

Housing Affordability Issues in the Southern United States

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Introduction

The economic crisis has contributed to a decline in consumer wealth, recorded a high unemployment rate, and increased poverty. The impact of the current recession on American families continues and has negatively influenced the most vulnerable groups including children, the elderly, and the poor. Under the recession characterizing falling housing prices and high unemployment rates, American households have reduced their spending (Mossaad, 2010); and are not optimistic about their economic future (Hurd & Rohwedder, 2010). Hurd and Rohwedder (2010) revealed that (a) from November 2008 through April 2010, almost 39% of households had either been unemployed, had negative equity in their houses, or were in arrears on their house payments, (b) reductions in spending and unemployment were common, and (c) stock market prices and housing prices were low and not able to optimistically meet long-run expectations.

Current economic phenomena should be particularly noted in the South. From the *Current Population Survey*, the South showed the lowest median income and the highest poverty level in the U.S. regions. The 2010 median income in the South was \$45,492, compared to \$49,445 of the U.S. median income; and the 2010 poverty level was 16.9%, compared to 15.1% of the U.S. average poverty level (DeNavas-Walt, Proctor & Smith, 2011). From this, one assumption of this study was that, compared to other regions, in the South, more numbers of consumers with an income constraint were likely to struggle financially to obtain affordable housing, especially in a distressed economy. Therefore, this study examined housing affordability of consumers in the Southern United States, focusing on recent demographic and housing characteristics.

Theoretical Framework

This study was based on the housing adjustment theory (Morris & Winter, 1975, 1978, 1998) in order to examine housing affordability levels of consumers in the South. Mainly, the theory covers the complex processes of American families' making decisions about their housing and reveals the relationships among individual characteristics and housing within the social context (Morris & Winter, 1978). Housing norms (related to tenure status, structure type, and housing space) and constraints (e.g., economic resources) are important influential forces when members of a household need to evaluate their housing conditions or challenges.

In general, many people do not live in housing that meets shared norms due to various constraints (e.g., low income or unemployment) of members within the household. Also, they may not choose housing which meets U.S. housing norms because of different value systems among household members (Morris & Winter, 1998). Consumers in the South may have unique demographic characteristics which closely relate to their resources and constraints when evaluating their housing challenges and which can influence their housing affordability levels.

Methodology

Research Questions and Hypothesis

In this study, the two primary research questions directed: (1) What is the demographic and housing profile of consumers in the Southern U.S.? and (2) What are the relationships between demographic and housing characteristics and housing affordability of consumers in the Southern U.S.? The following hypothesis was developed to address the research question (2): $H_0 = \text{Demographic and housing characteristics as a whole are not related to housing affordability of consumers in the Southern U.S.}$

Data and Sample

The sample was designed following the protocol described by Dillman, Smyth, and Christian (2009). The sample was drawn proportionate to population size by county in Arkansas, Florida, Georgia, Mississippi, North Carolina, Tennessee, and Virginia which are defined as *Southern*. After specifying the sampling frame parameters, the required sample was purchased from Survey Sampling Inc. The authors developed a housing related questionnaire to be compatible with the data collection protocol of Survey Monkey, and trained enumerators to use the questionnaire to collect the data. The telephone interview survey was conducted by the Applied Survey Research Laboratory at North Carolina A&T State University. It began August 1, 2011 and ended November 10, 2011. Data was collected from a random sample of 491 respondents in the *Southern U.S.*

Variables

A dependent variable (DV), *housing affordability*, was developed by calculating the ratio of housing cost to family income. In the survey, a question of *housing cost* was developed to obtain the sum of the ‘monthly’ costs of all of the applicable items including electricity, gas, fuel oil, other fuels, garbage and trash, water and sewage, real estate taxes, property insurance, condominium fees, homeowner’s association fees, mobile home park fees, land or site rent, other required mobile home fees, rent, and mortgage payments. The measure of ‘affordable’ housing cost was defined as less than or equal to 30% of monthly family income; and ‘unaffordable’ housing cost (housing cost burdened) was defined as greater than ‘30%’ of monthly family income (Roskey & Green, 2006). The DV was coded as *1* if the respondent was able to afford their housing and *0* if the respondent was unable to afford their housing due to a housing cost burden.

Independent variables (IVs) included demographic and housing characteristics. Demographic variables consisted of age, education level, employment status, household size, location, marital status, and sex. Housing variables included housing quality level, structural size, structure type, and tenure status. The research model appears in Figure 1. Housing affordability levels were considered as a representative term when investigating each respondent’s housing challenges in the United States. The model focused on revealing the overall relationships of demographic and housing variables (IVs) and housing affordability levels (DV)

Data Analysis Procedure

The Statistical Package for the Social Sciences (SPSS) version 19 was employed to analyze data for this study. Descriptive statistics (frequencies, percentages, and means) were used for the Southern U.S. consumers’ demographic and housing characteristics. Data analyses employed in this study included *binary logistic regression*, whose dependent variable used a

dichotomous variable (i.e., coded 0 and 1) and which allowed accessing how well the set of predictor variables explained the categorical dependent variable. A significance level of $\alpha = .05$ was chosen as the criterion for decision on rejecting the null hypotheses.

Results

Descriptive statistics are provided in Table 1. Almost 51% of the respondents had housing cost burden (i.e., their housing expenditures were greater than '30%' of monthly family income). Average age of the respondents was almost 57 years. Almost 65% were female, and 52% lived in rural areas. Less than half were not married (43%). Almost 45% reported education levels as a high school graduate or less. The household sizes were relatively small with $M = 2.34$. Almost 50% were unemployed. Almost 51% earned income below or closer to \$49,445 of the 2010 U.S. median household income. Most were homeowners (83%) and lived in a one-unit building, detached from any other building (77%). Average structure size was 4.27 bedrooms. The sample's housing quality was good, $M = 3.01$ [1 (extremely poor) to 5 (excellent) range].

A binary logistic regression was employed to assess the relationships of housing affordability of consumers in the Southern U.S. and their demographic and housing characteristics. The DV was the housing affordability level with two categories, 1 (affordable) and 0 (unaffordable). For categorical IVs, each category was compared with the reference group (see Footnotes in Table 2). The full model was statistically significant with $\chi^2(17, N = 137) = 31.632, p < .05$, indicating that the model was able to distinguish between the respondents whose housing was affordable and whose housing was unaffordable. The model as a whole explained 27.5% (Nagelkerke $R^2 = .275$) of the variance in housing affordability levels. Overall 67.9% of respondents were correctly classified as those who were able to afford their housing and those who had housing cost burden. The Chi-square value for the Hosmer-Lemeshow Test was 4.775 with a significant level .781 ($p > .05$), indicating support for the model.

As shown in Table 2, a null hypothesis (*Demographic and housing characteristics as a whole are not related to housing affordability of consumers in the Southern U.S.*) was rejected and it was concluded that there was a relationship between demographic and housing characteristics and housing affordability of consumers in the Southern United States. Variables influencing housing affordability included age, education level, and location.

For a one point increase in the age, there was a likelihood of increases in respondents' housing affordability levels by 5% (Odds Ratio = 1.045). Those completing some college or having an associate degree were 8.15 times more likely to have affordable housing than those reporting education levels as a less than high school graduate (Odds Ratio = 8.145). Those living in rural areas were 3.54 times more likely to have affordable housing than those living in urban areas (Odds Ratio = 3.537). The regression coefficients of employment status, household size, marital status, sex, housing quality, structure size, structure type, and tenure status were insignificant, implying that those variables had no effect on the housing affordability levels when controlling for other variables in the model.

Discussion

Compared to 69% of the U.S. homeownership rate in the South (Joint Center for Housing Studies of Harvard University, 2011), the sample in this study shows a quite higher homeownership rate of 83%. The high homeownership rate can be traced to the sample's average age, which was almost 57 years old. In general, elderly groups in the U.S. are more likely to have

higher homeownership rates than other age groups. The 2010 homeownership rates of the U.S. population aged 55-64 and 65 and over were 79% and 81% respectively (Joint Center for Housing Studies of Harvard University, 2011), which is similar to 83% of the homeownership rate of the sample.

From the data analyses, age, education, and location are significant influential factors in housing affordability. Based on the theory of housing adjustment, those factors are considered as unique characteristics of consumers in the South and can be acted as constraints or resources when they face a housing challenge (housing cost burden). In the South, if a consumer is younger, less educated, and lives in urban areas, he/she may face housing affordability issues more so than their older counterparts. If a consumer is younger, he/she is likely to be a renter who has more housing cost burden than a homeowner; if a consumer is less educated, he/she is likely to earn less income than those with a higher education degree and then may face housing affordability issues; and if a consumer lives in urban areas, he/she is likely to spend more on housing cost than those in rural areas and also they may have reduced income due to a distressed economy. As mentioned in the *housing adjustment theory*, limited income of the sample can be a constraint interfering with the ability to live in normative housing conditions (Morris & Winter, 1998).

Further analysis is needed to determine which comparisons with other regional and national data will add to the understanding of housing affordability issues. This result may prove valuable to policymakers, researchers, educators, and nonprofit organizations. Based on the research results, almost 50% of the sample cannot afford their house. From this aspect, policymakers may consider future housing or income oriented policies. Also, nonprofit organizations may consider how to become actively involved in helping those facing housing affordability issues. Also, in this study, the housing adjustment theory was employed and a research model was developed to examine housing affordability. This study is therefore beneficial to researchers and educators who want to develop similar research.

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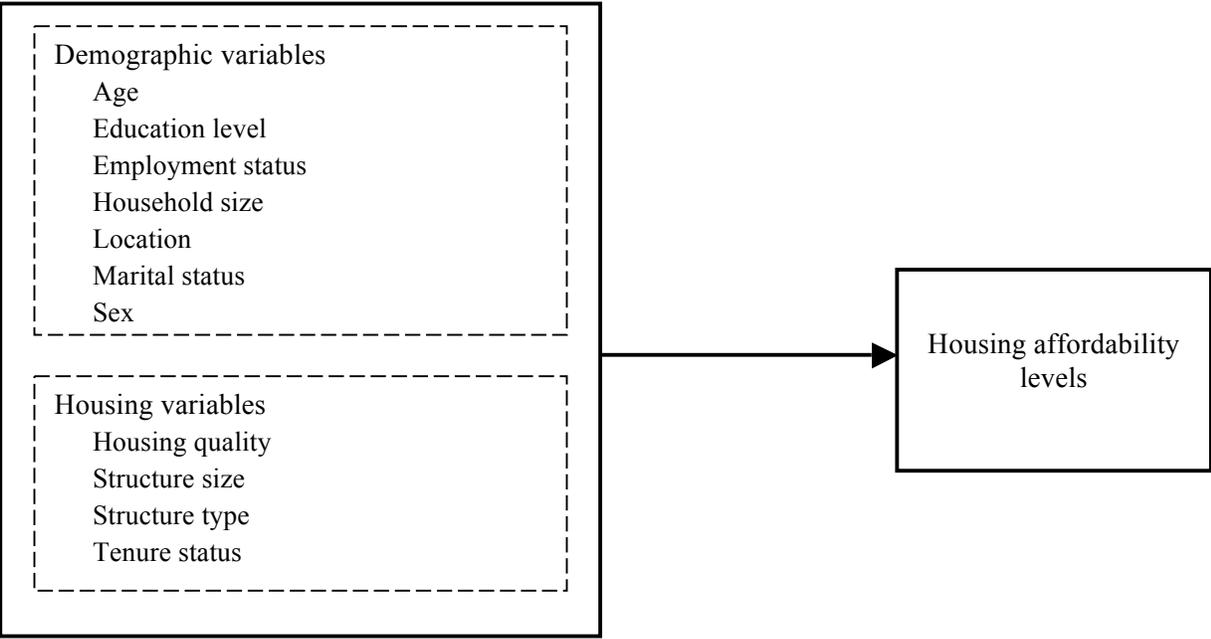


Figure 1. A Research Model

Table 1***Descriptive Profile of Consumers in Southern U.S. (N=491)***

	<i>n</i>	<i>%</i>
Affordability^a		
Unaffordable	70	50.7
Affordable	68	49.3
Education		
Less than high school	44	9.0
High school graduate	170	34.6
Some college or associate degree	126	25.7
Bachelor's degree	90	18.3
Graduate degree	52	10.6
Employment Status		
Unemployed	241	49.1
Part-time employed	30	6.1
Employed	211	43.0
Family Income		
Less than \$25,000	87	17.7
\$25,000 to \$34,999	87	17.7
\$35,000 to \$49,999	78	15.9
\$50,000 to \$74,999	118	24.0
\$75,000 and over	56	11.4
Location		
Urban (within city limits)	235	47.9
Rural (outside city limits)	253	51.5
Marital Status		
Married	271	55.2
Not married (widowed, divorced, separated, never married)	213	43.4
Sex		
Male	169	34.4
Female	318	64.8
Structural Type		
One-unit building, detached from any other building	380	77.4

Table 2***Logistic Regression Results for Hypothesis 1 (n=137)***

Predictor	β	SE β	Wald's		<i>p</i>	Odds Ratio	95% C.I. for Odds Ratio		
			χ^2	<i>df</i>			Lower	Upper	
Constant	-2.886	2.452	1.386	1	.239	.056			
Age	.044	.020	4.976	1	.026	1.045	1.005	1.086	
Education Level (1) ^a	1.183	.782	2.285	1	.131	3.264	.704	15.128	
Education Level (2)^b	2.097	.782	7.194	1	.007	8.145	1.759	37.718	
Education Level (3) ^c	1.077	.847	1.618	1	.203	2.937	.558	15.450	
Education Level (4) ^d	1.366	.901	2.300	1	.129	3.920	.671	22.913	
Employment Status (1) ^e	1.202	.819	2.156	1	.142	3.327	.669	16.553	
Employment Status (2) ^f	.553	.537	1.061	1	.303	1.739	.607	4.980	
Household Size	-.225	.225	1.005	1	.316	.798	.514	1.240	
Location (1)^g	1.263	.459	7.574	1	.006	3.537	1.439	8.696	
Marital Status(1) ^h	-.472	.498	.895	1	.344	.624	.235	1.657	
Sex (1) ⁱ	.055	.447	.015	1	.902	1.056	.440	2.536	
Housing Quality	-.205	.291	.499	1	.480	.814	.461	1.439	
Structure Size	-.195	.316	.380	1	.538	.823	.443	1.529	
Structure Type (1) ^j	.566	1.098	.266	1	.606	1.761	.205	15.150	
Structure Type(2) ^k	-.579	.965	.361	1	.548	.560	.085	3.710	
Structure Type(3) ^l	.200	.953	.044	1	.834	1.222	.189	7.916	
Tenure Status(1) ^m	-.316	.791	.160	1	.689	.729	.155	3.434	
Test			χ^2	<i>df</i>	<i>p</i>				
Overall model evaluation			31.632	17	.017*				
Goodness-of-fit test			Hosmer & Lemeshow	4.775	8	.781			

Note. Dependent variable: housing affordability (1=affordable and 0=unaffordable); Nagelkerke $R^2 = .275$; Model Prediction = 67.9%

^a A value label, *High school graduate*, was coded 1, and other value labels were coded 0. *Less than high school* was a reference group.

^b A value label, *Some college or associate degree*, was coded 1, and other value labels were coded 0. *Less than high school* was a reference group.

^c A value label, *Bachelor's degree or more*, was coded 1, and other value labels were coded 0. *Less than high school* was a reference group.

^d A value label, *Graduate degree*, was coded 1, and other value labels were coded 0. *Less than high school* was a reference group.

^e A value label, *Part-time employed*, was coded 1, and other value labels were coded 0. *Unemployed* was a reference group.

^f A value label, *Employed*, was coded 1, and other value labels were coded 0. *Unemployed* was a reference group.

^g A value label, *Rural*, was coded 1, and *Urban* was coded 0. *Urban* was the reference group.

^h A value label, *Not Married*, was coded 1, and *Married* was coded 0. *Married* was the reference group.

ⁱ A value label, *Female*, was coded 1, and *Male* was coded 0. *Male* was the reference group.

^j A value label, *one-unit building, attached from any other building* was coded 1; other value labels were coded 0. *One-unit building, detached from any other building*, was a reference group.

^k A value label, *building with two or more apartments* was coded 1; other value labels were coded 0. *One-unit building, detached from any other building*, was a reference group.

^l A value label, *manufactured (mobile) homes* was coded 1; other value labels were coded 0. *One-unit building, detached from any other building*, was a reference group.

^m A value label, *Renter*, was coded 1, and *Owner* was coded 0. *Owner* was the reference group.

* $p < .05$