Regional Science and Urban Economics 68 (2018) 277–290

Contents lists available at ScienceDirect

Regional Science and Urban Economics

journal homepage: www.elsevier.com/locate/regsciurbeco

School segregation and the foreclosure crisis☆

Keith Ihlanfeldt[a], Tom Mayock[b,*]

[a] Department of Economics and DeVoe Moore Center, Florida State University, Tallahassee, FL, USA
[b] Department of Economics, UNC Charlotte and Office of the Comptroller of the Currency, Charlotte, NC, USA

ARTICLE INFO

JEL classification:
R00
I24
G21

Keywords:
School segregation
Housing
Foreclosure

ABSTRACT

One overlooked consequence of America's foreclosure crisis is the impact it had on school segregation. Using data on Florida schools, we find that the crisis reduced the racial segregation of elementary schools by opening up affordable housing opportunities to black families in predominantly white neighborhoods. Our analysis has the added importance of providing a natural experiment testing whether more affordable housing in predominantly white school attendance zones will decrease segregation.

1. Introduction

The housing crisis in the United States during the Great Recession spurred an enormous amount of research on the causes and consequences of residential foreclosures. The breadth of topics in this literature is impressive, but one important social issue has gone completely unstudied: namely, the impact of the foreclosure crisis on school segregation.[1] The tendency of black students to be segregated into mostly black schools continues to be one of America's most vexing social problems, especially in light of recent compelling evidence that segregation has adverse effects on student achievement and lifetime success.[2]

The premise of our investigation is that because public school assignments in the U.S. are largely determined by where a student lives, the problem of racial segregation in the public school system is driven primarily by the spatial concentration of different types of housing units within a school district. For instance, given lower minority homeownership rates, concentrating a district's rental housing stock in a small number of school attendance zones can give rise to high levels of school segregation. To get a sense of just how strong the relationship is between the spatial concentration of housing and school segregation, in Fig. 1 we have plotted the black-white dissimilarity index for the schools that we analyze in Florida against the Theil Information Index defined over the following types of housing units broken down by both affordability status and tenure status: single-family units, condominium units, and multi-family units.[3] Both of these indices range from 0 to 1. In the case of the dissimilarity index, higher index values reflect an increasing level of segregation between white and black public elementary school students. Higher levels of the Theil index reflect lower levels of heterogeneity in the housing stock in a district's elementary school boundaries.[4]

A simple regression of the dissimilarity index on the Theil index reveals that the spatial concentration of the housing stock explains nearly half of the variation of black-white student segregation in our data. If we interpret this figure as a summary of the equilibrium relationship between school segregation and the intra-district spatial distribution of housing, this simple plot suggests that any shocks to the spatial distribution of the housing stock within a school district have the potential to exert significant influence on school segregation patterns. The primary contribution of this paper is to provide the first evidence on how one particular supply shock – the recent foreclosure crisis – affected segregation.

☆ The views expressed in this paper are those of the authors and do not necessarily reflect those of the Office of the Comptroller of the Currency or the U.S. Department of the Treasury.

* Corresponding author.
E-mail addresses: kihlanfeldt@fsu.edu (K. Ihlanfeldt), tmayock@uncc.edu (T. Mayock).

[1] As a sampling of this literature: for the effects of foreclosures on the values of nearby properties, see Ihlanfeldt and Mayock (2016b); on crime, see Ellen et al. (2013); on local government budgets, see Ihlanfeldt and Mayock (2015); on children's schooling outcomes, see Figlio et al. (2011); and on credit scores, see Brevoort and Cooper (2013).

[2] For a review of the evidence see Epple and Romano (2011) and Harris (2006). For documentation of recent trends in segregation, see Orfield et al. (2016) and GAO (2016).

[3] The construction of these indices is discussed in Appendix A, and our sample is described in Section 4.

[4] For example, the Theil index would be very high in a case where a school district's elementary school catchment boundaries contained either owner-occupied single-family units or renter-occupied multi-family units, but no mix of the two types of housing.

https://doi.org/10.1016/j.regsciurbeco.2017.12.003
Received 22 November 2017; Accepted 6 December 2017
Available online 11 December 2017
0166-0462/

Because of the link between residential location and public school assignment, foreclosures can impact school segregation if and only if foreclosure activity induces a re-sorting of students across school attendance boundaries. We examine this re-sorting of black and white households in response to changes in the prevalence of Real Estate Owned (REO) properties, which are homes that are owned by financial institutions as a result of foreclosure proceedings, and properties that were previously in REO status ("recent REOs") that were subsequently sold to owner-occupiers or investors.[5,6]

There are three channels through which the foreclosure crisis may have induced such household mobility. First, foreclosure generally results in the relocation of the defaulting homeowner, and existing work has shown that most homeowners move to different neighborhoods after defaulting on their mortgage (Molloy and Shan, 2013).[7] Second, previous research has demonstrated that properties currently in REO status and recent REOs that become rental units both produce negative spillover effects which cause housing prices in the neighborhood to fall (Ihlanfeldt and Mayock, 2016a).[8] Foreclosure-related externalities can thus alter the relative price of housing services in black and white neighborhoods, inducing a re-sorting of black and white families with school-age children across different school catchment boundaries; these relative price changes have the potential to either increase or reduce school segregation. When REOs are sold to investors, there is a third mechanism that may induce sorting across neighborhoods. Recent REO single-family rental properties were frequently located in neighborhoods where the supply of rental housing had previously been very low (Ihlanfeldt and Mayock, 2016a). The foreclosure crisis thus created the opportunity for renter households to relocate to neighborhoods that were previously almost exclusively populated by owner-occupants.[9,10]

In this paper we investigate the impact of the foreclosure crisis on the racial segregation of elementary schools.[11] We conduct this investigation using a panel of Florida school districts from 1998 through 2013. With our panel, we seek to explain changes in five popular measures of segregation as a function of areal-based changes in the number of foreclosure completions and the number of homes that recently transitioned out of bank-owned status.

Our key finding is that the foreclosure crisis produced statistically significant declines in three of the five segregation indices that we analyze. The most popular index, the dissimilarity index, fell on average by about five percent between 2005 and 2013 in our sample, but for some larger districts the change is more than twice as large. All in all, our findings suggest that the foreclosure crisis provided black households with housing opportunities in white neighborhoods that they otherwise would have found unaffordable.

A common argument in the school segregation literature is that black students are segregated from white schools due to an absence of affordable housing in primarily white neighborhoods (Schwartz, 2010; Rothwell, 2012; Lens and Monkkonen, 2016). Policy prescriptions to address this dearth of housing opportunities for black households in white neighborhoods have included reducing exclusionary zoning, adopting inclusionary zoning, and counseling voucher recipients on housing opportunities that exist in white neighborhoods. However, it is not a foregone conclusion that such policies would work. First, black families may not be interested in moving to predominantly white neighborhoods. Concerns other than improving their child's school environment – such as access to public transit, job opportunities, or social services – may be the primary determinant of the location decisions of many black households. Second, the parents of black children may be concerned that their child would be uncomfortable in a majority white school. Third, even if black households are willing to live within the attendance boundaries of predominantly white schools, they may be excluded from these neighborhoods because of discrimination on the part of housing suppliers.[12] Unfortunately, we were unable to find a single study providing evidence on the efficacy of using affordable housing policy to desegregate schools. There is a simple reason for the lack of research on this topic. Before the Great Recession, high-income neighborhoods throughout the U.S. successfully used anti-density zoning (and Not-in-My-Backyard resistance) to effectively eliminate the supply of affordable and rental housing (Rothwell, 2012), leaving researchers with little variation with which to study the impact of expanded housing opportunity on segregation. The foreclosure crisis, however, resulted in a surge in the affordable housing stock in high-income neighborhoods; we exploit this variation to study how expanding housing opportunity for low- and moderate-income households affects school segregation.

In the next section (Section 2) we develop a simple model for thinking about the avenues whereby foreclosures and recent REO

[5] Previous research has found that most investor-acquired properties are offered for rent, as opposed to being held for speculation purposes (Ellen et al., 2012; Immergluck, 2012).

[6] After a property is repossessed by a financial institution following foreclosure, the property is generally vacant until it is resold to a new homeowner. In some rare cases, REOs are not vacant. Such cases include when an REO is occupied illegally by squatters or when the financial institution that owns the REO rents it out prior to disposition.

[7] Molloy and Shan (2013) find that nearly half of the individuals that had started the foreclosure process had moved within three years, whereas only a quarter of households not facing foreclosure relocated. Most importantly for our analysis, less than 10% of the post-foreclosure movers between 2006 and 2008 relocated within the same Census tract. Although school catchment boundaries are not coterminous with those of tracts, this finding suggests that most young children in households facing foreclosure eventually changed elementary schools. It is worth noting that in our analysis below, we focus on the impact of foreclosure completions whereas Molloy and Shan (2013) study foreclosure starts. As foreclosure proceedings are frequently initiated and not completed, we have reason to believe that our foreclosure completion variables are associated with moves at higher rates than those reported in Molloy and Shan (2013). An additional pertinent finding from their study is that while a post-foreclosure move generally triggers a change in neighborhood, the neighborhood to which the household relocates is generally quite similar in terms of its demographic characteristics to the household's previous neighborhood.

[8] There are three prominent hypotheses regarding the mechanisms generating these negative spillover effects. First, because REO properties are typically listed for sale, they expand the for-sale inventory, depressing prices. Anenberg and Kung (2014) find strong support for this inventory mechanism. Second, bank-owned properties are frequently in poor physical condition, and home buyers may command a discount for properties located nearby poorly-maintained homes. Gerardi et al. (2015) provide support for this view. Lastly, several authors have posited that REOs generate criminal activity, which in turn reduces the value of nearby homes. For a review of this literature, see Ellen and Lacoe (2015).

[9] Molloy and Shan (2013) found that after foreclosure most households in their sample continued to live in single-family housing, did not have a mortgage reported with the credit bureau, and did not appear to have moved in with family members. Although tenure status is unobserved in their data, such households are likely renting single-family units. The transition of foreclosed homes to rental properties – particularly single-family units – may thus allow for households that lost their homes to foreclosure to remain in the same neighborhood.

[10] While we are unaware of any data that report annual neighborhood-level homeownership rates, there is reason to believe that an increase in a neighborhood's foreclosure activity reduces the homeownership rate. Most foreclosures occurred on

(*footnote continued*)
housing units that were owner-occupied, and a large share of foreclosures were ultimately sold to investors that rented the properties to tenants following the REO process. All else equal, the transition of foreclosed homes from owner-occupied to renter-occupied units would reduce a neighborhood's homeownership rate.

[11] The results we report in this paper are restricted to blacks and non-Hispanic whites. We also conducted our analysis for whites and Hispanics. They show that in comparison to segregation between blacks and whites, the foreclosure crisis had a more modest effect on white-Hispanic school segregation.

[12] The U.S. Department of Housing and Urban Development's fair housing audits continue to show that black and Hispanic applicants are discriminated against within local housing markets (Turner et al., 2013). While this evidence provides a gauge of the overall level of discrimination within metropolitan areas, there is reason to believe that discrimination within high-income neighborhoods may be higher than average. William Fischel's "Homevoter Hypothesis" (Fischel, 1985, 2001) maintains that homeowners will go to great lengths to protect their property values. He shows that homeowners are aware of the positive effect that a good school can have on their home's value. If homeowners believe that minority students may tarnish the school's reputation, they may be particularly virulent in keeping minority families from moving into their neighborhood.