

# Hate Crimes in the US (Capstone Project)

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## **Executive Summary**

Hate crimes in the US has been a serious concern for a while. The most popular speculated reason for the hate crimes is 'Racism'. But when we look at the data, we can find out a different truth. In this project we try to look at different datasets ranging from the median income to gini index and the demographic distribution. We load the census data for the variables like total population, median income, unemployed population, white people, white people below poverty line, median age and gender distribution. We need additional variables in our regression model like the gini index (income inequality index) which we load from the census fact finder website. Kaiser family foundation helps with the non-citizen data and the hate crime data is loaded from the FBI website. We are considering the year 2017 for non-census data and 2016 ACS-5 year data for census variables.

## **Background and Methodology**

We use multivariate regression to find the effect of different independent variables (regressors) on the dependent variable which is the average number of hate crimes in the US. When we run the regression using the variables, we find that the most significant variable turns out to be people (especially white) below poverty line, which affects the average hate crime number in the US. We also find that people with HS degree, Non-white people, Non-US citizen, median age and percentage of male in the population negatively affects the average number of hate crimes. So unit increase in all these variable will decrease the average number of hate crimes according to the regressor coefficient. In this regression model we have also considered an interaction term between two variables: median income and white population below poverty line. This affects the regression coefficients and the change can be seen in column 3.

## **Analysis**

We use map and non-map plots to understand the data in a better way. According to the map we see different states have different number of average hate crimes. To normalise the data across all states we consider the crime rate per 100 thousand of the population. We also separately plot the average number of hate crimes and the percentage of white people below poverty line as it is one of the most significant variable in the regression and see a similar trend wherein the percent white people below poverty line is negatively correlated to the average number of hate crimes. In another plot we show the change in average number of hate crime per 100 thousand over the years 2008 to 2017. The graph follows the trend of the underlying assumption that income inequality is one of the major cause of hate crimes in the US.

## Regression model

% Table created by stargazer v.5.2.2 by Marek Hlavac, Harvard University. E-mail: hlavac at fas.harvard.edu  
 % Date and time: Thu, Jul 18, 2019 - 23:05:50

Table 1:

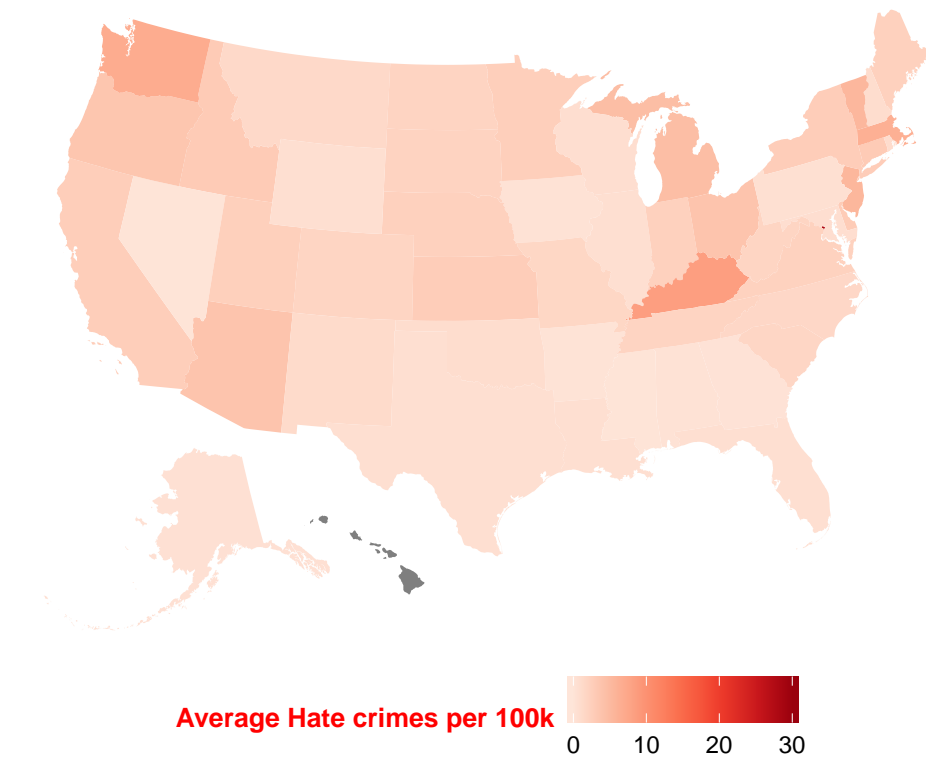
	<i>Dependent variable:</i>		
	avg_hate_crimes_per_100k		
	(1)	(2)	(3)
pct_unemployed	76.392** (35.593)	61.804 (37.202)	44.768 (36.350)
pct_with_HS_degree	-43.021** (17.264)	-33.344 (20.271)	-44.626** (20.011)
pct_non_white	18.512** (6.870)	10.793 (7.624)	-3.928 (9.933)
pct_white_bpl	137.974*** (40.837)	132.816*** (40.030)	300.402** (114.654)
median_income	0.001*** (0.0002)	0.001*** (0.0002)	0.001*** (0.0002)
‘Non-Citizen‘	-65.671*** (18.772)	-59.722*** (19.212)	-48.511** (22.253)
pct_male		-155.636** (59.874)	-83.819 (67.208)
median_age		-0.380 (0.237)	-0.315 (0.230)
gini_index			60.654* (31.504)
pct_white_bpl:median_income			-0.009 (0.005)
Constant	-47.109*** (9.042)	46.153 (36.344)	-12.014 (45.202)
Observations	50	50	50
R <sup>2</sup>	0.672	0.719	0.755
Adjusted R <sup>2</sup>	0.626	0.665	0.693
Residual Std. Error	2.486 (df = 43)	2.353 (df = 41)	2.254 (df = 39)
F Statistic	14.666*** (df = 6; 43)	13.144*** (df = 8; 41)	12.036*** (df = 10; 39)

Note:

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

## Including Maps and Plots

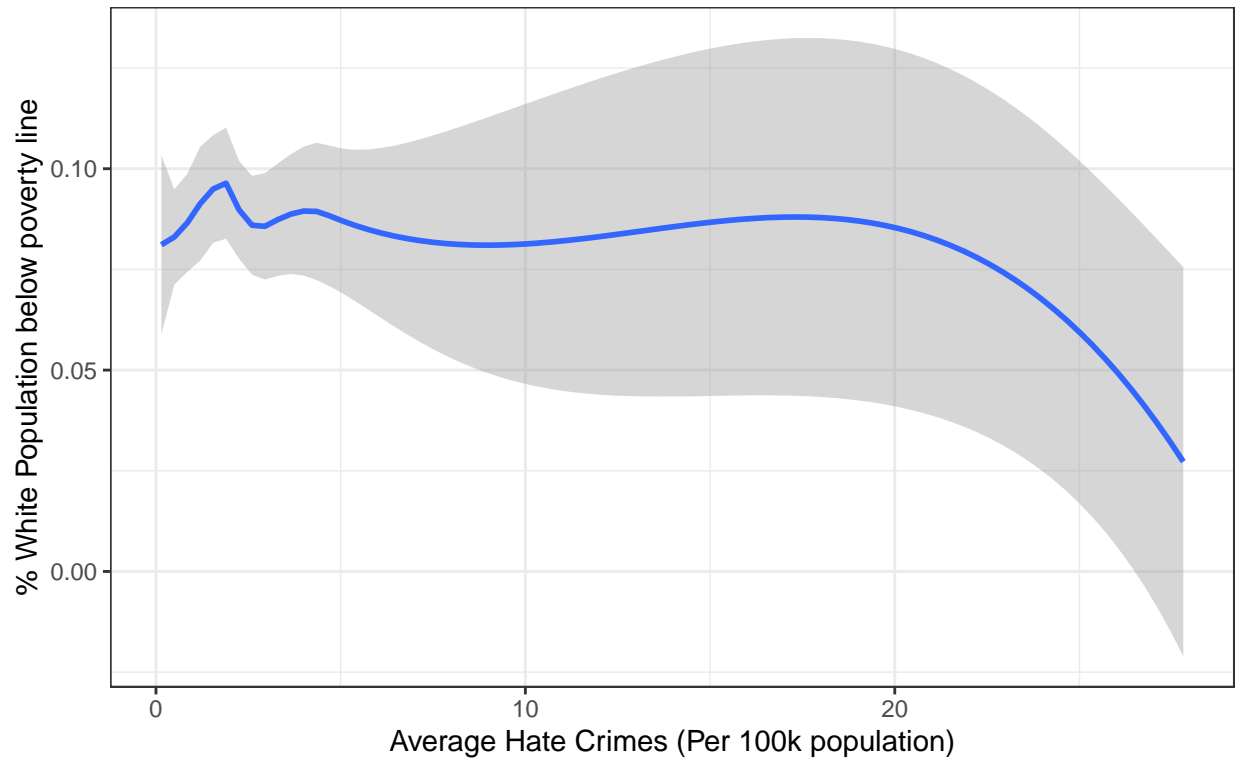
### Hate Crimes in the US



Source: ACS Data, FBI

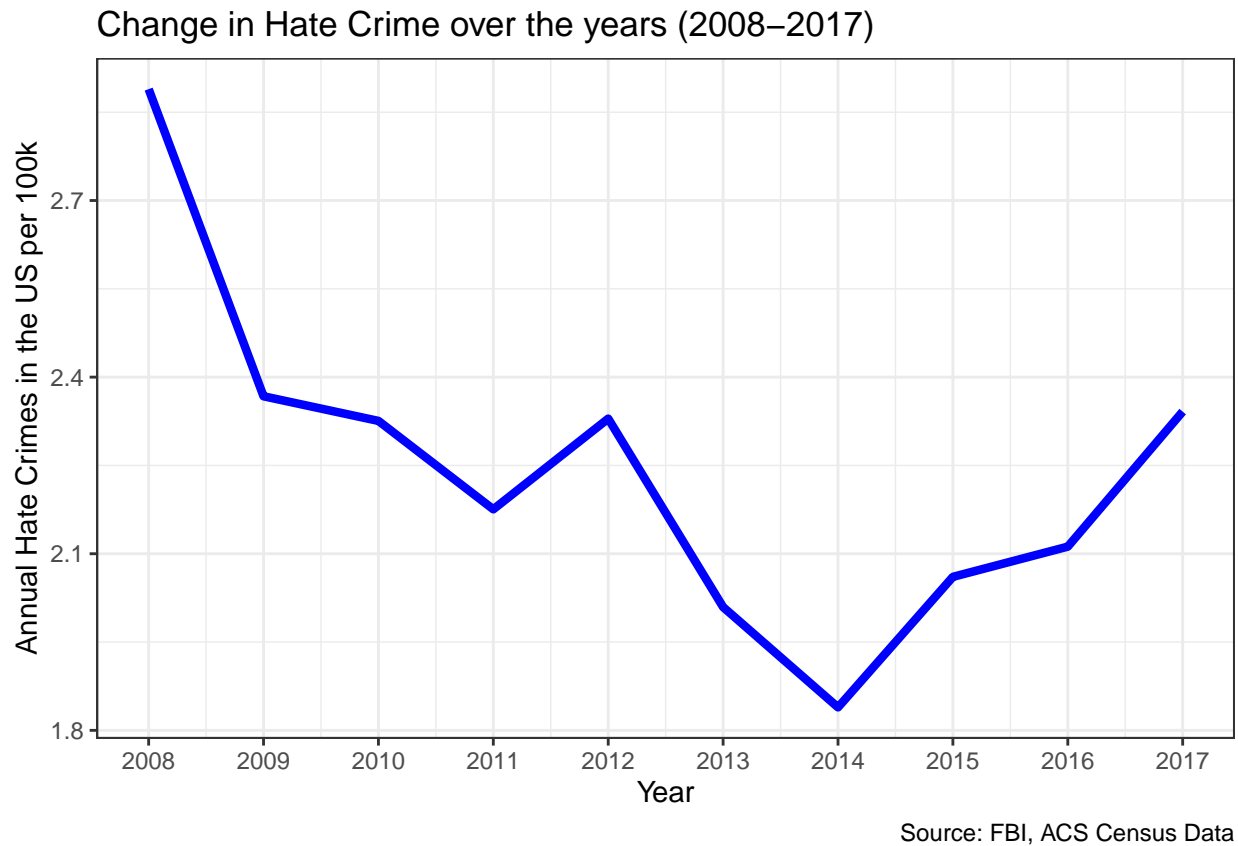
Is % white population below poverty line one of the factors leading to Hate Crimes?

White BPL vs Hate Crimes



Source: ACS Data, Kaiser Family Foundation, FBI, Census FactFinder

## Change in Hate crimes over time



## Conclusion

Hate crimes in the US is highly correlated with the income inequality. As income inequality rises (Gini coefficient goes up) the number of hate crimes goes up. In order to address this issue of Hate crimes, it is necessary that the income gap is bridged to a certain extent. Also, there are certain other variables like homelessness, religion, physical disability, public assistance to the state etc. which are not considered in this model and hence could be included in further studies to get a more accurate regression model explaining the cause of Hate crimes.