

Exploratory Data Analysis of Factors Affecting Median Household Income in Seattle

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Introduction and data description

This analysis uses census data in 2013 conducted by Seattle City government to explore factors which may affect median household income. The data set covers 53 communities in Seattle with 26 variables. The analysis focuses on three variables: median household income, population of color and education level.

Findings

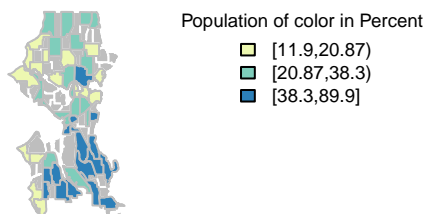
Regression results

The regressions of three combinations all show statistically significant results:

- 1) One percent increase in population of color is associated with \$642.2 decrease in median household income.
- 2) One percent increase of population with bachelor degree or higher is associated with \$851.3 increase in median household income.
- 3) One percent increase of population of color is associated with 0.66% decrease in population with bachelor degree or higher.

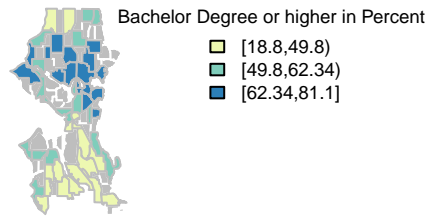
Map of the distribution of three variables

Population of color distribution



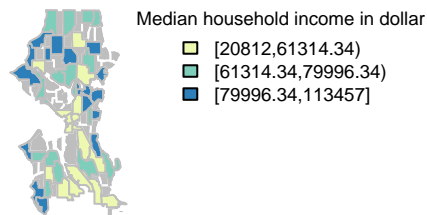
Population of color are mainly distributed in the south part of Seattle.

Population with bachelor degree or higher



Communities in the north Seattle have higher ratio of residents holding bachelor degree or higher. Compared with last plot, south Seattle communities have much lower ratios of bachelor degree or higher residents.

Median household income



The median household income distribution roughly obeys the trend showed in last two plots. Higher median household income communities appear more in north Seattle. South Seattle communities often have lower median household income.

Recommendations

There are still large gaps between population of color and white. Population of color are more likely to hold lower degree and earn less money.

Thus, I recommend that city of Seattle should put more resources in improving the education equity and average salary for population of color.