

ReadME

Why should we care about homelessness?

Homelessness is a complex social issue with a variety of underlying social and economic factors. Homelessness has been a significant problem for many years, not only in the United States but also worldwide. Especially in this COVID time, homeless people are more vulnerable to the virus. On a single day, an estimated 202,623 single adults experiencing homelessness are over age 50, suggesting they may be particularly vulnerable to becoming seriously ill during the pandemic crisis.

What are we trying to accomplish?

We are trying to determine how community-level factors across five domains (housing market, economic conditions, local policy factors/available safety net, demographic composition, and climate conditions) predict total homelessness in the United States.

How have we built our program?

Based on the dataset created by 2M Research (which consists of 332 variables across the 5 previously mentioned domains and 3008 observations)

Variables under climate domain was calculated using mean() for different years. However, for the 4-year change in average variables we used the change value.

Links to data and data dictionary [here](#). We used data cleansing in Python 3 to clean the files and get the variables; grouped by 'cocnumber' and put it in one main csv.

We also used various libraries like pandas, seaborn for plotting.

We then used scikit learn for data modelling and prediction.

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Variables Used were classified in 5 different domains:

Domain: Safety Net

Variable	Variable Label
econ_sn_eitc_irs_share	Change in the share of returns with earned income credit from 2013 to 2017
econ_sn_cashasst_acs5yr_2017	share_of_households_with_public_assistance_income_2016
hou_mkt_homeage1940_acs5yr_2017	percentage_of_housing_units_2016_built_before_1940
hou_pol_hudunit_psh_hud_share	share_HUD_subsidized_housing_to_total

Domain: Demographics

Variable	Variable Label
dem_soc_singparent_acs5yr	share_of_under_18_population_living_with_single_parent
dem_soc_vet_acs5yr	share_of_the_civilian_population_25_and_older_with_veteran_status
dem_soc_ed_bach_acs5yr	education_bachelors_or_higher_to_total_population_ages_25_64
dem_soc_white_census/ dem_pop_pop_census	ratio_white_population_to_total_population

Domain: Demographics Continued

Variable	Variable Label
dem_soc_black_census/ dem_pop_pop_census	ratio_black_population_to_total_population
dem_soc_hispanic_census/ dem_pop_pop_census	ratio_hispanic_population_to_total_population
dem_soc_asian_census/ dem_pop_pop_census	ratio_asian_population_to_total_population
dem_soc_racetwo_census/ dem_pop_pop_census	ratio_other_population_to_total_population

Domain: Climate

Variable	Variable Label
env_wea_avgtemp_summer_noaa	average summer temperature - June, July, August
env_wea_precip_annual_noaa	total annual precipitation
env_wea_precip_noaa	total January precipitation
d_env_wea_avgtemp_noaa	4-year change in env_wea_avgtemp_noaa values (2017 and 2013)

Domain: Housing

Variable	Variable Label
hou_mkt_medrent_acs5yr	Median rent
hou_mkt_utility_acs5yr	Utility costs
hou_mkt_rentvacancy_acs5yr	Rental vacancy rate
hou_mkt_burden_sev_rent_acs_diff	Renter-occupied housing units with gross rent that is >=50% of household income(2016 and 2011)

Domain: Economics

Variable	Variable Label
econ_labor_incineq_acs5yr	Gini Index of income inequality by households
econ_labor_pov_pop_census_share	Poverty Rate, number of persons in poverty to total population
econ_labor_unemp_pop_BLS	Total unemployed population
econ_labor_medinc_acs5yr	Median Household Income

How to run our program?

We have added an instruction guide below that shows you how to run our program.

What could be done with our output / findings?

Actionable Steps

- Redistribution of wealth by taxing the top 1%
- Tax on inheritance
- Ladder of Opportunity (Quality education & health)

You can use the instruction guide below to use our code

Instructions On How to Use the Code

Please download the following files and put it on your Desktop:

“master.csv” and “05b_analysis_file_update”

Our final Jupyter Code can be found here:

https://github.com/saishpatkar1/cis_9650_project/blob/test/FinalProjectGroup5.ipynb

Please download the above file and run in Jupyter Notebook