INCOME INEQUALITY AND INCOME SEGREGATION

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Extended Abstract

Both neighborhood poverty and income inequality increased substantially in the United States between 1970 and 1990 (Danziger and Gottschalk 1995; Karoly 1993; Jargowsky 1996; Mayer 2001). Income inequality continued to increase through 2000, while neighborhood declined somewhat in the 1990s (Yang and Jargowsky 2006; Burkhauser et al. 2004, Figure 1). Some researchers argue that increasing income inequality caused the increase in neighborhood poverty in the 1990s (Durlauf 1996; Wilson 1987; Mayer 2001). However, these studies rely purely on descriptive information about changes in neighborhood poverty and changes in income inequality; none of them analytically explore the relationship between income inequality and the concentration of poverty for a given pattern of residential mobility.

In this paper, we use a simple agent-based model to explore the relationship among income inequality, income sorting and income segregation. Our goal is to develop some theoretical understanding of how changes in both average income and the variance of income affect segregation dynamics under a given mobility regime. There are two ways that the level of income segregation can change. First, changes in the process by which people sort into neighborhoods based on income can affect income segregation. For example, it may become harder for a middle-class household to move into an area with a given median income due to changes in mortgage qualification requirements or a relative scarcity of housing due to tightness in the market. Second, changes in the mean or variance of the income distribution in the population can affect income segregation. An increase in income inequality or a decrease in average income may lead to income segregation.

Our model consists of 100 agents who are assigned incomes according to a hypothetical or empirical income distribution. At the beginning of the simulation, all agents are distributed randomly across the city. The agents then move based on both neighborhood affordability and neighborhood desirability. As neighborhood income distributions change, housing prices are adjusted via a market clearing mechanism. Over time, certain agents must leave areas that have gentrified around them. We measure segregation using Jargowsky's Neighborhood Sorting Index.

In the first part of the paper, we examine the relationship between income inequality and income segregation under a set of simple mobility rules and hypothetical income distributions. In the second part of the paper, we assign agents incomes that approximate the income distributions of 7 large metro areas in 1980. 1990, and 2000: Detroit, New York, Los Angeles, Atlanta, Boston, Chicago, and Dallas. Here we assign agents mobility behaviors based on estimated mobility models from the PSID. We explore how changes in the income distributions within each city over the twenty-year period influence observed segregation dynamics.

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