

To Err Is Automated: Have Technological Advances in the Mortgage Market Increased Opportunities for Black Homeownership?

Michael Neal (Urban Institute), Vanessa Perry (George Washington University; Urban Institute), Linna Zhu (Urban Institute)

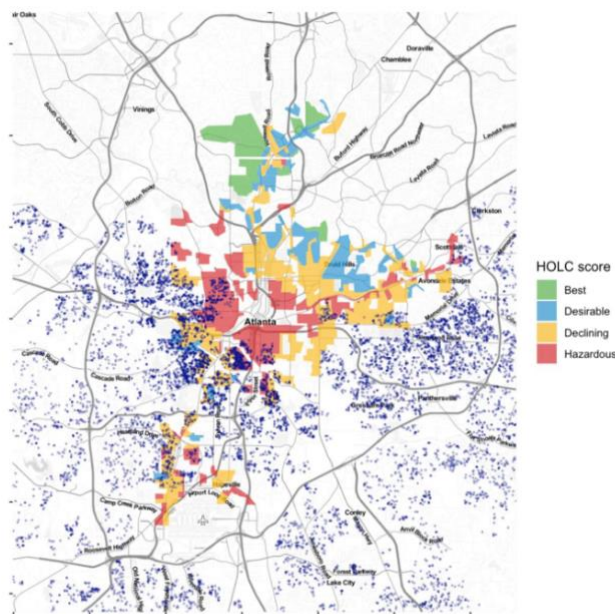
Paper: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4347212

The increasing scrutiny of human appraisal bias exacerbates existing challenges of racial gaps in homeownership and housing wealth. Automated valuation models (AVMs), which exclude an appraiser's input in the estimation of a home's price, hold great promise for reducing the costs and increasing the accuracy of home valuations. However, research has shown that AVMs have the potential to produce larger percent errors in majority Black neighborhoods, relative to majority-white neighborhoods. In this paper, we examine the effects of historical redlining on AVMs and prices paid by homebuyers in predominately Black neighborhoods.

Home sale transactions in majority-Black neighborhoods are disproportionately concentrated in historically redlined areas.

Based on an analysis of 2018 home sale transactions in Atlanta and Home Owners Loan Corporation (HOLC) 'redlining' maps, we find that arm's length single-family transactions in majority-Black neighborhoods are disproportionately concentrated in historically redlined areas graded as Hazardous or Declining. For example, 59.2 percent and 76.9 percent of transactions in Declining and Hazardous areas respectively were in majority-Black neighborhoods. In contrast, 100 percent and 72.6 percent of transactions in Best or Desirable areas were from majority-white neighborhoods. Historically redlined majority-Black neighborhoods have a significantly greater percentage magnitude of AVM error, 43.1 percent as compared to 31.1 percent for all majority-Black neighborhoods and 12.5 percent of all majority- white neighborhoods.

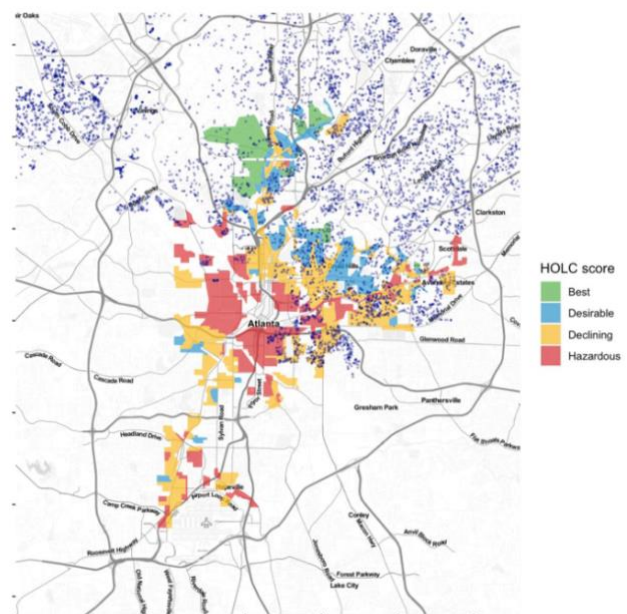
Figure 2a. The geographic distribution of single-family transactions by HOLC score, in majority-Black neighborhoods



Source: Property records data from a major data vendor, 2014-18 American Community Survey, and Mapping Inequality, the University of Richmond.

Notes: HOLC = Home Owners' Loan Corporation; Each dot represents one arm's length single-family transactions in 2018.

Figure 2b. The geographic distribution of single-family transactions by HOLC score, in majority-white neighborhoods



Source: Property records data from a major data vendor, 2014-18 American Community Survey, and Mapping Inequality, the University of Richmond.

Notes: HOLC = Home Owners' Loan Corporation; Each dot represents one arm's length single-family transactions in 2018.

The impact of past redlining on home values and AVMs

Our results indicate that both historical redlining and neighborhood race have a significant impact on home values. Specifically, holding other factors constant, home prices in historic redlined neighborhoods are associated with a 49.3-percent undervaluation. Similarly, all else equal, compared with majority-white neighborhoods, home prices in majority-Black neighborhoods are 64.2 percent lower. But even controlling for this indirect impact of historical redlining on AVMs through home values, we find that it also has a significant direct. Our second-stage regression results show that AVM inaccuracy for properties in historically-redlined areas is 5.7 percentage points greater. This suggests that for a home in a redlined area with a sales price of \$148,296, the AVM error will be \$8,453 greater than for a property with the same sales price in a non-redlined area, holding all other factors constant.

Implications for public policy

Our analysis illustrates the role that historical racism plays in house prices and automated valuation model error within majority-Black communities and the extent to which these dynamics may contribute to the broader Black-white wealth gap. Based on these findings, we propose several steps that the federal government can take to address the disparities in house prices and automated valuation model error. These recommendations can help account for the effects of past discrimination and ensure that Black communities and their residents benefit from homeownership to the same degree as their white counterparts.

- The government should expand recent Federal interagency efforts to develop regulations for quality control standards for AVMs.
- Congress should take legislative action to ensure that these efforts to regulate and improve AVMs are made permanent.
- Policymakers and housing industry practitioners should expand and improve access to renovation financing in formerly redlined communities.
- Policymakers should encourage direct investment through small businesses in formerly redlined communities.