



PRESS RELEASE

## Research partnership uses data science to look at household wealth and homeownership

*By University of Wisconsin-Milwaukee - Sep 11th, 2023 04:30 pm*

**MILWAUKEE** – Home values appreciate more slowly for lower-income, minority and female homeowners. These were among the findings of a recent research project by a team from the University of Wisconsin-Milwaukee. The project was funded by the Mortgage Guaranty Insurance Corporation (MGIC).

The study used data science to find insights into what contributes to disparities in home values and how this impacts the accumulation of wealth that comes from owning a home.

More results from the project, which began last year, will be presented at 8:30 a.m., Tuesday, Sept. 12, at MGIC, 250 E Kilbourn Ave.

“This research has produced findings we feel are actionable by the many public, private, nonprofit and philanthropic stakeholders collectively focused on addressing equity in homeownership in Milwaukee,” said **Geoffrey Cooper**, vice president of product development at MGIC. “It provides us a better understanding, specific to Milwaukee, of what moves the needle when it comes to building wealth through homeownership.”

In this project, “Bridging the Racial Disparity in Wealth Creation in Milwaukee,” UWM students and faculty created a data science method that examined the factors contributing to wealth creation through housing. It revealed inequities in the valuation of homes, and identified areas of policy interventions that could address them.

“For many low- to middle-income households, homeownership is often their largest asset,” said **Purush Papatla**, co-director of the Northwestern Mutual Data Science Institute and UWM professor of marketing. “Appreciation in housing values is an important hedge against inflation and a primary source of wealth accumulation.”

But how the values of homes are determined affects the amount of investment for the homeowner. For this project, researchers defined housing returns by an owner’s annual rate of return on home price growth or decline over time and also the resale value of a foreclosed home.

The research team created a machine-learning model called the Wealth Creation Index that uses data that tracks the wealth created by homeownership over time. The model separated data into the components that help or hinder valuation, providing a way to quantify social impact.

UWM faculty researchers on the team were **Kundan Kishor**, professor of economics; **Rebecca Konkel**, assistant professor of criminal justice; **Jangsu Yoon**, assistant professor of economics; and **Tian Zhao**, associate professor of computer science.

Research findings include:

- Home values appreciate at a lower rate for minorities and female homeowners compared to white homeowners. On average, Black homeowners witness 6.8% lower appreciation. This disparity is 3% lower among Hispanic homeowners and 1% among female homeowners.
- Higher rates of foreclosure for Black, Hispanic and female homeowners exacerbate the wealth disparities.
- A neighborhood's foreclosure rate has a nonlinear effect on home values. For example, if a house has been foreclosed in a neighborhood with foreclosure rates above the 95<sup>th</sup> percentile, homeowners experience a 9.6% decline in their home's foreclosed value. This compares to a 1.2% decline in foreclosed value of a home in a neighborhood with foreclosure rates below the 95<sup>th</sup> percentile.
- The ratio of owner-occupied homes in a neighborhood affects home values with the threshold of 30%. When the share of owner-occupied housing units in a neighborhood is less than 30%, there's a negative impact on home values.
- Distance to a higher quality high school is a key factor associated with home values. Home values decrease as the distance between a given house and a high-performing high school increases.

The team found that homeownership is a better tool for wealth creation than renting – even when the loss of wealth attributable to foreclosure is considered. Therefore, policy tools are needed to increase access to homeownership among lower-income, minorities and women.

Other recommendations included improving policies that support homeowners who are at risk of losing their homes to reduce foreclosure rates and policies that prevent widespread declines in property values.

### **About UWM**

The University of Wisconsin-Milwaukee has an ambitious mission as both a top-tier research university and an access institution, striving to ensure that students have equitable opportunities to earn a college degree. UWM educates a diverse student body of more than 23,000 students from 88 countries. About 39% of its undergraduates are first-generation college students. Its unique and top-rated programs include Wisconsin's only accredited schools of architecture and public health, the only North American school dedicated solely to freshwater sciences and a film program ranked among the top 50 in the world. It has the largest and top-rated online education program in Wisconsin. UW-Milwaukee partners with leading companies to conduct joint research, promote entrepreneurship, provide student internships and serve as an economic engine for southeastern Wisconsin. The Princeton

Review named UW-Milwaukee a 2024 “Best Midwestern” university based on overall academic excellence and student reviews.

### **About MGIC**

Mortgage Guaranty Insurance Corporation (MGIC), the principal subsidiary of MGIC Investment Corporation, serves lenders throughout the United States, helping families achieve homeownership sooner by making affordable low-down-payment mortgages a reality through the use of private mortgage insurance.

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