, or the SECURE Act, please see Table 9. However, legislative proposals to extend a pathway to citizenship to all undocumented immigrants or to Dreamers and TPS-eligible individuals will not exclude individuals from protections due to their work status, nor does this methodology mean to suggest they should be.
- 6 For more details regarding this scenario, see Endnote 16. Throughout the report, findings are rounded to the nearest hundred.
- 7 All wage increases are in 2020 dollars. Wage effects for all other workers are tied to increases in productivity resulting from a pathway to citizenship for undocumented immigrants. Because of that, these gains only appear in the long run of five years to 10 years post-implementation and would not yield in a legalization-only framework.
- 8 Because of overlap in eligibility, these estimates are not the equivalent of simply adding the outcomes in scenarios 2 and 3.
- 9 Nicole Prchal Svajlenka, "Protecting Undocumented Workers on the Pandemic's Front Lines: Immigrants Are Essential to America's Recovery" (Washington: Center for American Progress, 2020), available at <https://www.americanprogress.org/issues/immigration/reports/2020/12/02/493307/protecting-undocumented-workers-pandemics-front-lines/>.
- 10 Protecting Immigrant Families, "Immigrant Eligibility for Public Programs During COVID-19," available at <https://protectingimmigrantfamilies.org/immigrant-eligibility-for-public-programs-during-covid-19/> (last accessed April 2021).
- 11 This is based on chapters 4 and 5 of Charles I. Jones and Dietrich Vollrath, *Introduction to Economic Growth: Third Edition* (New York: W.W. Norton and Co., 2013).
- 12 The model assumes an efficiency effect of regularization that averages the 5 percent wage penalty the authors estimate for undocumented workers in the 2019 and 2020 CPS Annual Social and Economic Supplement; estimates in George J. Borjas and Hugh Cassidy, "The wage penalty to undocumented immigration," *Labour Economics* 61 (C) (2019), available at <https://www.sciencedirect.com/science/article/abs/pii/S0927537119300831>; and more traditional estimates of legalization. For a detailed discussion of this wage bump, please see the methodological appendix.
- 13 Bernt Bratsberg Jr., James F. Ragan, and Zafar M. Nasir, "The Effect of Naturalization on Wage Growth: A Panel Study of Young Male Immigrants," *Journal of Labor Economics* 20 (3) (2002): 568–597, available at <https://www.journals.uchicago.edu/doi/abs/10.1086/339616?journalCode=jole>.
- 14 The model includes the positive externality of schooling as measured in Susana Iranzo and Giovanni Peri, "Schooling Externalities, Technology, and Productivity: Theory and Evidence from U.S. States," *The Review of Economics and Statistics* 91 (2) (2009): 420–431, available at <https://www.jstor.org/stable/25651346?seq=1>. Returns to postsecondary schooling are equal to 0.10 per year, as estimated in David Autor, Claudia Goldin, and Lawrence F. Katz, "Extending the Race between Education and Technology" (Cambridge, MA: National Bureau of Economic Research, 2020), available at <https://www.nber.org/papers/w26705>. The share of labor income in GDP is set equal to 0.54.
- 15 Wage effects for all other workers are tied to increases in human capital and productivity resulting from legalization but strengthened by a pathway to citizenship for undocumented immigrants, which increases their schooling and skills. Because of that, these gains only appear in the long run of five years to 10 years post-implementation and would be smaller in a legalization-only framework.
- 16 In using the average of 2019 and 2020 CPS ASEC data, this model factors economic growth surrounding the undocumented immigrant population who were employed in the year leading up to the COVID-19 crisis as well as Dreamers when modeling economic effects. Dreamers are included regardless of their work status, as they are younger on average than other undocumented immigrants and may join the workforce as they age. Additionally, previous research finds that DACA recipients, similar in characteristics to Dreamers more broadly, are likely to pursue additional education and work opportunities after similar protections. See Tom K. Wong and others, "New DHS Policy Threatens To Undo Gains Made by DACA Recipients," Center for American Progress, October 5, 2020, available at <https://www.americanprogress.org/issues/immigration/news/2020/10/05/491017/new-dhs-policy-threatens-undo-gains-made-daca-recipients/>.
- 17 To ensure robust results, the authors consider two types of workers: documented and undocumented prior to reform, resulting in a standard average wage for undocumented workers across scenarios.

- 18 Based on Christopher C. Krebs, "Guidance on the Essential Critical Infrastructure Workforce: Ensuring Community and National Resilience in COVID-10 Response: Version 4.0" (Washington: U.S. Department of Homeland Security Cybersecurity and Infrastructure Security Agency, 2020), available at [https://www.cisa.gov/sites/default/files/publications/Version\\_4.0\\_CISA\\_Guidance\\_on\\_Essential\\_Critical\\_Infrastructure\\_Workers\\_FINAL%20AUG%2018v3.pdf](https://www.cisa.gov/sites/default/files/publications/Version_4.0_CISA_Guidance_on_Essential_Critical_Infrastructure_Workers_FINAL%20AUG%2018v3.pdf). For a list of occupations and industries included, please see the methodological appendix of Nicole Prchal Svajlenka, "Protecting Undocumented Workers on the Pandemic's Front Lines: Immigrants Are Essential to America's Recovery" (Washington: Center for American Progress, 2020), available at <https://www.americanprogress.org/issues/immigration/reports/2020/12/02/493307/protecting-undocumented-workers-pandemics-front-lines/>.
- 19 U.S. House of Representatives New Democrat Coalition, "H.R. 6, the Dream and Promise Act of 2021," available at <https://newdemocratcoalition.house.gov/imo/media/doc/Dream%20and%20Promise%20Act%20of%202021%20Fact%20Sheet.pdf> (last accessed April 2021).
- 20 A full list of those eligible by country of birth and arrival in the United States can be found in the methodological appendix.
- 21 U.S. House of Representatives New Democrat Coalition, "H.R. 6, the Dream and Promise Act of 2021." A full list of those eligible by country of birth and arrival in the United States can be found in the methodological appendix.
- 22 Some undocumented immigrants may be eligible for protections as both a Dreamer and an essential worker. As such, the total number of eligible undocumented immigrants is not the sum of scenarios 2 and 3.
- 23 Model analysis is based on Current Population Survey's Annual Social and Economic Supplement, averaging 2019 and 2020 data. Employment trends are measured using the CPS monthly survey. The methodology was first used in George J. Borjas, "The labor supply of undocumented immigrants," *Labour Economics* 46 (C) (2017), available at <https://www.nber.org/papers/w22102>. It includes the updates developed in Borjas and Cassidy, "The wage penalty to undocumented immigration." This method builds on the well-established methodology first used in Robert Warren and Jeffrey S. Passel, "A Count of the Uncountable: Estimates of Undocumented Aliens Counted in the 1980 United States Census," *Demography* 24 (3) (1987): 375–393, available at <https://link.springer.com/article/10.2307/2061304>. More details can be found in the methodological appendix.
- 24 Krebs, "Guidance on the Essential Critical Infrastructure Workforce."
- 25 Borjas and Cassidy, "The wage penalty to undocumented immigration."
- 26 Center for American Progress analysis of pooled 2018 and 2019 1-year American Community Survey microdata, accessed via Steven Ruggles and others, "Integrated Public Use Microdata Series, U.S. Census Data for Social, Economic, and Health Research, 2018 and 2019 American Community Surveys: 1-year estimates."
- 27 Pia M. Orrenius and Madeleine Zavodny, "Mexican Immigrant Employment Outcomes Over the Business Cycle," *American Economic Review* 100 (2) (2010): 316–320, available at <https://www.aeaweb.org/articles?id=10.1257/aer.100.2.316>.
- 28 Sherrie A. Kossoudji and Deborah A. Cobb-Clark, "Coming out of the Shadows: Learning about Legal Status and Wages from the Legalized Population," *Journal of Labor Economics* 20 (3) (2002): 598–628, available at <https://www.jstor.org/stable/10.1086/339611?seq=1>; Fernando A. Lozano and Todd A. Sorensen "The Labor Market Value to Legal Status" (Bonn, Germany: IZA Institute of Labor Economics: 2011), available at <https://www.iza.org/publications/dp/5492/the-labor-market-value-to-legal-status/>; Donald M. Kerwin, "More than IRCA: US Legalization Programs and the Current Policy Debate" (Washington: Migration Policy Institute, 2010), available at <https://www.migrationpolicy.org/pubs/legalization-historical.pdf>.
- 29 Lozano and Sorensen "The Labor Market Value to Legal Status."
- 30 Francesc Ortega, Ryan Edwards, and Philip E. Wolgin, "The Economic Benefits of Passing the Dream Act" (Washington: Center for American Progress, 2017), available at <https://www.americanprogress.org/issues/immigration/reports/2017/09/18/439134/economic-benefits-passing-dream-act/>; Robert Lynch and Patrick Oakford, "The Economic Effects of Granting Legal Status and Citizenship to Undocumented Immigrants" (Washington: Center for American Progress, 2013), available at <https://www.americanprogress.org/issues/immigration/reports/2013/03/20/57351/the-economic-effects-of-granting-legal-status-and-citizenship-to-undocumented-immigrants/>.
- 31 Borjas and Cassidy, "The wage penalty to undocumented immigration."
- 32 These regressions are described in the methodological appendix, and full estimation results can be found in Table 4.
- 33 The authors focus on male workers, as done in the previous studies, as this group has more regular working history. Table 4 shows also the estimates for the whole undocumented population.
- 34 Amy Hsin and Francesc Ortega, "The Effects of Deferred Action for Childhood Arrivals on the Educational Outcomes of Undocumented Students" (Bonn, Germany: IZA Institute of Labor Economics, 2017), available at <https://www.iza.org/publications/dp/11078/the-effects-of-deferred-action-for-childhood-arrivals-on-the-educational-outcomes-of-undocumented-students>.
- 35 Bratsberg Jr., Ragan, and Nasir "The Effect of Naturalization on Wage Growth."
- 36 Ortega, Edwards, and Wolgin, "The Economic Benefits of Passing the Dream Act"; Elira Kuka, Na'ama Shenhav, and Kevin Shih, "Do Human Capital Decisions Respond to the Returns to Education? Evidence from DACA," *American Economic Journal: Economic Policy* 12 (1) (2020): 293–324, available at <https://www.aeaweb.org/articles?id=10.1257/pol.20180352>.
- 37 Iranzo and Peri, "Schooling Externalities, Technology, and Productivity"; Daron Acemoglu and Joshua Angrist, "How Large are Human-Capital Externalities? Evidence from Compulsory Schooling Laws," in Ben S. Bernanke and Kenneth Rogoff, eds., *NBER Macroeconomics Annual 2000, Volume 15* (Cambridge, MA: MIT Press, 2001), available at <https://economics.mit.edu/files/3910>. Enrico Moretti, "Human capital externalities in cities," in J. Vernon Henderson and Jacques-François Thisse, eds., *Handbook of Regional and Urban Economics vol. 4* (Amsterdam: Elsevier, 2004).
- 38 Borjas and Cassidy, "The wage penalty to undocumented immigration."
- 39 Ibid.

- 40 Iranzo and Peri, "Schooling Externalities, Technology, and Productivity"; Autor, Goldin, and Katz, "Extending the Race between Education and Technology."
- 41 Jones and Vollrath, *Introduction to Economic Growth*.
- 42 As in Borjas, "The labor supply of undocumented immigrants."
- 43 See Giovanni Peri, "Macro-Growth Model To Calculate the Effects of Legalization" (Washington: Center for American Progress and University of California, Davis, Global Migration Center, 2021), available at <https://cdn.americanprogress.org/content/uploads/2021/06/11131145/EconBenefitsLegalization-Methodology.pdf>.
- 44 American Dream and Promise Act of 2021, H.R. 6, 117th Cong., 1st sess. (March 18, 2021), available at <https://www.congress.gov/bill/117th-congress/house-bill/6>.
- 45 Ibid.
- 46 Based on Krebs, "Guidance on the Essential Critical Infrastructure Workforce." For a list of occupations and industries included, please see methodological appendix of Svajlenka, "Protecting Undocumented Workers on the Pandemic's Front Lines."
- 47 Based on Jonah B. Gelbach, "When Do Covariates Matter? And Which Ones, and How Much?," *Journal of Labor Economics* 34 (2) (2016): 509–543, available at <https://www.journals.uchicago.edu/doi/abs/10.1086/683668>.

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