2022 ■ Number 12
https://doi.org/10.20955/es.2022.12

ECONOMIC Synopses

Neighborhood Types and Demographics

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Across the United States, neighborhoods differ in terms of educational attainment and racial composition. Research spurred by renewed interest in these differences finds that the neighborhood a child grows up in can influence adult outcomes, such as college attainment and income (see, e.g., Chetty et al., 2019, and Fogli and Guerrieri, 2019). In this essay, we group U.S. neighborhoods based on the characteristics of their residents and find that most can be organized into one of five distinct groups. In our next essay, we further explore how other economic relationships differ across the neighborhood types.

Data and Methodology

We use Opportunity Insights, a publicly available database focusing on social mobility and neighborhood outcomes. Specifically, we use the dataset "Neighborhood Characteristics by Census Tracts," which includes information on residents, the housing stock, and economic conditions. The underlying sources of these data are the decennial Censuses, federal income tax returns, and the American Community Survey. Census tracts are relatively small geographic areas: They are statistical subdivisions of counties that have populations typically ranging from 1,200 to 8,000. This dataset is combined with 2010 Census data on census tract populations. We also use geographical data from the National Center for Health Statistics to classify the county of each Census tract as urban, suburban, or rural.

To assign each Census tract into one of five types, we use *k*-means clustering, a machine learning algorithm. Since our goal is to find neighborhoods demographically similar, we group similar Census tracts along two dimensions: (i) educational attainment, measured by the share of residents with a four-year college degree, and (ii) racial composition, measured by the shares of White, Black, Asian, and Hispanic residents as well as the share of foreign-born residents (foreign-born status and race are not mutually exclusive). The five types are ordered from lowest (1) to highest (5) median income (note that income was not used as a characteristic to group the neighborhoods).[1]

Neighborhood Type Characteristics

The algorithm yields a sensible grouping of neighborhoods, summarized in Table 1. Types 1 and 2 have high

Table 1
Neighborhood Type Characteristics: Residents

	Neighborhood type					
Type	**1**	**2**	**3**	**4**	**5**	**All types**
Median household income	$39,422.75	$44,943.44	$55,579.48	$57,976.99	$90,187.24	$58,788.81
% Four-year college degree	16.97	14.15	20.59	25.65	54.00	26.87
% Below poverty line	24.61	22.48	11.61	14.56	7.25	14.29
% White	16.67	16.10	87.59	50.81	79.38	64.50
% Black	71.31	9.67	4.45	15.84	5.34	13.48
% Asian	1.32	5.96	0.97	7.49	5.88	3.73
% Hispanic	9.26	65.66	4.90	21.00	6.73	15.46
% Foreign born	10.82	35.92	3.96	17.55	11.42	12.20
Share of population	7.29	12.20	38.77	21.81	19.94	100.00
Share of tracts	8.60	11.02	39.86	20.91	19.61	100.00

SOURCE: Opportunity Insights and authors' calculations.

Table 2
Geographic Location of Neighborhood Types

	Neighborhood type					
Geographic area	**1**	**2**	**3**	**4**	**5**	**Total**
% Northeast	18.24	14.00	19.11	12.49	23.34	18.51
% Midwest	18.92	4.97	34.07	9.98	21.72	23.36
% South	60.97	31.92	33.96	43.20	30.62	35.75
% West	1.86	49.12	12.86	34.34	24.32	22.37
% Urban	49.04	62.23	8.98	37.91	35.96	30.74
% Suburban	41.74	34.41	61.80	52.38	61.46	52.64
% Rural	9.22	3.36	29.22	9.71	2.58	16.61

SOURCE: Opportunity Insights and authors' calculations.

Table 3
Shares of Neighborhood Types within MSAs

Neighborhood type				
1	**2**	**3**	**4**	**5**
Memphis 41.01%	Los Angeles 52.70%	Pittsburgh 69.38%	Las Vegas 57.49%	Raleigh 47.95%
New Orleans 34.57%	Riverside 47.48%	Buffalo 62.23%	San Jose 48.39%	Boston 47.28%
Atlanta 27.68%	San Antonio 47.29%	Cincinnati 58.56%	San Francisco 43.26%	Denver 46.37%
Baltimore 27.33%	Miami 35.71%	Providence 58.38%	Sacramento 42.92%	Minneapolis 42.95%
Richmond 25.71%	San Diego 29.76%	Louisville 58.13%	Riverside 40.22%	Seattle 39.52%

SOURCE: Opportunity Insights and authors' calculations.

shares of Black and Hispanic residents, respectively. Predominantly White neighborhoods are split into two types: Type 3, with an average of 20.6% of residents having a college degree, and Type 5, with a much higher average—54%. Type 5 has the highest educational attainment across all types and also by far the highest income. Finally, Type 4 includes tracts that do not fit in well with the other groups and tracts that are more balanced with respect to race and educational attainment. The population of this tract is most representative of the United States as a whole.

Next, Table 2 summarizes the geographic U.S. areas where we can expect to find each neighborhood type. Type 1 neighborhoods, with the lowest income and highest share of Black residents, tend to be found in urban areas and in the South. Group 2 neighborhoods, with the largest share of Hispanics, tend to be found in urban areas and in the West. Group 3 neighborhoods, with the highest share of White residents least likely to hold a four-year college degree, tend to be found in rural and suburban areas and in the Midwest and South. Group 4 neighborhoods, while the most balanced in terms of racial composition, are not geographically balanced. They are most likely to be found in urban and suburban areas in the South and West. While Group 5 neighborhoods are fairly evenly dispersed by region (with the most in the Northeast), they are more likely to be found in urban and suburban areas and have the lowest rural share.

Table 3 reveals where the five types of neighborhoods tend to be located among the top 50 metropolitan statistical areas (MSAs) based on population. Specifically, it shows for each neighborhood type the five MSAs with the highest shares of the given type. The patterns here are consistent with those shown earlier. For instance, Types 1 and 2 neighborhoods are most commonly found in MSAs with large Black and Hispanic populations, respectively. Table 3 also shows Type 5 neighborhoods are commonly found in MSAs with a high concentration of high-skilled industries or academic institutions.

U.S. neighborhoods can be organized into five types, which have very different demographics and geographical locations.

To sum up, we have shown that U.S. neighborhoods exhibit systematically different patterns in terms of the demographics of their residents. Our algorithm identifies types of neighborhoods that capture these broad patterns. In our next essay, we will examine how a few important economic relationships and outcomes also vary across these five types. ■

Note

[1] We arrived at five types via a selection rule that chooses a number of groups that broadly capture the major neighborhood patterns. Moreover, when we go beyond five types, the algorithm splits up the neighborhoods so much that it becomes difficult to heuristically pinpoint a defining feature of each type, like we do here.

References

Chetty, Raj; Hendren, H.; Jones, Maggie R. and Porter, Sonya R. "Race and Economic Opportunity in the United States: An Intergenerational Perspective." *Quarterly Journal of Economics*, May 2020, *135*(2), pp. 711-83; https://academic.oup.com/qje/article/135/2/711/5687353.

Fogli, Alessandra and Guerrieri, Veronica. "The End of the American Dream? Inequality and Segregation in US Cities." Working Paper No. 2019-99, University of Chicago, Becker Friedman Institute for Economics, July 1, 2019; https://doi.org/10.2139/ssrn.3435823.

Posted on June 1, 2022

ISSN 2573-2420