Homelessness in the U.S., California and Los Angeles

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America has a homelessness problem. We know it because we can see it from time to time when we walk down the street, when we drive through an underpass, or when we look out from the bus window. But how bad is it? This report will provide some data and statistics to understand the problem of homelessness, and we will try to address what causes it and what influences the problem differentially across the country.

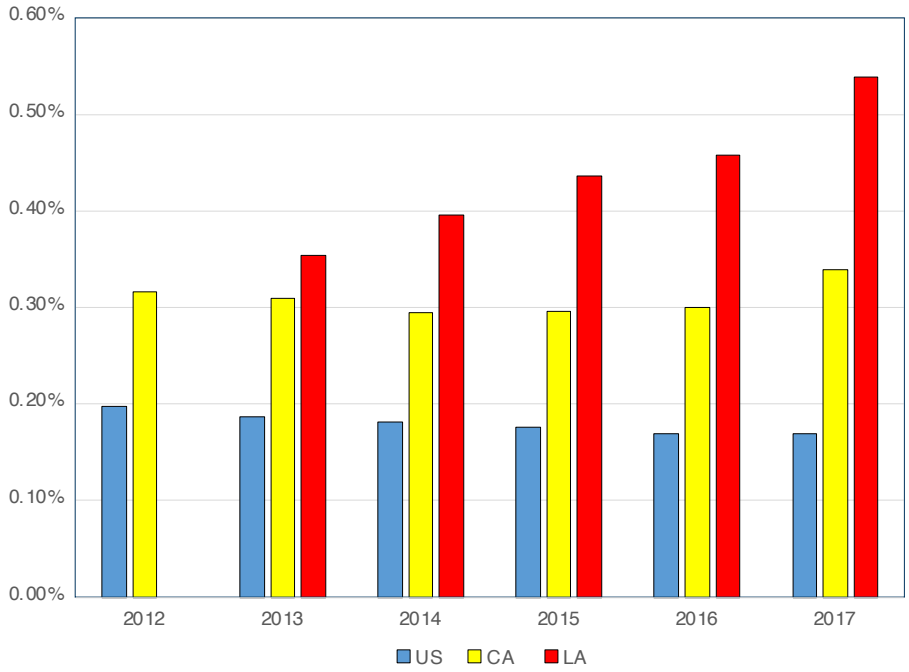
Figure 1 displays the percentage of homeless people over the total population in the U.S., California, and Los Angeles County from 2012 to 2017. We can see that while the percentages of homeless people in the country and in California remain stable, the homeless percentage has been rising rapidly in L.A. County over the past several years. The homeless rate in the U.S. declined from 0.2% in 2012 to 0.17% in 2017, in California it increased from 0.32% to 0.34% while in L.A., it increased from 0.35% (35,500 people) in 2013 to 0.54% (55,000) in 2017.[1] The statistics in L.A. reflect what L.A. residents have experienced in daily life.

Figure 2 shows the percentage of the unsheltered homeless population over the total population in the U.S., California, and Los Angeles County. The U.S.'s unsheltered homeless rate decreased from 0.07% in 2012 to 0.06% in 2017, California's increased from 0.2% in 2012 to 0.23% in 2017, while L.A.'s increased from 0.23% (22,600) in 2013 to 0.39% (40,000) in 2017.[1] Similar to Figure 1, the unsheltered homeless population in L.A. has risen dramatically in the past several years. And L.A. and California have much higher unsheltered percentages than the nation: 73% in L.A. and 68% in California compared to 35% in the nation. In short, the homeless problem is quite bad in L.A.

Figure 3 presents the homeless percentages by state. The region with the highest rate of homelessness is Washington D.C. (1.08%) followed by Hawaii (0.51%), New York (0.45%), California (0.34%), Oregon (0.34%), and Washington (0.29%). Figure 4 lists the percentage of homeless people that are unsheltered. Hawaii has the highest percentage of unsheltered homeless (0.27%), followed by

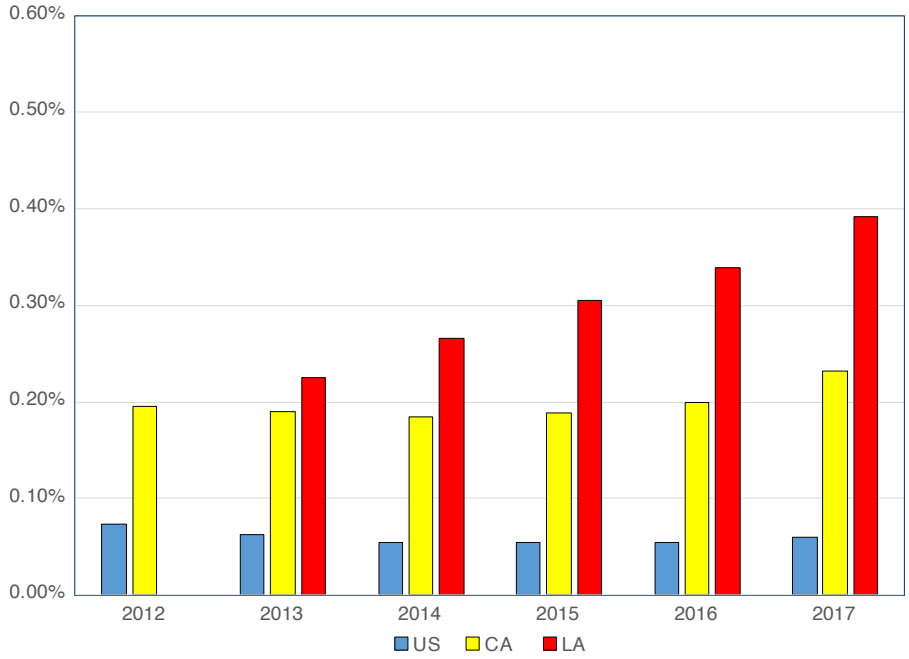
1. *The latest data for Los Angeles County in 2018 show that there are 53,000 homeless people (0.52% of the population), of which 40,000 are unsheltered (0.39%). By and large, the homeless problem remains severe.*

Figure 1 The Percentage of Homeless Over the Total Population in the U.S., California, and Los Angeles County



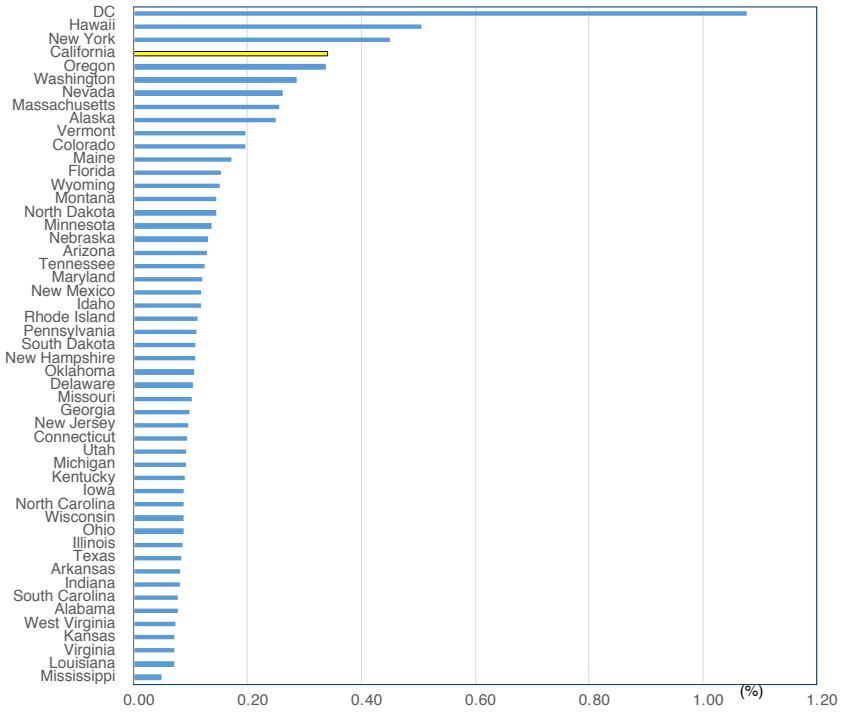
Source: HUD Continuum of Care Homeless Assistance Programs, Los Angeles Homeless Services Authority (LAHSA), U.S. Census, and California Department of Finance
Note: The percentage of homeless in L.A. in 2014 is an extrapolation from 2013 and 2015 because of the lack of data in 2014.

Figure 2 The Percentage of Unsheltered Homeless Over the Total Population in the U.S., California, and Los Angeles County



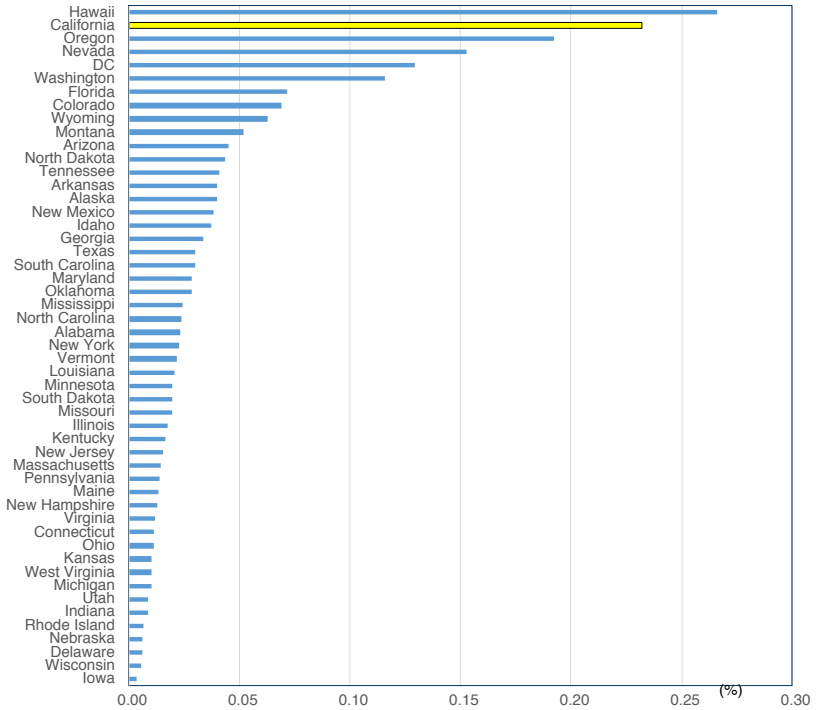
Sources: HUD Continuum of Care Homeless Assistance Programs, Los Angeles Homeless Services Authority (LAHSA), U.S. Census, and California Department of Finance
Note: The percentage of unsheltered homeless in L.A. in 2014 is an extrapolation from 2013 and 2015 because of the lack of data in 2014.

Figure 3 The Percentage of Homeless Over the Total Population by State, 2017



Sources: HUD Continuum of Care Homeless Assistance Programs, U.S. Census

Figure 4 The Percentage of Unsheltered Homeless Population Over the Total Population by State, 2017



Source: HUD Continuum of Care Homeless Assistance Programs, U.S. Census

California (0.23%). In contrast, Iowa has the lowest percentage of unsheltered homeless (0.003%).

What Causes the Disparity in Homeless Rates Across the Country?

If we can understand why there is a wide variation in the percentage of total homeless and unsheltered homeless as shown in Figures 3 and 4, we might better answer why there is a rising tide of homelessness in Los Angeles as shown in Figures 1 and 2.

Literature Review

There are two kinds of empirical studies of American homelessness problems. The first focused on region-level data and found that housing market conditions have significant impact on the homelessness. For example, Quigley, Raphael, and Smolensky (2001)[2] argued that availability and pricing of housing and the growth in demand for the lowest-quality housing explain a large portion of the variation in homelessness among U.S. metropolitan housing markets. They suggest modest improvements in the affordability of rental housing or its availability can substantially reduce homelessness.

The second focused on individual-level data and found personal characteristics, such as the size of mentally ill population outside of state psychiatric facilities or poverty population. For instance, Dirk Early (1999)[3] argued that older males with low incomes and high levels of depression are more likely to be homeless. He suggests (1) cash transfers to the very poor to reduce the likelihood of becoming homeless and (2) a weakening of housing codes to increase the availability of inexpensive, low-quality rental housing.

Brendan O'Flaherty (2001)[4] argued that both reasons are important. He suggested that homelessness arises from a conjunction of bad circumstances—having the wrong kind of personal characteristics in the wrong kind of housing market.

Empirical Results

We use the homeless data from HUD (Department of Housing and Development) for the 50 states[5] in 2012 and 2017. By using two periods of data with different values of variables such as median rent and median home value, we will be able to glean insights from these 100 observations. We identify five factors which are correlated with the homeless rates among 50 states in 2012 and 2017 with statistical significance in the following multivariate regression with a pretty good adjusted R-squared of 0.61.

Equation 1

Homeless percentage	=	α +	β1**Median home value*	+ β2* *Median rent*	+ β3**Median household income*	+ β4**Housing supply growth*	+ β5**Population density*
(estimator)		0.17	**0.0008**	**0.0002**	**-0.006**	**-0.23**	**-0.0001**
(t-stat)		(3.6)	**(5.1)**	**(2.7)**	**(-5.2)**	**(-2.7)**	**(-4.3)**
Adj. R squared = 0.61			Observation = 100			Equation 1	

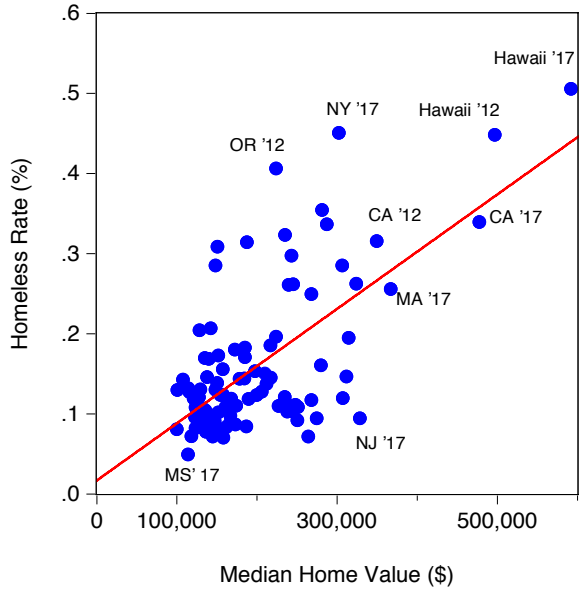
2. *John Quigley, Steven Raphael, and Eugene Smolensky (2001), "Homeless in America, Homeless in California," Review of Economics and Statistics, 83(1): 37-51.*
3. *Dirk Early (1999), "A Microeconomic Analysis of Homelessness: An Empirical Investigation Using Choice-Based Sampling," Journal of Housing Economics, 8: 312-27.*
4. *Brendan O'Flaherty, (2004) "Wrong Person and Wrong Place: For Homelessness, the Conjunction is What Matters," Journal of Housing Economics, 13: 1-15.*
5. *We exclude D.C. because it is an urban city with a much higher homeless rate compared to 50 states. Nevertheless, the regression result is similar by including D.C.*

Housing Market and Income Factors

1) Median Home Value
(Thousands $; positively correlated)

It is not surprising to see a strong correlation between the median home value and the homeless rate. The more expensive a house is, the more likely people cannot afford it, and therefore we see an increasing chance for some to become homeless. As shown in Figure 5, high-home-price states such as Hawaii and California have higher homeless rates.

Figure 5 Correlation Between the Median Home Value and the Homeless Rate of States

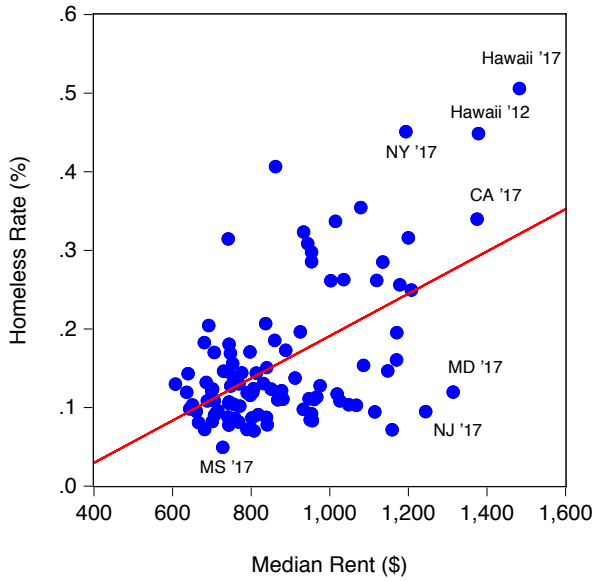


Source: HUD Continuum of Care Homeless Assistance Programs, U.S. Census, and American Community Survey

2) Median Rent ($; positively correlated)

It is interesting to see the median rent to be an additional predictor despite the fact that rent and home value are highly correlated. It still makes perfect sense that a state with higher rent will make rentals less affordable and increase the probability of becoming homeless. Figure 6 displays the positive correlation between the median rent and the homeless rate.

Figure 6 Correlation Between the Median Home Value and the Homeless Rate of States



Source: HUD Continuum of Care Homeless Assistance Programs, U.S. Census, and American Community Survey

3) Median Household Income
(Thousands $; negatively correlated)

A higher median household income in a state indicates a smaller percentage of poor people and signifies that the state will have more resources to help the poor and less fortunate and prevent homelessness. If we replace this income factor with the poverty percentage in a state, we could get a statistical significance result as well (positively correlated).

4) Housing Supply Growth[6] (Negatively correlated)

Besides housing costs, such as housing value and rent as mentioned above, housing supply growth, or lack thereof, provides an additional correlation. The possible explanation is that a state with more housing supply will have more housing units available for those who might be at risk of being homeless. The literature documented that the rental vacancy explains the homelessness although we cannot find the evidence that rental vacancy is statistically significant in our regression. It is possible that housing supply growth is a better measurement than the rental vacancy for availability of affordable housing.

6. *We use the percentage of new housing units from 2000 to 2009 over total housing units in 2009 of a state for the sample period of 2012 and the percentage of new housing units from 2000 to 2016 over total housing units of a state in 2016 for the sample period of 2017. Data is from American Community Survey.*

5) Population Density (Negatively correlated)

Controlling for other factors, states with higher population densities have a lower rate of homelessness. Why? We suggest a possible reason is that a higher density state might have more resources and infrastructure to help the vulnerable from slipping into homelessness.

Personal Characteristics Factors

In addition to the macroeconomic/housing market factors mentioned above, let's look at the personal factors/characteristics which are directly related to homelessness. Based on the data for California in 2017, we know the following statistics:

- 28% of homeless people are chronically homeless
- 26% are severely mentally ill
- 18% are in chronic substance abuse
- 9% are veterans
- 24% are victims of domestic violence
- 12% are unaccompanied youth (under 24 years old)
- 10% are in the age range of 18 to 24

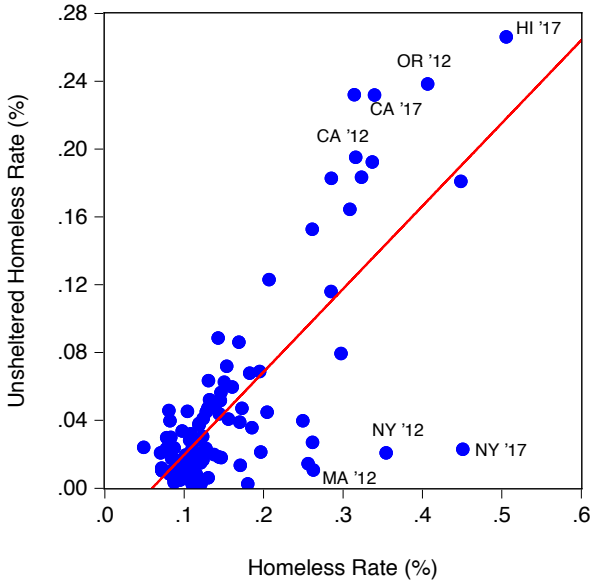
As mentioned in the literature, we believe that these individual at-risk factors interacting with the less affordable housing markets cause the rise of homelessness.

Why Some States Have Higher Unsheltered Homeless Rates Than Others

A state with a higher homeless rate is expected to have a high unsheltered homeless rate as well. The positive relationship is presented with the red line (fitted line) in Figure 7. However, we can see some dispersion across the red line. For instance, New York State has a higher homeless rate but a much lower unsheltered homeless rate compared to California. There should be some policy or welfare program differences among states to explain the disparity, but this report will not examine those.

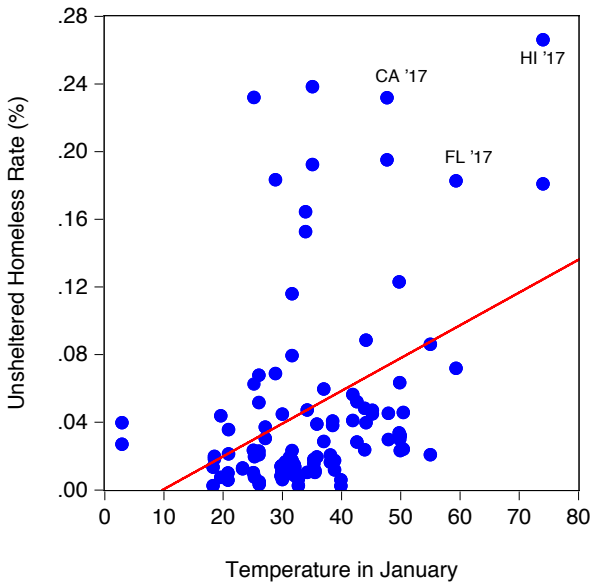
The most common sense reason for the difference in unsheltered population is the weather. Hawaii and California have milder winters than Illinois and New York, for example, and we see higher unsheltered homeless rates in the former states. Homeless people are more likely to stay outdoors rather than in a shelter in a mild Los Angeles January than in a bitter New York or Chicago winter. And local governments in warmer states might feel less urgency to provide shelters because they know homeless people will not be in imminent danger of freezing in the winter time.

Figure 7 Correlation Between the Homeless Rate and Unsheltered Homeless Rate



Source: HUD Continuum of Care Homeless Assistance Programs, U.S. Census

Figure 8 Correlation Between the Average Temperature in January and Unsheltered Homeless Rate



Source: HUD Continuum of Care Homeless Assistance Programs, U.S. Census, NOAA

Equation 2

Unsheltered Homeless percentage	=	α +	β1**Homeless rate*	+	β2* *Temperature in January*	
(estimator)		-0.08	**0.46**		**0.002**	
(t-stat)		(-7)	**(12.8)**		**(5.6)**	
Adj. R squared = 0.69			Observation = 100			Equation 2

Figure 8 and Equation 2 confirm that average temperature indeed has a statistically significant positive correlation with the unsheltered homeless rate.

Conclusions

The takeaways of the report are as follows:

- California and Los Angeles County have a higher rate of homelessness as well as a higher rate of unsheltered homeless people compared to other states. The homeless rate and unsheltered rate have been rising rapidly over the past several years in Los Angeles.
- High housing prices, high rent, and low household income explain why some states have a higher rate of homelessness.
- The unsheltered homeless rates are higher in states with warmer winters.
- High percentages of homeless people suffer from mental illness (26%), substance abuse (18%), and domestic violence (24%).

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