

Undercount of Undocumented Residents in the 2020 American Community Survey and Estimates and Trends in the Undocumented Population from 2010 to 2020, by US State and Country of Origin

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Executive Summary

This report shows estimates of the undocumented population residing in the United States from 2010 to 2020, by US state of residence and country of origin. The estimates are based primarily on data from the American Community Survey (ACS) collected annually by the US Census Bureau.¹ As it does each year, the Center for Migration Studies of New York (CMS) assessed the accuracy of the ACS data for 2020 for the noncitizen population from more than 150 countries or areas of origin. The CMS analysis determined that almost one million undocumented residents were omitted from the 2020 ACS. The paper then segues into an extensive discussion of trends in the undocumented population for US state and country of origin over the 2010 to 2020 period.

Keywords

undercount, undocumented population, American community survey

Introduction

This study begins by describing the methods CMS used to adjust the undocumented portion of 2020 ACS data for undercount. It finds that one million undocumented residents were omitted in 2020. Its analysis indicates that undercount was *not* widespread among the foreign-born population overall but was limited almost exclusively to undocumented residents.

The paper then segues into a discussion of trends in the undocumented population for US states and by country of origin over the decade² from 2010 to

2020. The most notable aspect of the estimates over this period is the 2.2 million decline of the undocumented population from Mexico. The undocumented population from Mexico declined in all but two states from 2010 to 2020, and it fell by 815,000 in California alone. The paper finds that:

- Approximately one million undocumented residents were omitted from the 2020 ACS.

¹Data from IPUMS USA. See Ruggles et al. (2022).

²The data collected in the ACS are “as of” July 1 each year. So, many of the estimates described here are for the decade from July 1, 2010 to July 1, 2020. For ease of reference, this period is referred to as 2010 to 2020.

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- The undocumented population remained near zero growth in 2020, declining slightly from 10.3 million in 2019 to 10.2 million in 2020.
- From 2010 to 2020, the undocumented population from Mexico declined by one third, dropping from 6.6 million in 2010 to 4.4 million in 2020.
- The undocumented population from Mexico declined in all but two states from 2010 to 2020. It dropped by 49 percent in New York, 40 percent in California, 38 percent in New Jersey, 36 percent in Illinois, and 20 percent in Texas.
- From 2010 to 2020, the undocumented population from 11 countries increased by 10,000 or more, and the undocumented population from 14 countries declined by 10,000 or more, led by Mexico with a net loss of 2.2 million.
- The undocumented population of three Central American countries combined – El Salvador, Guatemala, and Honduras – increased by 565,000 from 2010 to 2020. The two other countries with increases of 50,000 or more during the decade were India (220,000) and Venezuela (155,000).
- The undocumented population from two important sending countries stopped growing during the decade – China after 2015 and India after 2018.

Undercount of the Undocumented Population in the ACS in 2020

In this section, undercount refers to omissions of undocumented residents *in addition* to the usual adjustments for undercount CMS and other organizations make in the ACS data each year. The undercount described here for 2020 is a unique occurrence in the annual ACS time series. The estimates of undercount were developed by CMS based on a detailed analysis of trends in annual numbers of undocumented residents *counted*³ for about 145 countries or areas in the 2010 to 2019 ACS. The

analysis indicated that annual fluctuations in the data for countries with 10,000 or more undocumented residents were stable enough to derive expected population estimates for 2020.

Estimated undercount in 2020 is the difference between the expected population in 2020 and the number counted in the ACS (Table 1). For most countries,⁴ an expected number for 2020 was derived from population trends observed from 2016 to 2019. Based on this methodology, CMS estimates that approximately one million undocumented residents were omitted from the 2020 ACS.

Adjustments were derived for the 16 countries that had: (1) 10,000 or more undocumented residents counted in the 2019 ACS; and (2) a drop of 10 percent or more in the count of the undocumented population from 2019 to 2020. The “extra”⁵ undercount in the 2020 ACS appears to have occurred almost exclusively to the undocumented population. Similar detailed analyses of ACS data for the naturalized population and for noncitizens that arrived before 1982, using the evaluation techniques described, found that the counts for these two populations in 2020 were very close to the expected populations. This finding indicates that undercount in the 2020 ACS was *not* widespread among the total foreign-born population, but that the large percent undercounts shown in Table 1 were limited almost exclusively to undocumented residents.

Table 1 shows the annual data and methods used to adjust the 2020 ACS data for undercount. The information at the bottom of the table describes the procedures used. Essentially, the adjusted estimate for each country for 2020 was derived by assuming a continuation of recent trends in annual population change for each country. For El Salvador, Guatemala and Honduras, the *largest* annual change from 2015 to 2019 was added to the population in 2019 to derive

estimates using population controls devised by CMS. The methodology is described in Warren (2021).

³For El Salvador, Guatemala, and Honduras, the expected number for 2020 was the population in 2019 plus the largest population change over the previous four years.

⁴“Extra” undercount refers to the unusually large undercount that occurred in 2020 in addition to the undercount that occurs in every ACS and is accounted for by all organizations that publish estimates of undocumented residents.

³In the CMS estimation procedure, the estimated number counted in the ACS is the noncitizen population that arrived after 1981, minus those judged to be legal residents based on their responses to the questionnaire, adjusted down to final

Table 1. Adjustment for Undercount of the Undocumented Population Counted in the 2020 ACS, by Country of Origin.

Country of origin	Estimated undocumented residents counted in the ACS						Adjusted 2020 (7) see below 9,532	Percent adjustment (8) = (7-6)/(7) X100
	2015 (1)	2016 (2)	2017 (3)	2018 (4)	2019 (5)	2020 (6)		
Total	10,305	10,076	9,930	9,852	9,647	8,560		
Mexico	5,480	5,345	4,983	4,836	4,498	3,929	4,216	7%
El Salvador	595	590	632	644	668	552	710	22%
Guatemala	475	478	509	532	613	442	693	36%
Honduras	336	385	351	357	428	332	499	33%
Nicaragua	61	57	57	54	47	36	43	15%
Haiti	120	115	110	107	106	87	104	16%
Jamaica	94	87	86	80	92	67	94	29%
Argentina	33	35	28	31	35	26	35	27%
Bolivia	16	20	12	14	17	10	17	41%
Peru	105	72	81	74	68	56	67	16%
Poland	54	46	44	37	39	32	37	14%
Thailand	32	32	34	28	27	23	25	9%
Pakistan	45	51	45	44	45	37	43	14%
Nepal	39	33	36	33	36	27	36	26%
Ghana	29	29	27	28	28	22	27	19%
Kenya	30	26	20	28	26	22	26	17%
All other	2,761	2,675	2,876	2,925	2,873	2,859	2,859	—

Note: In thousands. Estimates are based on unrounded numbers.

Source: Columns 1 to 6: CMS estimates derived from ACS data. See Warren (2021) for estimation procedures. Column 7: For El Salvador, Guatemala, and Honduras, adjusted 2020 = 2019 + maximum annual change from 2015 to 2019. For all other countries listed here, adjusted 2020 = 2019 + 1/3 of the change from 2016 to 2019.

adjusted estimates for 2020. For the other countries shown in Table 1, *one third* of the change from 2016 to 2019 was added to the 2019 population to derive adjusted estimates for 2020.

Total undercount in the 2020 ACS was almost one million (column 7 minus column 6) for undocumented residents from the 16 countries shown in Table 1. A large share of the undercount was for the Hispanic population. These findings have important implications for evaluating the 2020 census count and for the post-censal population estimates that will be used as population controls for the ACS in the coming decade. Unfortunately, those issues are outside the scope of this report.

Figure 1 illustrates the importance of adjusting the 2020 ACS data for undercount. It shows trends in the undocumented population from Guatemala counted in the ACS from 2010 to 2020, including the count and the adjusted figure for 2020. The fact that the undocumented population from Guatemala had a large undercount in the 2020

ACS is obvious in Figure 1. The sudden drop in the undocumented population counted in the ACS in 2020 is not credible.

No information is available to assess the accuracy of the adjustments of 2020 ACS data shown here. In the case of Guatemala, the assumption is that actual population growth from 2019 to 2020 is equal to the largest increase for any year since 2015. While that assumption seems plausible, it is also possible that population growth for Guatemala and some of the other countries might have slowed somewhat because of the onset of the pandemic in March 2020. If that were the case, the CMS estimates of the total undocumented population in 2020 would be overstated.

Estimates of the Undocumented Population by State of Residence

The undocumented population in the United States has declined gradually since the population peaked

Figure 1. Undocumented Population from Guatemala Counted in the ACS: 2010 to 2020.

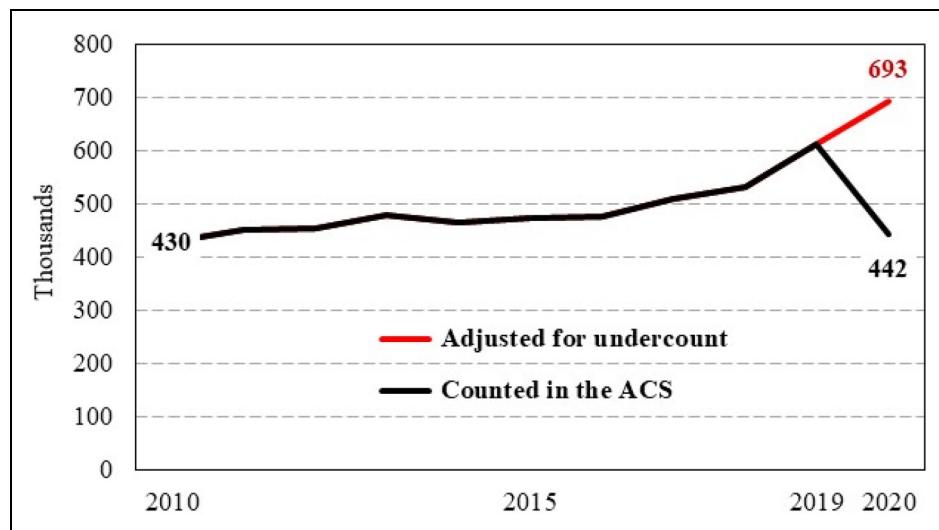
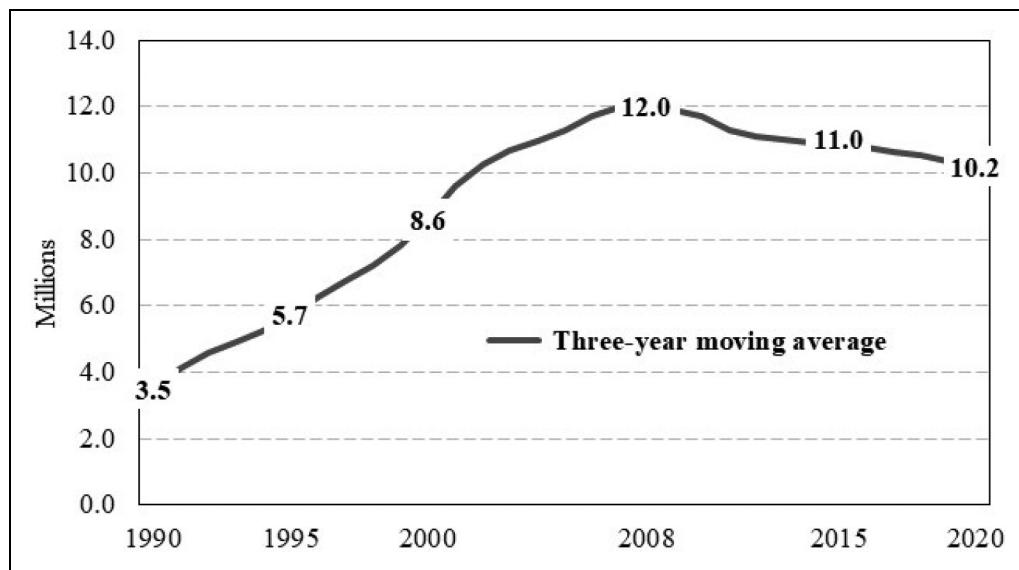


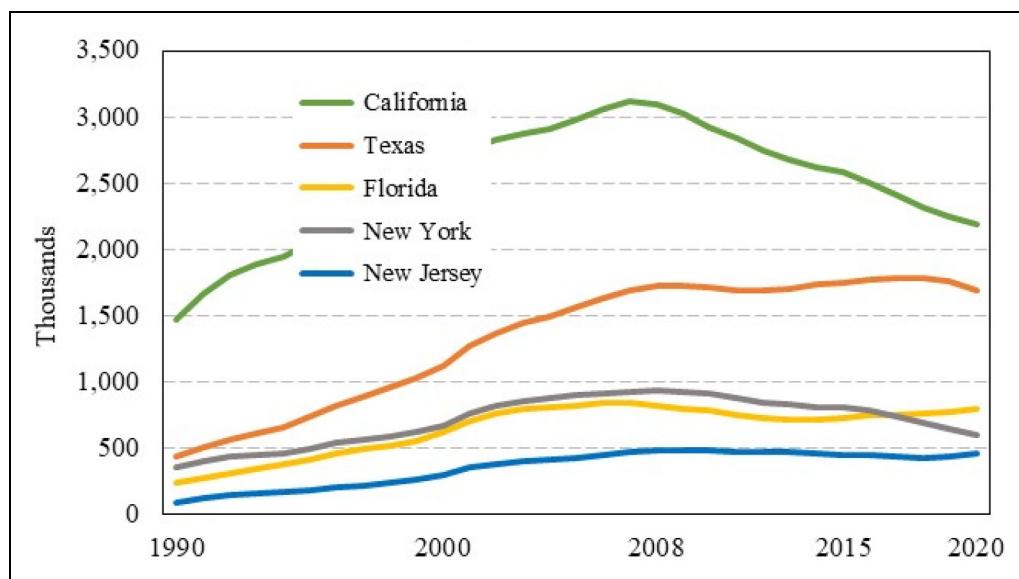
Figure 2. Total Undocumented Population Residing in the United States: 1990 to 2020.



at about 12 million in 2008. The population grew steadily from 1990 to 2008 and then declined to 10.2 million in 2020 (Figure 2). The population stopped growing after 2008 because the number leaving the population exceeded the number arriving. In other words, the population reached zero growth, and it has remained slightly below zero growth since 2008. Figure 2 provides an overview of the total undocumented population from 1990 to 2020. Annual estimates are available for each State from 1990 to 2010 (Warren and Warren 2013) and for 2010 to 2019 (Warren 2021).

California and Texas have had the largest undocumented populations since empirical estimates of this population were first derived in the 1980s. The two states combined had about 55 percent of the population in 1990. That percentage dropped to 38 percent in 2020, mostly because the undocumented population in California declined rapidly after 2008 (Figure 3). The five states shown in Figure 3 had the largest undocumented populations in 2020, and each state had a smaller undocumented population in 2020 than in 2008.

The decline in the undocumented population in California after 2008 was largely the result of a

Figure 3. Undocumented Population Trends, 1990 to 2020: top 5 States in 2020.**Table 2.** Undocumented Population in California: Countries with Population Change of 10,000 or More from 2010 to 2020.

Country	2010	2020	Change	Percent
Total California	2,916	2,202	-714	-24%
Countries that declined by 10,000 or more in CA from 2010 to 2020				
Mexico	2,015	1,201	-815	-40%
Philippines	109	62	-48	-44%
Korea	69	41	-28	-41%
Countries that increased by 10,000 or more in CA from 2010 to 2020				
India	68	117	49	73%
Guatemala	127	170	43	34%
China	79	117	38	48%
El Salvador	165	189	25	15%
Honduras	30	44	14	45%
All other	253	261	8	3%

Note: Numbers in thousands. Countries ranked by population change.

Source: Center for Migration Studies. See text for methodology.

drop in the number of undocumented immigrants from Mexico living in California. Table 2 shows the eight countries that had undocumented population changes of 10,000 or more in California from 2010 to 2020. The number from Mexico declined by 815,000 (Table 2).

Table 3 shows undocumented population change by US state between 2010 and 2020. As with all the

estimates in this report, the figures in Table 3 are subject to sampling and other types of error, and they should be used with caution. However, the overall pattern of changes by state and area of origin can be instructive. For example, the population in Georgia declined by 48,000 because increases from Central America and other countries (42,000 and 20,000, respectively) were more than offset by the decline of 110,000 undocumented residents from Mexico (Table 3). The population in Texas was essentially unchanged from 2010 to 2020 because the population from Mexico declined by 267,000 while the population from Central America and the rest of the world combined increased by 261,000 (Table 3).

It is unusual for data to be shown for States with smaller populations, especially if the data are subdivided as they are in Table 3. However, the level of detail is included here to illustrate the nationwide effect of the decline in the undocumented population from Mexico. The undocumented population from Mexico declined in all 15 states listed in Table 3. In 13 of the 15 states, the undocumented population from Mexico declined more than the state's overall undocumented population.⁶ If not for the population data for Mexico, the undocumented population would have increased in all of these states, except for Illinois and New York.

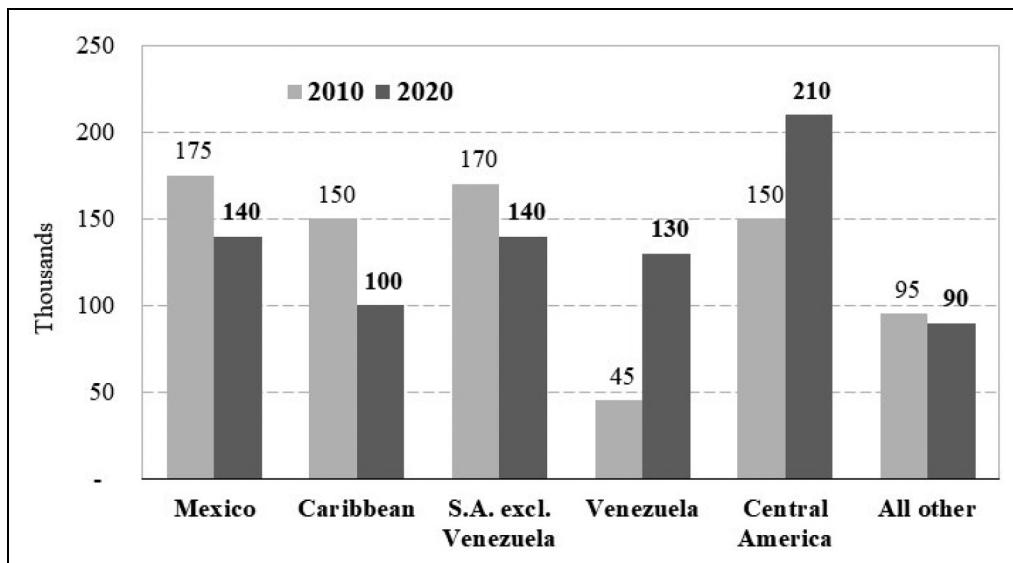
⁶Includes states where the population from Mexico declined and the total population increased.

Table 3. Undocumented Population in 2020 and Change Since 2010, by Broad Area of Origin: Top 15 States in 2020.

State	Total population		Mexico		Central America		All other countries	
	Population in 2020	Change '10-'20	Population in 2020	Change '10-'20	Population in 2020	Change '10-'20	Population in 2020	Change '10-'20
US total	10,210	-1,515	4,445	-2,160	2,120	615	3,645	25
CA	2,202	-714	1,201	-815	413	73	588	28
TX	1,713	-6	1,062	-267	355	166	296	95
FL	813	27	141	-36	211	59	461	4
NY	606	-311	102	-100	102	-15	401	-197
NJ	461	-26	67	-41	106	33	287	-18
IL	412	-182	253	-144	19	-2	140	-36
GA	348	-48	129	-110	96	42	123	20
NC	304	-31	136	-83	96	39	73	13
WA	278	38	119	-32	38	29	121	41
VA	245	-7	34	-9	110	19	100	-16
MD	243	5	18	-11	129	26	96	-10
AZ	225	-74	181	-80	15	4	30	3
MA	180	9	6	-4	38	9	137	4
PA	178	27	29	-20	34	25	114	21
NV	171	-15	110	-24	33	16	27	-7
Other	1,831	-210	857	-382	325	93	649	79

Note: In thousands. Ranked by 2020 estimates.

Source: Center for Migration Studies. See text for methodology.

Figure 4. Change in the Undocumented Population of Florida, by Area of Origin: 2010 to 2020.

Change in the total undocumented population in a state is the net result of in and out migration from many countries of origin. The small increase of 27,000 in the undocumented population residing in Florida from 2010 to 2020 masks the large numbers of arrivals and departures of undocumented

migrants from different regions of the world. The combined undocumented population in Florida from Mexico, the Caribbean, and South America (excluding Venezuela) declined by 115,000 from 2010 to 2020 (Figure 4). Those declines were more than offset by a combined increase of

145,000 undocumented residents from Venezuela and Central America.

The 197,000 decline in the undocumented population in New York from “All other countries” was much larger than the declines for any other state (Table 3). This reflects both the diversity of origin of undocumented residents in New York and the fact that the undocumented population from many of those countries declined from 2010 to 2020.

Estimates of the Undocumented Population by Country of Origin

The substantial nationwide decline in the undocumented population from Mexico, described in the context of state estimates, is the most salient feature of undocumented migration from 2010 to 2020. The total undocumented population from Mexico declined by one-third, from 6.6 million to 4.4 million, during this period (Table 4). The Mexican undocumented population in California declined by 815,000, and the Mexican undocumented population in Texas dropped by 267,000 (Table 3).

Excluding Mexico, the five countries with the largest declines in undocumented residents from 2010 to 2020 were Ecuador (−80,000), Philippines (−75,000), Korea (−75,000), Poland (−55,000), and Peru (−55,000) (Table 4).

The five countries with the largest growth from 2010 to 2020 were Guatemala (280,000), Honduras (230,000), India (220,000), Venezuela (155,000), and El Salvador (145,000) (Table 4). The undocumented population from Venezuela more than tripled during the decade, increasing from 65,000 in 2010 to 220,000 in 2020. Almost all the population increase from Venezuela occurred after 2014.

As the figures in Table 4 demonstrate, the undocumented population from some countries increased over the 2010 to 2020 period while the population from other countries declined. The sum of these changes makes up total population change over the decade.

As noted, the decline of 2.2 million in the undocumented population from Mexico from 2010 to 2020 was the major demographic event of the decade. The next section shows graphs that illustrate trends for other countries that had much smaller populations and changes than Mexico but, in many cases, had larger percentage changes.

Table 4. Countries with Undocumented Population Change of 10,000 or More: 2010 to 2020.

Country	2010	2020	Change	Percent
All countries	11,725	10,210	−1,515	−13%
<i>Countries with declines of 10,000 or more undocumented residents from 2010 to 2020</i>				
Mexico	6,600	4,445	−2,160	−33%
Ecuador	175	95	−80	−46%
Philippines	245	170	−75	−31%
Korea	205	130	−75	−36%
Poland	95	40	−55	−58%
Peru	125	70	−55	−42%
Nicaragua	75	45	−30	−39%
Trinidad and Tobago	45	25	−20	−45%
Haiti	135	115	−20	−15%
Uruguay	25	10	−15	−62%
Yugoslavia	15	—	−10	−84%
Vietnam	110	100	−10	−10%
Thailand	40	25	−10	−28%
<i>Countries with increases of 10,000 or more undocumented residents from 2010 to 2020</i>				
Guatemala	465	745	280	60%
Honduras	315	545	230	74%
India	365	585	220	60%
Venezuela	65	220	155	235%
El Salvador	615	760	145	24%
Nigeria	25	75	45	172%
China	295	340	45	15%
Brazil	140	170	30	20%
Nepal	25	40	15	72%
Micronesia	10	25	10	100%
Uganda	5	15	10	200%

Note: Numbers rounded to 5,000s. Countries ranked by population change.

Source: Center for Migration Studies. See text for methodology.

Figure 5 shows undocumented population declines for the five countries listed after Mexico in Table 4. Percent decline for these countries ranged from 31 percent (Philippines) to 58 percent (Poland). Combined, the undocumented population from these five countries declined by about 340,000 from 2010 to 2020 (Table 4).

The decline of one third to one half or more for most of the countries listed in the top panel of Table 4 illustrates a facet of undocumented (as well as documented) immigration that is often overlooked – emigration from the United States. A relatively

Figure 5. Decline in the Undocumented Population from Selected Countries: 2010 to 2020 (3-Year Moving Averages in 5,000s).

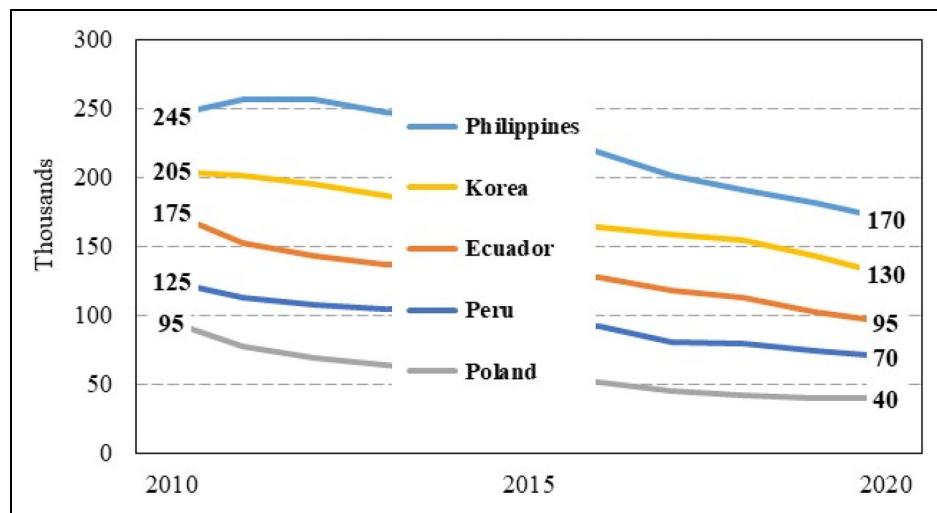
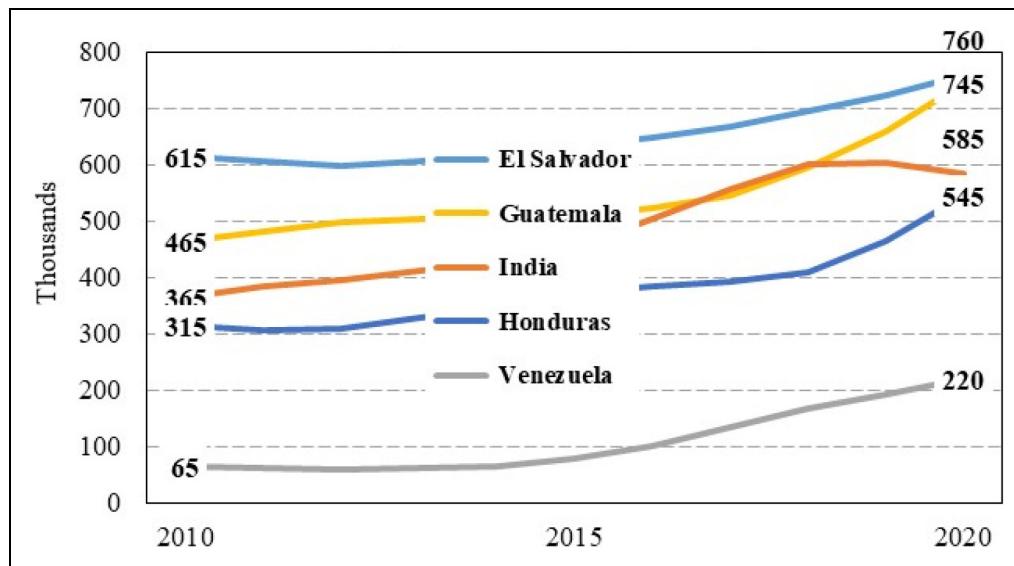


Figure 6. Increase in the Undocumented Population from Selected Countries: 2010 to 2020 (3-Year Moving Averages in 5,000s).



small portion of the declines is the result of deaths, adjustments to legal status, and removals by DHS, but the primary reason for the declines shown in Table 4 and Figure 5 is that between 2010 and 2020 more undocumented residents emigrated than arrived. Emigration trends for 2010 to 2020, including the large increase in the number leaving after 2015, are described in Warren (2021).

The five countries with the fastest growing undocumented populations from 2010 to 2020 were

Guatemala, Honduras, India, Venezuela, and El Salvador (Table 4, lower panel). The populations of each of the five countries increased faster after 2015 than they did before 2015 (Figure 6).

China had the fourth largest US undocumented population in 2010 and would have been expected to be in the top five fastest growing countries in 2020. However, the undocumented population from China stopped growing after 2015, and the population declined by 45,000 from 2015 to

2020.⁷ The population from India grew rapidly from 2010 to 2018, increasing from 365,000 in 2010 to 600,000 in 2018, but the population stopped growing after 2018 (Figure 6). Trends in undocumented population growth from these two important sending countries will help determine the direction of undocumented population change in the coming decade.

Summary

The total undocumented population in the United States declined gradually from 2010 to 2020. The population from Mexico dropped by 2.2 million, falling from 6.6 million in 2010 to 4.4 million in 2020. As described in Warren (2021), return migration to Mexico, especially in the period after 2015, was mostly responsible for the decline.

The undocumented population from Mexico declined from 2010 to 2020 in each of the 15 states that had the largest undocumented populations in 2020 (Table 3). The largest declines in the population from Mexico were in California (-815,000) and Texas (-267,000), but three other states – New York, Illinois, and Georgia – each lost 100,000 or more. On the other hand, the undocumented population from Central America increased in all but two of the 15 top states (Table 3).

Change in the total undocumented population in a state is the result of net migration from many countries of origin. In Florida, increases in the undocumented population from Central America and Venezuela offset declines in the combined populations from Mexico, the Caribbean, and South America (excluding Venezuela) (Figure 4). The net result was an increase of just 27,000 from 2010 to 2020 (Table 3.)

The decline of one third in the undocumented population from Mexico from 2010 to 2020 is the most striking feature of undocumented migration from 2010 to 2020. However, as the data in Table 3 indicates, the *rate* of population decline exceeded the rate for Mexico for six countries of origin – Ecuador,

Korea, Poland, Peru, Nicaragua, and Trinidad and Tobago.

The undocumented population from five countries of origin increased rapidly from 2010 to 2020. The combined populations from three Central American countries – Guatemala, Honduras, and El Salvador – increased from 1.4 million in 2010 to 2.0 million in 2020 (Table 4). The population from Venezuela increased from 65,000 in 2010 to 225,000 in 2020, with almost all the growth occurring from 2015 to 2020. The undocumented population from India increased by 60 percent during the decade, but that population was largely unchanged after 2018.

This paper has mapped the patterns of undocumented population change from 2010 to 2020, by state of residence and country of origin. There is no assurance that these patterns, especially the remarkable decline for Mexico, will hold for the next decade. In the latter part of the decade, apprehensions by DHS at the southern border increased to levels not recorded in decades, and asylum claims by migrants from Central America and other countries reached their highest level in many years.

At this point, it is difficult to guess whether increases in apprehensions portend increases in the undocumented population over the next few years. It is too soon to tell how many new *residents* have arrived since 2020, how many will settle in the United States, and how many of those who settle will join the undocumented population or will gain legal status. If the large increases in emigration continue, the undocumented and total foreign-born population are likely to remain near zero population growth (Warren 2021).

Conclusion and Recommendations

This study has two inter-related topline findings. It finds that the ACS undercounted the US undocumented population in 2020 by nearly one million persons and that the US undocumented population continued its long decline in 2020. Past CMS reports have argued in favor of a broad legalization program for this population and an immigration system characterized by a more responsive and robust legal immigration system, and a permanently reduced undocumented population (Kerwin and Warren 2017; Kerwin, Pacas and Warren 2022).

⁷CMS has derived estimates of the undocumented population from each country included in IPUMS annually for 2010 to 2020. The information in this paragraph is based on those estimates, which are not shown here.

The policies that could achieve these goals have been well articulated. However, the undercount of the undocumented and the failure to “legalize” the US immigration system reflect a far different vision of the contributions and importance of immigrants and their families to our nation’s life.

Declaration of Conflicting Interests

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References

- Kerwin, Donald, José Pacas, and Robert Warren. 2022. “Ready to Stay: A Comprehensive Analysis of the US Foreign-Born Populations Eligible for Special Legal Status Program and for Legalization Under Pending Bills.” *Journal on Migration and Human Security* 10(1): 37–76. <https://journals.sagepub.com/doi/full/10.1177/23315024211065016>.
- Kerwin, Donald, and Robert Warren. 2017. “National Interests and Common Ground in the US Immigration Debate: How to Legalize the US Immigration System and Permanently Reduce Its Undocumented Population.” *Journal on Migration and Human Security* 5(2): 297–330. <https://journals.sagepub.com/doi/10.1177/233150241700500205>.
- Ruggles, Steven, Sarah Flood, Ronald Goeken, Megan Schouweiler, and Matthew Sobek. 2022. *IPUMS USA: Version 12.0 [Dataset]*. Minneapolis, MN: IPUMS. <https://doi.org/10.18128/D010.V12.0>.
- Warren, Robert. 2021. “In 2019, the US Undocumented Population Continued a Decade-Long Decline and the Foreign-Born Population Neared Zero Growth.” *Journal on Migration and Human Security* 9(1): 31–43. <https://doi.org/10.1177/2331502421993746>.
- Warren, Robert, and John R. Warren. 2013. “Unauthorized Immigration to the United States: Annual Estimates and Components of Change, by State, 1990 to 2010.” *International Migration Review* 47(2): 296–329. <https://doi.org/10.1111/imre.12022>.