THE GEOGRAPHY OF HOUSING FORECLOSURES IN THE STATE OF CALIFORNIA: GEOGRAPHICALLY WEIGHTED REGRESSION ANALYSIS

An Abstract of

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ABSTRACT

"Everyone has the right to a standard of living adequate for the health and wellbeing of themselves and their family …including housing" (Universal Declaration of Human Rights 1948, Article 25).

From the early 2000s, housing markets in the U.S. faced a problem of housing foreclosure. However, the severity of the problem differed regionally. Some markets such as California were severely hit by increased housing foreclosures caused by rising housing prices linked to the subprime mortgage lending, which rapidly increased demand for homes. That was followed by an economic downturn, the drastic decline of the housing price between 2004 and 2008, and a collapsing credit system. The end result was a record high foreclosure rate as many high risk borrowers failed to pay their mortgages. Data from Realty Tract showed that California was among the leading states in the nation for the number of housing foreclosures in 2008.

This thesis seeks to understand the geography (spatial patterns) of housing foreclosure for the state of California in 2008. The problem is examined using ten socioeconomic variables that were selected based on a review of the research literature on housing. The objective of this analysis is to examine which of the selected socioeconomic variables better explain the pattern of housing foreclosures for the state of California in 2008. The analysis was conducted using the geographically weighted regression (GWR) introduced by Fotheringham, Brunsdon, and Charlton (2002). The GWR method is a local regression that produces the local parameter estimates at every regression point. Therefore, it analyzes the relationship between the variables by considering the spatial variability of the relationship across the study area (non-stationary phenomenon). The

analysis was done at a county scale. It would be better to study the pattern of housing foreclosures at a very fine scale such as census tract and census blocks; however, the required data for this study at that scale was inaccessible.

From the analysis, only four variables were tested best to explain the pattern of housing foreclosures in the state of California in 2008. The variables are the percentage of housing units with mortgages in 2007 (this was used in substitute of the 2008 data that was not available at the time this thesis was conducted), the percentage of African American population, the percentage of Caucasian population and the urbanization.

The findings show that the percent of housing foreclosure varies directly with the percent of African American population in most counties. Moreover, there is non-static relationship between the percent of housing foreclosures and percent of Caucasian population across the state. Furthermore, the results show that there is non-static relationship between percent of housing foreclosure and the level of urbanization. Finally, there is an inverse relationship between the housing foreclosures and percent of housing units with mortgages (2007) for some counties, especially in the southern California; however, the correlation is positive for other counties in the state.