

Contributing Factors to the Housing Cost Burden of Female-Headed Households

The Review of Black Political Economy

1–13

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DOI: 10.1177/00346446231152809

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Abstract

While the United States housing cost burden has reached historically high levels for all households in recent years, female-headed households with children tend to bear a significant portion this burden. This study uses data from the 2015 and 2019 American Housing Survey to explore the disparities in housing cost burdens among female-headed households. In general, the results from the fixed effect model reveal that housing assistance significantly decreases the female-headed household's housing cost burden, while renting tends to increase the female householders' housing burden compared to owning. The fixed effect parameters suggest that single Black mothers experienced a high housing cost burden in 2015 and 2019, more than any other category of Black female-headed households for both years. Likewise, single Hispanic mothers also face large housing cost burdens, which increased from 2015 to 2019. This finding should guide inquiries into the impact of changes in federal policies on the immigrant status on the rising housing cost burden of the Hispanic female cohort. The study's findings suggest an increase in public housing and rental assistance programs that benefit single black mothers with children and other vulnerable households.

Keywords

housing affordability, housing cost burden, black households, female-headed household, affordable housing, disability

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Introduction

Housing affordability among lower-income Black households has been attributed to many internal and external factors such as gentrification, income inequality, and displacement (Freeman & Braconi, 2004, McKinnish et al., 2010; and Ellen & O'Regan, 2011; Zenebe et al., 2018). Due to stagnant income, many households impacted by housing affordability cannot afford the high housing cost (Gold, 2020; Jetter, 2009; Newman & Wyly, 2006). According to the U.S. Department of Housing and Urban Development (2018), an estimated 12 million homeowners are now paying more than 50% of their annual housing income, exceeding the recommended amount of 30% for housing. Furthermore, more than 80% of low-income households have an overburdened housing cost (Shamsuddin, 2019; Shamsuddin & Campbell, 2022). Housing assistance programs assist in alleviating the housing cost burden for many low-income families (Gold, 2020).

High housing cost places an onerous cost burden on the survival of affected households (Fernald, 2019; Gold, 2020; Rohe, 2017; Shamsuddin & Campbell, 2022). The rising household consumption expenditures and income stagnation tend to aggravate the housing cost burden for most families (Shamsuddin & Campbell, 2022). Moreover, families forced to relocate due to eviction or foreclosure often move to less prosperous neighborhoods and face financial hardships and restricted economic mobility (Ding & Hwang, 2016). The extent of the difficulties differs across demographic and socioeconomic groups. Often, households significantly challenged with the rising cost of housing across cities are those headed by single Black mothers. Researchers have found that single Black mothers cannot afford high rental costs, especially when government assistance to alleviate their burden may not exist (Brown-Robertson et al., 2013; Pew Research, 2018; Shamsuddin & Campbell, 2022).

This study seeks to extend the housing cost burden literature by exploring United States housing affordability disparities of female-headed households by race, marital and dependent status over two periods. We also explore socioeconomic and neighborhood factors contributing to a female-headed household experiencing a higher housing cost burden. This study utilizes the American Housing Survey (AHS) to answer the following research questions: Among Black households, is the housing cost burden significantly larger for single Black mothers with children? From 2015 to 2019, did the housing cost burdens increase or remain the same, suggesting a lack of attention in policy to address the housing needs of single Black mothers?

Brief Review of Previous Studies

Recent literature on housing affordability in the United States has shown that housing is becoming increasingly unaffordable due to the rising cost coupled with stagnant household income (Rohe, 2017; Fernald, 2019; Gold, 2020; Shamsuddin & Campbell, 2022). For example, Shamsuddin and Campbell (2022) used data from the Survey of Income and Program Participation to examine the relationship between housing cost burden, material well-being, and residential satisfaction after

the Great Recession. Their study found that the probability of material hardship increased for households that spent 50% of their income on housing. The study also found that families experienced the largest increase in material hardship.

The high housing cost burden poses financial challenges, especially for low-income families (Gold, 2020; Shamsuddin & Campbell, 2022). The stagnation of income over the years relative to total host costs creates upward pressure on the growth of household housing costs burdens. Public housing assistance for low-income families can alleviate the housing cost burden (Gold, 2020). Schierholtz and Mishel (2013) found that from 2010 to 2020, United States housing costs continued to rise while wages flattened. The rise in housing cost burdens is attributable to gentrification, the insufficient supply of housing units, and the general increase in the cost of living. This phenomenon is common in cities where it is challenging to increase housing densities to satisfy the growing demand for housing units (Gyourko et al., 2013). Therefore, the shortage in housing units causes the bidding up of housing costs, thus forcing households with limited incomes to migrate because they cannot afford the high premiums (Klyuev & Mills, 2006; Taylor, 2015). Lower-income residents thus face the trade-off of moving or staying in place and incurring the escalating cost of housing. The rise in housing costs, in turn, impacts the allocation of funds to other necessities such as food, health, and utilities (Fernald, 2019; Gold, 2020; Shamsuddin & Campbell, 2022).

It often forces lower-income residents to move further away from work and reliable public transportation (Taylor, 2015).

Over the past two decades, the average cost of housing rose as rent grew faster in areas identified as gentrified neighborhoods (Brown et al., 2016; Ellen & O'Regan, 2011; Goetz, 2010; HUD, 2018). Freeman and Braconi (2004) found in a study of New York that three-fourths of the low-income renters in gentrifying neighborhoods pay more in rent than the recognized standard of affordability (30% of their income) towards rents, and half of those were paying up to 67% of their annual incomes towards rents. Renters and low-income residents are often forced to move to less desirable neighborhoods (Ellen et al., 2013). These authors studied why households move into relatively low-income neighborhoods and found that affordability was the key reason for displacement.

Desmond and Shollenberger (2015) analyzed survey data to understand the intra-migration habits of Milwaukee residents. The authors identified housing or neighborhood conditions as the reasons why people move. Rent hikes, deterioration in housing quality, and violence were the forces that motivated the displacement of people. Wyly et al. (2010) analyzed New York housing survey data to conclude that poor households were almost two times more likely to be displaced than non-poor. Other studies have argued that housing costs increase and result in housing inequity as lower-income households tend to relocate (Disney et al., 2010).

Goetz (2011) examines the racial dimension of state-supported gentrification in large US cities by looking at the direct and indirect displacements provoked by public housing transformation. Based on data, the author found that public housing demolition forced out residents from their neighborhoods, and most of the households displaced were Black. Brummet and Reed (2019) found that gentrification caused

modest effects of the out-migration of existing residents. Conversely, Dragan et al. (2020) examined 2009 to 2015 New York City Medicaid records and found that gentrification is not associated with the mobility of their cohort of low-income children. Martin and Beck (2016) found that while property tax engenders the displacement of homeowners, there was no evidence that displacement was limited to gentrifying neighborhoods. Likewise, although the 2017 US Census Bureau data show that families, in general, are faring better economically, poverty among minority women remains a challenge as their poverty rate tends to be higher compared to that of whites in general (Patrick, 2017). The situation is dire for Black female-headed households with children, where one in three live in poverty (Fins, 2020).

This research investigates the housing cost burden of single Black female-headed households with children. While several studies have focused on housing affordability, this study focuses on the factors contributing to higher housing cost burdens among similar demographic groups. Data from the AHS for 2015 and 2019 will provide insight into the disaggregated factors which cause single Black female-headed households with children to incur a higher housing cost burden than others. The study will also investigate the factors accounting for housing cost burden over time. The research extends the literature on Black household housing cost burdens by looking deeper into the unique factors that impact the vulnerable single Black mother's household.

Data and Methodology

To investigate the factors affecting the housing cost burden of single Black female-headed households with children, this study uses an unbalanced panel of data from the 2015 and 2019 AHS. The AHS is a longitudinal housing unit survey conducted by the U.S. Census Bureau. The AHS data gathered comprised the largest housing survey of housing units and the people who live in the units for 25 U.S. metropolitan areas. The AHS data provides detailed housing characteristics, including housing costs, housing unit size, and housing and neighborhood quality.

The database also contains extensive economic and demographic information about the householders and their family members, making it an ideal dataset for analyzing the individual demand for housing characteristics, including housing cost burdens. A household is cost-burdened when it pays more than 30% of its income to cover housing expenses (Gold, 2020; Joint Center for Housing Studies, 2017). National data are collected biannually, and the sample covered 24,886 units in 2015 and 21,753 housing units in 2019. Figure 1 displays the selected metropolitan area's housing cost burden from 2019, the AHS monthly median total housing cost by income for Asian, White, Black, and Hispanic categories. Figure 1 shows that Black and Hispanic households have the highest housing cost burden in the selected metropolitan areas. Overall, Black households encumbered the most extensive housing cost burden among all races for the metropolitan areas displayed in the figure.

For this study, we utilized the AHS data for 2015 and 2019 and extracted female-household heads, marital status, race, ethnicity, and dependent status, leaving a database encompassing approximately 9,443 and 9,363 observations for 2015 and 2019,

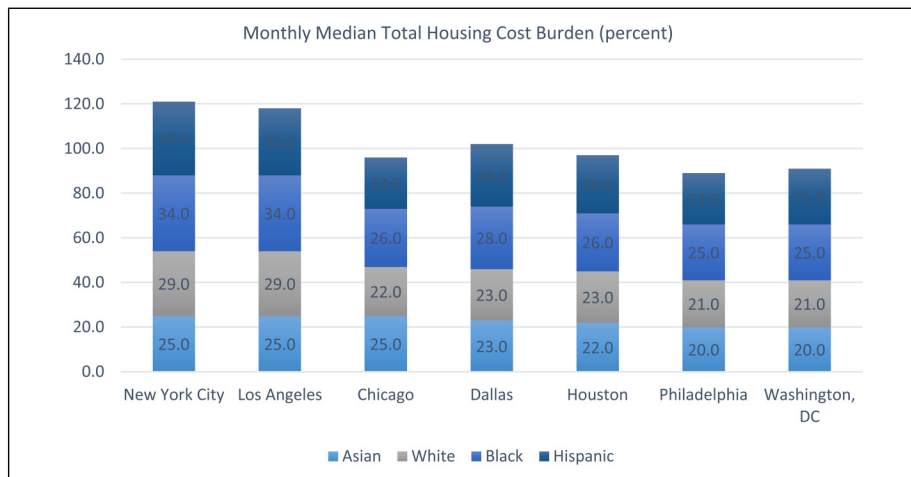


Figure 1. Selected metropolitan areas housing cost burden—2019.
 Source: Constructed by authors using data from the AHS 2019.

respectively. The sample selected for this study consists of a cohort of female-headed households, respectively, in the 2015 and 2019 AHS datasets (Table 1). The samples for 2015 and 2019 include 9,443 and 9,363 female-headed households. Of the observations in both samples, 6,062 were single, 3,381 were married in 2015, while 6039 were single, and 3324 were married in 2019.

The dependent variable is the housing cost burden (HCB). A household is cost-burdened if it pays more than 30% of its income toward housing expenses. Households are typically cost-burdened if they spend 30% or more of their income on housing costs (Gold, 2020; Joint Center for Housing Studies, 2017). The housing cost burden is expected to be more severe for Black households (Shamsuddin & Campbell, 2022) and single Black female-headed households with kids (Brown-Robertson et al., 2013; Pew Research, 2018). We utilize AHS data to calculate the housing cost burden through the variable HCB , which is the ratio of a household's total housing costs for the year to their annual household income. We based our calculation on the method used by the Department of Housing and Urban Development (HUD) to determine the burden of housing costs on households (Eric Belsky, 2005).

Thus the relationship between housing cost burden (HCB) and the relevant demographic, socioeconomic, and neighborhood variables selected for the current study can be expressed as follows:

$$HCB_{it} = \beta_0 + \beta_1 DGr + \beta_2 Neigh + \beta_3 SOE + \beta_4 K_{rmd} + \alpha_i + \mu_{it} \quad (1)$$

The model specification to be estimated includes demographic, socioeconomic, and neighborhood variables to control the association of the HCB variable and the characteristics of single female-headed households with children. Thus, the demographic

Table 1. Distribution of Female-Headed Households by Race for 2015 and 2019 AHS Data.

	2015			2019		
	Total	No kids	Kids	Total	No kids	Kids
Black	1598	1513	85	1598	1496	102
White	4187	4092	95	4232	4139	93
Hispanic	406	375	31	336	307	29
Black Hispanic	24	22	2	18	17	1
Total	6215	6002	213	6184	5959	225
Percentage of female-headed household marital status						
Single		97%	3%		97%	3%
Married		94%	6%		91%	9%

Source: Constructed by authors using data from the AHS 2015 and 2019.

control variables (DGr) selected for the study are the age of the household head, education status, and race. The socioeconomic control variables (SOE) include whether a member of the household is disabled; if the family has gone a significant amount of time without food; if the household was forced to move from their previous home due to foreclosure or eviction; if the household receives rental assistance; and whether the household owns or rents the current unit where they reside. The subjective neighborhood survey (Neigh) includes variables such as whether the neighborhood has a significant amount of crime; and if the respondent thought the neighborhood has good neighborhood schools. The key (K) variables for this model are variables that identify the female-headed households' race (r), marital status (m), and whether the female-headed household has a dependent (d or $child$).

To mitigate endogeneity bias, we estimate our model based on the fixed geographic effect estimation (α). We estimate the fixed effect model of an unbalanced panel for the two samples. The fixed geographic effect was chosen to incorporate the household head's specific geographic characteristics while also controlling for characteristics such as race, age, marital status, and whether the household head had kids or not. We implemented the fixed effect model to control for unmeasured factors of the metropolitan geographic location of the households evaluated in the study. Housing cost burden varies differently across single female-headed households with kids depending on their race, age, and educational background. Such time-invariant variables are controlled in the fixed effect model estimation by interacting them with time variables.

Results and Discussion

The sample selected for the regression analysis in 2015 and 2019 consisted of female-headed households of all races. Table 2 shows the distribution of the sample. Most of the households for both 2015 and 2019 were white female-headed households, followed by Blacks and Hispanics. About 6% of the households in the 2015 sample

Table 2. Fixed Effects Parameter Estimates of the Housing Cost Burden of Single Black Female-Headed Households, 2015.

Variable	Coef.	Std. Err.	t	p > t
Disable	0.044	0.008	5.66	.000***
No food	0.098	0.026	3.75	.000***
Good schools	0.010	0.007	1.35	.176
Force to move	0.035	0.017	2.06	.039**
Crime	0.002	0.008	0.27	.788
Ages 25-64	-0.046	0.012	-4.00	.000***
Age 65 and older	0.016	0.014	1.08	.279
High school graduate	0.024	0.008	2.88	.004**
Some college	0.015	0.009	1.75	.081*
Bachelor's degree	-0.036	0.009	-3.86	.000***
Rental assistant	-0.021	0.008	-2.71	.007***
Rental tenure	0.164	0.020	8.23	.000***
Black	0.010	0.021	0.48	.633
Hispanic	0.035	0.026	1.35	.179
Black Hispanic	-0.042	0.073	-0.58	.564
Single	0.080	0.011	7.54	.000***
Single Black	0.114	0.012	9.51	.000***
Single Hispanic	0.102	0.017	6.10	.000***
Single Black Hispanic	0.140	0.056	2.50	.012**
Married kids in HH	0.104	0.028	3.70	.000***
Married-Black with kids	0.043	0.056	0.77	.442
Married-Hispanic with kids	0.112	0.031	3.62	.000***
Married-Black Hispanic w/ kids	-0.125	0.191	-0.66	.512
Single with kids	0.113	0.031	3.67	.000***
Single Black with kids	0.137	0.022	6.17	.000***
Single Hispanic with kids	0.145	0.044	3.31	.001***
Single Black Hispanic with kids	0.167	0.191	0.87	.383
Constant	0.122	0.025	4.79	.000***
F value	14.05			.000***
R-squared (overall)	0.093			
N	3,698			

Note: *** $p < .01$, ** $p < .05$, * $p < .1$.

had kids, while 94% were with no kids. For the 2019 sample, only 5% of the households had kids compared to 95% with no kids. Of the total number of households headed by females, about 63% were single, while 37% were married in the 2015 sample. In 2019, single female-headed households were 64%, while married female-headed households were 36%. These distributions show similarities in the two datasets.

A careful examination of the two datasets shows that most female-headed households, married or single, had few kids. In the 2015 sample, only 3% of the single-

headed households had children compared to 97% with no children. In 2019, these figures were 3% and 3%, indicating that the two samples were similar. Among married female-headed households, 9% had kids in 2015 compared to 6% in 2019.

Table 3 shows the fixed effects estimates of the factors that predict the housing cost burden of single female-headed households in 2015. The reference group for our key independent variable is single White female-headed households. The independent variables include demographic and socioeconomic variables.

Table 3. Fixed Effects Parameter Estimates of the Housing Cost Burden of Single Black Female-Headed Household, 2019.

Variable	Coef.	Std. Err.	t	$p > t $
Disable	0.073	0.008	9.35	.000***
No food	0.137	0.027	5.15	.000***
Good schools	0.001	0.007	0.11	.910
Force to move	0.035	0.019	1.8	.072*
Crime	0.015	0.010	1.52	.129
Ages 25-64	-0.056	0.011	-5.07	.000***
Age 65 and older	0.039	0.013	2.98	.003
High school graduate	0.012	0.008	1.59	.112
Some college	0.017	0.008	2.07	.039**
Bachelor's degree	-0.032	0.008	-3.93	.000***
Rental assistance	-0.017	0.007	-2.34	.019**
Renter tenure	0.342	0.017	19.91	.000***
Black	0.010	0.017	0.55	.583
Hispanic	0.090	0.018	5.06	.000***
Black Hispanic	0.121	0.063	1.93	.054
Single	0.069	0.008	8.12	.000***
Single Black	0.089	0.010	8.59	.000***
Single Hispanic	0.103	0.014	7.33	.000***
Single Black Hispanic	0.141	0.045	3.13	.002***
Married with kids	0.062	0.025	2.46	.014**
Married-Black with kids	0.064	0.045	1.43	.153
Married-Hispanic with kids	0.129	0.039	3.31	.001***
Married-Black Hispanic with kids	0.174	0.153	1.13	.257
Single with kids in HH	0.155	0.031	5.00	.000***
Single-Black with kids	0.129	0.029	4.44	.000***
Single-Hispanic with kids	0.230	0.047	4.91	.000***
Single-Black Hispanic with kids	0.090	0.125	0.72	.474
Constant	-0.557	0.022	-25.2	.000***
F value	35.74			.000***
R-squared (overall)	0.144			
N	5682			

Note: *** $p < .01$, ** $p < .05$, * $p < .1$.

Overall, the model performs well with a statistically significant F test for both samples indicating that all estimated coefficients in both models are different from zero. Also, differences across household characteristics are weakly correlated or uncorrelated. Both estimations' key covariates are statistically significant and associated with the housing cost burden. The results show that for both samples, a single female-headed household with a disability has a significantly high-cost burden than when there is no disability. Also, a household that has gone a significant amount of time without food is substantial and more likely to have a higher cost burden. In general, the results from the fixed effect model reveal that housing assistance significantly decreases the female-headed household's housing cost burden, while renting tends to increase the female householders' housing burden compared to owning.

For both the 2015 and the 2019 samples, the education of the female-headed households (advanced degree is the reference category) is significantly related to the household's cost burden, indicating that a female-headed household with some college education is more likely to have a higher housing cost burden than a female-headed household with an advanced degree. Interestingly, this is not the case when a female-headed household holds a Bachelor's degree. The negative sign on the Bachelor's degree coefficients, which are significant in both samples, indicates that a female-headed household with a Bachelor's degree tends to have a lower housing cost burden than a female-headed household with an advanced degree.

Except for Hispanics in 2019, the variables were positive and insignificant when controlling for just race. Hispanic female-headed households were positive and significant in 2019, showing that the housing cost burden significantly increased for Hispanic females across categories relative to their white counterparts. This was also the case in 2015 and 2019 for married Hispanic female-headed households with kids. The results for both the 2015 and 2019 samples show that the variables for single female-headed households and single female-headed households with kids had a statistically significant positive housing cost burden. The housing cost burden is more severe for single female-headed households with kids identified as Hispanic and Black.

Tables 2 and 3 show the housing cost burden effect of being in a single Black or Hispanic female-headed household with kids (mothers) for the 2015 and 2019 samples, respectively. The estimated coefficients are significant, with positive signs indicating that for the 2015 sample, a positive and significant housing cost burden for the single Black and Hispanic mothers by 0.137 and 0.145, respectively. For the 2019 sample, the same categories were also significant, with the expected positive signs indicating that the housing cost burdens increased for single Hispanic mothers by 0.230 units and single Black mothers by 0.129 units. These findings also show that the housing cost burdens are significant and high for single Black mothers, more than any other category of Black female-headed households for both 2015 and 2019. In comparing 2015 to 2019, the housing cost burden for single Black mothers slightly declined from 2015 to 2019; the finding suggests that more needs to be done comprehensively to address the increase in housing cost burdens faced by this vulnerable group. Likewise, single Hispanic mothers also face large housing cost burdens, which increased from 2015 to 2019. This finding should lead researchers

to inquire if changes in federal policies on immigrant status impacted the increase in housing cost burdens faced by this Hispanic female cohort.

Conclusion

Due to the stagnation of income growth over time, many households devote a larger proportion of their incomes towards housing expenditures, thus reducing the resources to cover other necessities (McConnell, 2013; Shamsuddin & Campbell, 2022). There is evidence that higher cost burdens may decrease overall well-being and cause material hardship to families (McConnell, 2013). Using the 2015 and 2019 AHS, we developed this study to disaggregate household housing cost burdens to compare impacts among single female-headed households in the United States by race, marital, and dependent status. Our analysis finds that after controlling for geographic, neighborhood, and socio-economic indicators, households headed by single Black female-headed households with kids experience significant housing cost burdens compared to whites. These findings confirm that while the housing cost burden is substantial for families with children, Black and Hispanic households suffer more than White single-mother households, even after controlling for age, education, and other socioeconomic factors. The findings highlight the disparities of this variable population, which goes beyond one member of the household but an entire family of dependents.

The study advances the literature and suggests policy recommendations that target and address the housing cost burdens impacting single Black and Hispanic mothers with children. We find that after controlling for demographic, geographic, and socioeconomic characteristics, Black and Hispanic female-households encountered a positive and significant increase in housing cost burden compared to their White counterparts. The most significant increase in housing burdens for both 2015 and 2019 occurs for single Black and Hispanic mothers. The findings highlight the disparity of housing cost burdens among females based on race. Additional research may be needed to determine if Federal housing policy played a role in the large increase in housing cost burdens of single Hispanic mothers over the 2015 to 2019 period.


Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The authors disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: The National Science Foundation (grant number 1818669).

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