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Are people willing to pay for less segregation? Evidence from U.S. internal migration☆

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ABSTRACT

It is difficult to determine whether racial housing segregation is socially desirable, because segregation has some effects that are hard to measure. To overcome this challenge, we estimate a migration choice model to measure the willingness to pay for reduced segregation. The key idea underlying our empirical approach is that if segregation is undesirable, migrants should be willing to give up some earnings to avoid living in segregated cities. Using decennial census data from 1980 to 2000, we provide evidence that segregation is an urban disamenity. It is shown that both black and white migrants prefer to live in less segregated cities. For example, for a one percentage point reduction in the dissimilarity index, the estimated marginal willingness to pay of blacks is $436 (in 1999 dollars) in 2000. Among whites, this marginal willingness to pay is $301.

1. Introduction

Racial residential segregation is a salient feature of urban America. With the massive migration of blacks from the rural South to the urban North, racial segregation in American cities started in the early twentieth century, expanded substantially after the Second World War, and peaked in the 1970s (Cutler et al., 1999). Although segregation has declined since the 1970s, steps toward widespread integration have been modest (Logan et al., 2004). By 2000, 50% of blacks would have to be relocated in order for whites and blacks to be evenly distributed across neighborhoods in the average U.S. city.[2]

It has long been argued that the persistence of segregation is the root cause of the "black underclass" in American cities (Wilson, 1987; Massey and Denton, 1993). Numerous empirical studies find that segregation has adverse effects on a variety of social and labor market outcomes for blacks.[3] The standard explanation for such negative effects is that living in highly segregated areas spatially separates blacks from job opportunities, reduces their access to high quality local public goods, and diminishes many of the positive spillovers from skilled whites via neighborhood effects (Kain, 1968; Wilson, 1987; Borjas, 1995).

Existing studies of the effects of segregation have two features in common. First, each study focuses on one or few outcomes. For this reason, despite the negative effects of segregation documented in the literature, one may still hesitate to conclude that segregation is socially undesirable. There is always the possibility that some benefits of segregation, such as facilitation of the supply of ethnic goods and services, are missed by these studies because such benefits are difficult to measure. Second, the existing literature focuses primarily on the social and economic effects of segregation and pays much less attention to its

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[2] In this paper, the term city refers to a metropolitan statistical area (MSA).

[3] Many studies focus on the effects of residential segregation on employment outcomes of blacks (e.g., Kain, 1968; Ellwood, 1986; Kasarda, 1989; Ihlanfeldt and Sjoquist, 1990; and Weinberg, 2000). Some others examine its effects on black educational achievement (e.g., Card and Rothstein, 2007), crime rates (e.g., Shihadeh and Flynn, 1996; Krivo et al., 2009), health status (e.g., Williams and Collins, 2001), and poverty (e.g., Ananat, 2011). Cutler and Glaeser (1997) is a more comprehensive study that estimates the effects of segregation on the outcomes of blacks along several dimensions, including educational achievement, income, employment, and the probability of becoming a single mother.

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psychic and cultural effects. Given that segregation has been famously referred to as the American Dilemma and the American Apartheid, it is entirely possible that people dislike it simply because segregation contradicts their ideals of a free society. That is, even if segregation has no direct negative effects on individual outcomes, people may prefer to avoid it due to a sense of distaste toward such a social arrangement. Therefore, any comprehensive welfare analysis must also take this kind of distaste into account.

This paper contributes to the literature by estimating blacks and whites' willingness to pay for segregation, which captures the overall effects of segregation on individual outcomes as well as people's attitudes toward segregation. The logic behind our empirical analysis is simple: In the context of internal migration, individuals choose the city where they derive the highest utilities. Cities are characterized by varying income opportunities and segregation levels. All else equal, migrants face a trade-off between the level of segregation and expected income when they choose a city to live in. If migrants are willing to give up some earnings in order to live in less segregated cities, then segregation must be undesirable; otherwise, if the opposite is true, segregation must be a preferred urban characteristic.

Our empirical approach follows Bayer et al. (2009), who estimate a discrete choice model of internal migration decisions to measure the value of air quality in U.S. cities. Despite the narrow focus of their study, Bayer et al. (2009) provide a general method for quantifying revealed preferences for urban amenities and disamenities at the city level. We apply this method to study migrants' willingness to pay to live in cities with different degrees of segregation. Our innovation is to treat residential segregation as an urban (dis)amenity, which represents a significant deviation from the existing literature on the effects of segregation.

Two related studies, Bayer et al. (2007) and Bajari and Kahn (2005), also estimate discrete-choice models to measure preferences toward neighborhood racial composition in U.S. cities. However, both papers examine within-city residential choices. Using data from the San Francisco Bay Area, Bayer et al. (2007) find that blacks are willing to pay for an increased share of black population in a census block group but whites are not, consistent with the notion that people prefer segregation at the block-group level.[4] In contrast, using data from Atlanta, Chicago, and Dallas, Bajari and Kahn (2005) find that at a much larger community level (Public Use Microdata Area, or PUMA), whites are willing to pay for integration and blacks prefer whiter communities, suggesting that people want to avoid segregation at the PUMA level.[5] The discrepancy between these findings raises the question whether segregation at higher geographic levels is undesirable. Our study helps answer this question by examining revealed preferences for segregation at the city level based on cross-city residential choices.

To provide a structural framework for empirical analysis, we present a model of migration destination choices in which the degree of segregation directly enters individual utility. We follow a standard two-step procedure to estimate the model: First, a discrete choice model is used to recover a vector of city-specific utilities that are common to all individuals living in these cities. Then, we regress city-specific utilities on a city-level segregation index, along with other city characteristics, to measure the marginal willingness to pay (MWTP) for segregation. A naive OLS estimate of willingness to pay is likely to be biased if segregated cities have unobserved characteristics that affect utility. To address this issue, we instrument for city level segregation. We use two sets of instruments, both drawn from the existing literature: the structure of government finance (Cutler and Glaeser, 1997) and the number of inter- and intra-county rivers (Hoxby, 2000; Rothstein, 2007).

Using decennial census data from 1980 to 2000, we find that utility from segregation is always negative and statistically significant for young blacks in 1990 and 2000 and for young whites in all three census years. The magnitude of disutility is large and appears to vary across races and over time. For a one percentage point reduction in the dissimilarity index, our preferred estimates imply that the MWTP among blacks increases from $89 to $436 between 1980 and 2000 (in 1999 dollars). For whites, however, the MWTP decreases from $675 to $301 during this same period. In some samples, MWTP falls with age and rises with the presence of children. Educational attainment has no significant effect on MWTP in all samples. Overall, our estimates suggest that segregated cities are undesirable to both young blacks and young whites. To the best of our knowledge, these findings represent the first estimates of people's willingness to pay to avoid racially segregated cities.

The remainder of the paper is organized as follows: Section 2 gives a brief overview of why people may care about racial segregation. Section 3 presents a simple migration choice model for empirical analysis. Section 4 describes the data and identification strategies. Section 5 presents empirical results. And finally, Section 6 concludes this paper.

2. Why people care about segregation

We start with a summary of four theories on why people may care about segregation at the city level and briefly discuss the implication of each theory for people's willingness to pay for segregation.

2.1. Segregation and neighborhood effects

Under housing segregation, people from the same racial group tend to live in the same neighborhood. To the extent that race is correlated with other socio-economic characteristics, segregation produces polarized communities that subject urban residents to various neighborhood effects. Scholars have long emphasized that segregation leads to concentrated poverty in black communities, which tends to have all kinds of negative effects on children as well as adults. For example, Cutler and Glaeser (1997) find that blacks in more segregated cities fare worse than blacks in less segregated cities along many dimensions. As segregation increases, blacks tend to have lower high school graduation rates, lower earnings, higher probability of being out of school and not working, and higher probability of becoming single mothers. They also find that segregation improves outcomes for whites, although such results are weaker. Ananat (2011) finds that segregation leads to higher black poverty and inequality and lower white poverty and inequality. Card and Rothstein (2007) find that the black–white test score gap is higher in more segregated cities. These findings are interpreted, at least partially, as the result of neighborhood effects. Because of segregation, blacks tend to live and go to school with other blacks of similar socio-economic status. They tend to interact with peers of lower income and education, which negatively affect their own social and economic outcomes due to lower expectations, lack of role models, and a self-perpetuating culture of poverty (Wilson, 1987; Massey and Denton, 1993). Given these negative neighborhood effects on blacks, it is expected that blacks are willing to pay to avoid segregated cities. In contrast, whites benefit somewhat from positive neighborhood effects under segregation and thus should be willing to pay for increased segregation.

2.2. Segregation and the spatial mismatch

It was first pointed out by Kain (1968) that segregation may lead to a spatial mismatch between workers and jobs. For example, if blacks are predominantly living in central cities with industries located in suburbs, then it will be more difficult for blacks to find or maintain jobs in those

[4] In an earlier working paper, Bayer et al. (2004) report similar segregating preferences at the block-group level in the San Francisco Bay Area. Following a similar approach to Bayer et al. (2007), Wong (2013) finds that in Singapore all ethnic groups prefer to live with some own-ethnic-group neighbors, but only up to certain levels. That is, people would like to have some, but not complete, segregation.

[5] A typical PUMA has approximately 100,000 residents. Thus a large metropolitan area consists of many PUMAs. Bajari and Kahn (2005) examine residential choices within a single city (separately for three different cities). Two community characteristics computed at the PUMA-level, share of blacks and share of college graduates, are assumed to affect residential choices.