

Geographic Disparity in the U.S. Population

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Recently released Bureau of Economic Analysis data show that less than 3 percent of counties produce half of the gross domestic product (GDP) for the entire U.S.¹ This essay takes a look at the distribution of population across the U.S. using Census data.

The Census estimates that in 2018, 327 million people lived in the U.S. across more than 3,000 counties. A mere 140, or 4.5 percent, of counties were home to about 50 percent of those people. Los Angeles County in California is the largest and individually accounts for 3 percent of the U.S. population—that is more than most states. In fact, if Los Angeles County were its own state, it would be the 10th most populous in the U.S.

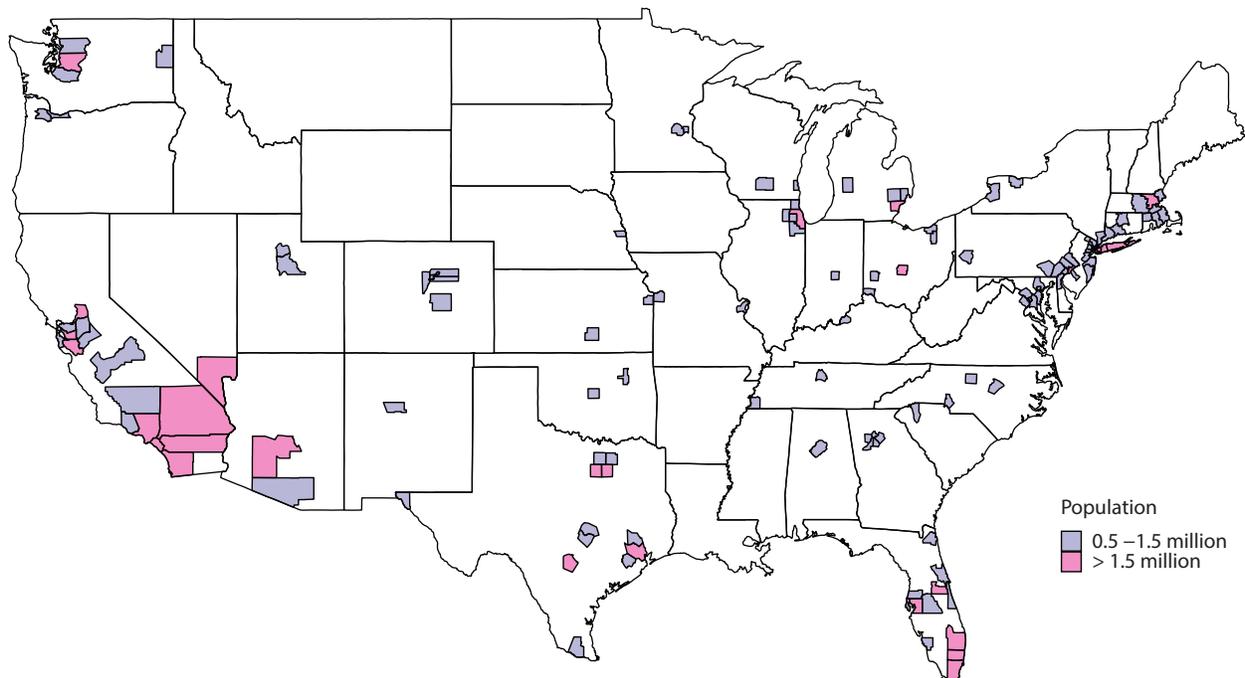
Los Angeles County is not the only place where population is concentrated. Figure 1 plots the locations of the aforementioned 140 counties that account for about half the population.² Notice that the remaining 50 percent of

the population is spread out over the remaining white space.

For some perspective on the land area, consider that all 140 of these counties would fit into California and Florida—with space to spare. Put differently, about 50 percent of the U.S. population lives on less than 200,000 square miles, while the rest is spread over more than 3 million square miles!

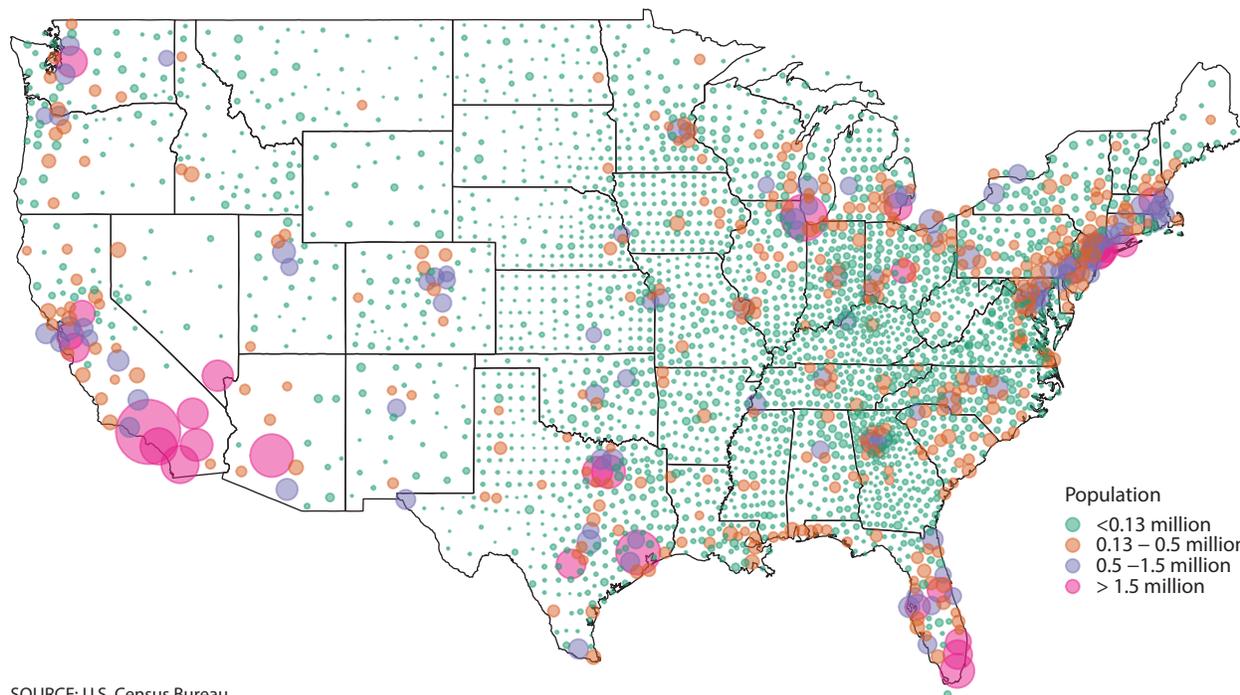
Figure 2 illustrates the geographic distribution of the U.S. population across all counties. Each county in the figure is represented by a circle whose size corresponds to the number of people living in that county. Each circle color corresponds to a group of counties that sums to approximately 25 percent of the total population. Thus, all of the counties marked by green circles together contain the same amount of people as the counties marked by each of the other colors.

Figure 1
Top 140 Counties by Population in 2018



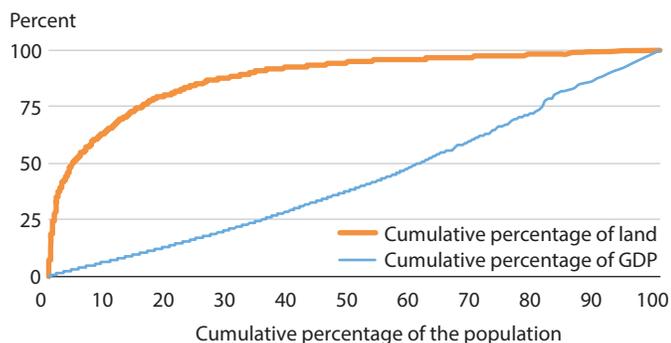
SOURCE: U.S. Census Bureau.

Figure 2
2018 Population by County



SOURCE: U.S. Census Bureau.

Figure 3
Geographic Distribution of the U.S. Population and GDP



SOURCE: U.S. Census Bureau, Bureau of Economic Analysis, and authors' calculations.

We see from Figure 2 that much of U.S. population is concentrated on the coasts, with large clusters in the Northeast and California. In fact, the modern states associated with the original 13 colonies—New Hampshire, Massachusetts, Connecticut, Rhode Island, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, North Carolina, South Carolina, and Georgia—had 80 million people in 2018.

About half the U.S. population resides on less than 200,000 square miles; the rest is spread over more than 3 million square miles.

Figure 3 illustrates how population and GDP are spread across the U.S. We rank counties from the least to most populated and plot the cumulative percentage of the population along the *x*-axis. Then, in the blue line, we plot the cumulative percentage of GDP. For example, the graph shows that the 60 percent of U.S. citizens living in the least-populated counties produce about 50 percent of U.S. GDP.³ The orange line is similar but plots the cumulative land occupied by each percentile of the population. Here, the least-populated counties—in which only 4 percent of the U.S. population lives—account for over 50 percent of the total land. Thus, while GDP per capita is relatively evenly distributed across counties, there is large dispersion in the number of people per square mile. ■

Notes

¹ See Ravikumar, B. and Reinbold, Brian. "Geographic Disparity in U.S. Output." Federal Reserve Bank of St. Louis *Economic Synopses*. 2020, No 5; <https://research.stlouisfed.org/publications/economic-synopses/2020/03/06/geographic-disparity-in-u-s-output>.

² Honolulu County in Hawaii (one of the top 140 by population) is not plotted in the figure, but is included in the calculation on whether the 140 counties would fit into Florida and California.

³ This assumes that county GDP is generated by the people living in that county. County employment is positively correlated with county population; the correlation coefficient is 63 percent.

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