

COFFEE FOR THE NEWCOMERS: A CASE STUDY OF GENTRIFICATION ON NEIGHBORHOODS IN NEW YORK CITY

Rushil Mallarapu¹

¹Fairfield, Connecticut, USA
rushil.mallarapu@gmail.com

ABSTRACT

We study the relation between neighborhood median household income and neighborhood character in New York City to quantify the changes gentrification brings to neighborhoods outside traditional standard-of-living metrics. We use clustering to find groupings of neighborhoods with similar character, in terms of the type of venues common in the region, and search for regression models between neighborhood venue frequency and median household income. This case study demonstrates the effect gentrification has on the urban community, and offers valuable insight for government planners and business owners looking to develop cities.

KEYWORDS

New York City, gentrification, data analysis, neighborhood clustering

1. INTRODUCTION

Urban life is a defining facet of modern societies. Over the past century, we have seen the effects of technological development, economic turmoil, and social upheaval on the institutions of city life. Across the world, the forces of progress coalesce around the city, for good reason. Cities bring large groups of people of diverse backgrounds in contact with jobs, resources, and most importantly, each other. For businesses, cities represent both trendsetters and target markets for investment and consumer goods. It is critical for citizens and stakeholders that cities develop in a way that spurs positive growth while being more inclusive and meeting the needs of their residents.

Inevitably, any discussion of the development of cities circles back to one key phrase: gentrification. Defined by the CDC as the increase in value of a neighborhood, gentrification has been charged with driving up prices and forcing out a neighborhood's former residents – often lower-income people of color. City mayors shy from the word to show they do not support the displacement of people from their homes and communities, unwilling to acknowledge the unbreakable tie gentrification has with urban progress. In truth, numerous studies, most recently by the Federal Reserve Bank of Philadelphia, have found that gentrification is not in itself a cause of displacement. It is a symptom of an affordable housing problem, not a cause. Gentrification has been shown to reduce the exposure of residents to poverty, improving neighborhood conditions, and stimulating diversification of areas. Far less than tearing down low-income households to make coffee shops for newcomers, gentrification has allowed cities to modernize and provide people a better standard of living.

While the literature on the causes of gentrification is clear that it does not lead to the displacement of low-income communities, little research exists on the effects of gentrification on the community character of neighborhoods outside of traditional metrics (e.g. racial diversity, education access). Understanding how the modernization and influx of money to a community sets it apart from low-income neighborhoods who have been overlooked by this

wave of development is crucial to understanding the current development of urban society. City governments need to know where to allocate funds, and for what causes. Business owners need to know where ventures will be more successful. We perform an analysis of neighborhoods in New York City, finding the distribution of neighborhoods of similar characters and understanding how median household income and neighborhood character are related.

2. DATA

Data for this project was acquired from three sources. The overall project had three goals for its data. First, it had to provide information about the geography of New York City's neighborhoods. Second, it had to show the median household income of New York City on a neighborhood-wide resolution. Finally, it had to give information pertaining to the character of a neighborhood – the kinds of places and institutions that give a neighborhood its “feel.” All data used in this project is on GitHub (https://github.com/sudo-rushil/Coursera_Capstone/).

2.1. Data Sources

Geographic data about neighborhoods in New York was acquired from New York University's Spatial Data Repository. This data was collected in 2014 by the New York City Department of City Planning.

Neighborhood income data was acquired from the US Census Bureau 2018 American Community Survey 5-year estimates. Income data for all zip codes in New York City was downloaded from table B19013.

Neighborhood venue data, which was used as a surrogate for neighborhood character, was acquired through querying the Foursquare API. This data is recent as of the date of collection.

2.2. Data Cleaning

Geographic data on NYC neighborhoods was acquired as a GeoJSON file, and needed no further processing.

Neighborhood income data from US Census Bureau table B19013 was gathered for all zip codes. Neighborhood names were manually edited for consistency with other data sources and extraneous metadata was removed.

Neighborhood venue data, having been acquired from the Foursquare API, was processed live during exploratory data analysis, and was not cleaned prior to retrieval.