Exploratory Data Analysis of Factors Affecting Median Household Income in Seattle

Kevin Chen, Evans School of Public Policy & Governance
March 11, 2018

Introduction

This analysis uses census data in 2013 conducted by Seattle City government to explore factors which may affect median household income.

Data description

The analysis focuses on three main variables in the data set: 1) Median household income 2) Percent population of color 3) Percent population with bachelor degree or higher.

Findings

Regression model

I build three regression models based on the following combinations: 1) Median household income and Percent population of color 2) Median household income and Percent population with bachelor degree or higher 3) Percent population of color and Percent population with bachelor degree or higher.

Regression results

Holding all other factors constant, one percent increase in percent of population of color is associated with $642.2 decrease in median household income.
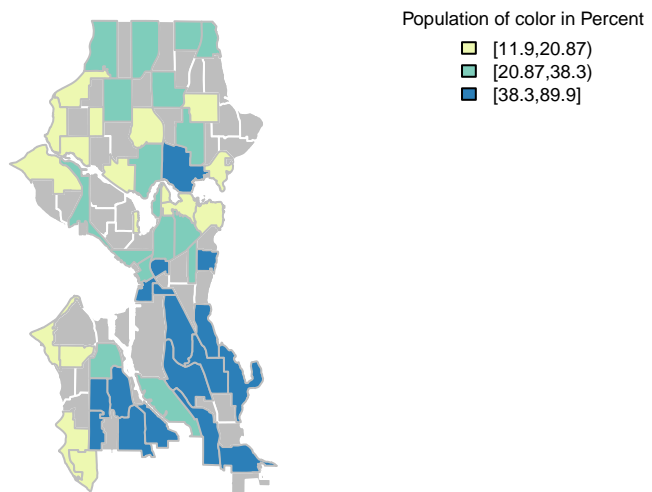
One percent increase of population with bachelor degree or higher is associated with $851.3 increase in median household income.

One percent increase of population of color is associated with 0.66% decrease in population with bachelor degree or higher.
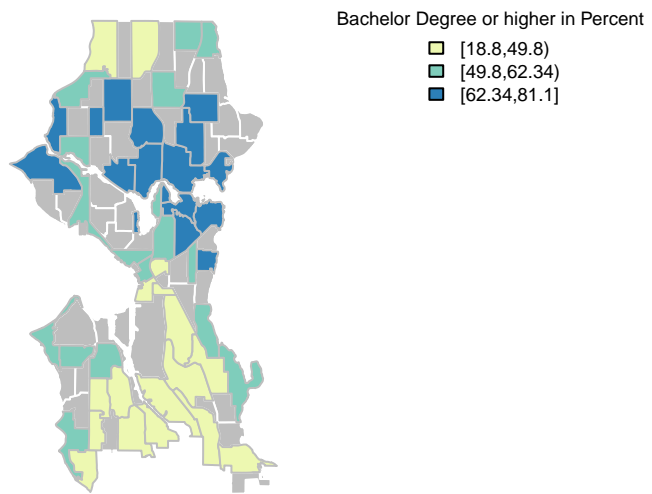
Map of the distribution of three variables

Map1

Population of color in Percent in Seattle 2013

Population of color in Percent
- [11.9,20.87)
- [20.87,38.3)
- [38.3,89.9]

Map2

Population with bachelor degree or higher in Seattle 2013

Bachelor Degree or higher in Percent

☐ [18.8,49.8)
☐ [49.8,62.34)
☐ [62.34,81.1]

Map3

Median household income in Seattle 2013

Median household income in dollar

- ☐ [20812,61314.34)
- ☐ [61314.34,79996.34)
- ■ [79996.34,113457]