Mountain Plains Journal of Business and Technology

Volume 25 | Issue 1 Article 1

Date Published April 2024
Date Submitted 7 February 2023
Date Accepted 14 March 2023

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Recommended Citation

Bredthauer, J. S., Iqbal, J., & Decker, C. (2024). Disparities in Housing Affordability by Income, Housing Tenure, and Race in US Census-designated Regions. *Mountain Plains Journal of Business and Technology, 25*(1), 1. Retrieved from https://openspaces.unk.edu/mpjbt/vol25/iss1/1

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DISPARITIES IN HOUSING AFFORDABILITY BY INCOME, HOUSING TENURE, AND RACE IN US CENSUS-DESIGNATED REGIONS[1]

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ABSTRACT

This analysis demonstrates that there are significant regional disparities in housing affordability among US Census-designated regions, with the Northeast and West consistently bearing the highest costs. Over time, the burdens incurred by both owners and tenants have lessened, but renters' burdens have grown considerably. Furthermore, significant regional differences in severely cost-burdened households are highlighted. The Northeast has more severely cost-burdened households than the Midwest, South, or West. There are also significant ethnic differences: Asian Americans experience a slightly lower housing cost burden, while African Americans and Native Americans bear the greatest burden, followed by Hispanics. To address these problems, legislative changes are recommended with the goal of lowering cost burdens, particularly for disadvantaged groups, and encouraging fair access to affordable housing.

Keywords: Housing Affordability, Race, Tenure, Race, Housing costs, Income

INTRODUCTION

Housing costs account for a large portion of household spending in the United States (Joint Center for Housing Studies, 2022). According to the US Bureau of Labor Statistics' Consumer Expenditure Survey (https://www.bls.gov/cex/), in 2021 housing accounted for 34 percent of household expenditures on average. For households making $50,000 or less, housing accounts for close to 40 percent of expenditures. According to the Joint Center for Housing Studies (Joint Center for Housing Studies, 2022), housing cost burdens grew significantly during the first year of the pandemic. The proportion of all households spending more than 30 percent of their income on housing grew to 30 percent in 2020, up 1.5 percentage points from the previous year—the first significant increase in cost burden since 2010. Renters with limited resources had the greatest increase, rising 2.6 percentage points to 46 percent. During this same time, the homeowner cost burden rates grew by 1.0 percentage point to 21 percent.

Housing affordability is usually evaluated by a ratio of housing expenses to income, with households who spend more than 30 percent of their income on housing being classified as housing cost burdened (Jewkes and Delgadillo, 2010). While housing cost burdens can affect households across various income levels, they are particularly common among those with lower incomes. According to the 2023 report from the Joint Center for Housing Studies (Joint Center for Housing Studies, 2023), approximately 31 percent of households in the United States experienced housing

[1] Submitted 7 February 2023; Revised 23 November 2023; Accepted 14 March 2023

cost burdens in 2022, indicating that they allocated more than 30 percent of their income towards housing expenses. Among these households, 11.1 percent faced severe cost burdens, spending over 50 percent of their income on housing.[2] Research indicates that increased housing expenses have a negative impact on well-being by raising the chance of financial hardship, such as food insecurity, trouble paying bills, and foregoing necessary medical treatment (Newman, 2008; Leventhal and Newman, 2010). Low-income households tend to spend less money on food, transportation, and health care compared to households with lower housing costs (Ward et al., 2013; Shamsuddin and Campbell, 2022).

The financial strain brought on by the high cost of housing has a negative influence on one's health and well-being (Shaw, 2004; Braubach, 2011; Gibson et al., 2011; Kavanagh et al., 2016; Ortiz and Johannes, 2018; Cunningham et al., 2019).The evidence indicates that across racial and ethnic groups, minority households tend to own a disproportionally smaller percentage of primary residential housing compared to their share of the population (Neal et al., 2021). Low incomes, changing demographics, and cuts in government funding for new housing units have also led to a shortage of affordable rental housing in many rural areas across the United States (Vandenberg, 2021). Despite the economy's ongoing expansion, low-income housing demands have risen to an all-time high (Levitt, 2014; Aurand et al., 2017). Renters with earnings below 50 percent of the area median are those with the greatest housing cost burden. These families either spend more than half their income on rent or live in inadequate housing. The research emphasizes that housing affordability for the lowest income households diminishes with time. Most significantly, minority households have been severely impacted in terms of housing affordability (McElfish et al., 2016; Joint Center for Housing Studies, 2021).

Previous research has indicated that disadvantaged populations, particularly low-income households and households of color, are disproportionately affected by increasing housing costs (Aurand et al., 2017). Understanding the extent of housing cost burden among different household types is crucial for directing government resources effectively and addressing the most pressing needs. Moreover, the economic repercussions of the COVID-19 pandemic, coupled with inflation and stagnant wages, have further exacerbated the challenges faced by households since 2020. The risk of eviction and homelessness is heightened for millions of low-income tenants, who already faced housing instability prior to the pandemic. Given their limited savings, any unexpected expense could push them further towards housing insecurity.

Existing literature highlights the disparities in housing affordability, overcrowding, and homelessness experienced by households of color (Hunt, 2007; Desmond, 2012; Cunningham et al., 2019; Medina et al., 2020). In their report on the state of affordable housing, the National Low Income Housing Coalition (2022) highlights that renters, in comparison to homeowners, face a higher burden of housing costs, with nearly a third of renters struggling to pay rent on time or having to defer payments. Lower-income renters are particularly affected by this cost burden (Desmond, 2012; McConnell, 2013). In both rural and urban areas, housing challenges such as overcrowding, low-quality dwellings, and a shortage of affordable rental units disproportionately impact households. Addressing these issues requires a comprehensive understanding of the unique challenges faced by residents in rural communities, as well as urban areas.

[2] https://www.jchs.harvard.edu/sites/default/files/reports/files/Harvard_JCHS_The_State_of_the_Nations_Housing_2023.pdf (Accessed on 04/06/2023).

Housing affordability remains a critical issue in the United States, with an increasing proportion of household income being allocated to housing expenses. This burden disproportionately affects low-income households and renters, exacerbating financial hardships and potentially leading to adverse health and well-being consequences (HUD, 2021). Moreover, disparities in housing affordability and access to quality housing persist among households of different racial and ethnic backgrounds (HUD, 2020; US Census Bureau, 2021). To effectively allocate government resources and address the most urgent needs, it is crucial to understand the extent of housing cost burdens among various household types, considering income, housing tenure, and race. Additionally, the economic impact of the COVID-19 pandemic, coupled with inflation and stagnant wages, has further compounded the challenges faced by households since 2020, increasing the risk of eviction and homelessness for millions of low-income tenants (Urban Institute, 2021).

This study aims to provide a comprehensive understanding of housing affordability issues by addressing the following research questions: What is the level of housing cost burden among households in different regions of the United States (Northeast, Midwest, South, and West), and how does it vary across different racial and ethnic groups within each region? What proportion of households in each region and racial/ethnic group face severe cost burdens (i.e., spending over 50 percent of their income on housing)? How does the housing cost burden differ between renters and homeowners in each region and racial/ethnic group? Additionally, what are the specific housing challenges faced by rural and urban households within each region in terms of affordability, overcrowding, and access to quality rental units?

The regional aspect of housing affordability is important to investigate since housing markets are fundamentally local, and national statistics may mask substantial variation across different regions of the United States. Acute housing problems, such as high rent burdens, often depend on local circumstances, requiring further analysis to better understand rental markets. Local planning agencies and governments are assumed to have a better understanding of their regions' demographic and housing characteristics, enabling them to devise effective housing plans that address the specific challenges faced by their communities.

By addressing these research questions, this study aims to inform policymakers, local planning agencies, and governments about the specific housing challenges faced by different regions, racial and ethnic groups, and tenure types (renters and homeowners). The findings will contribute to the development of targeted strategies and interventions to improve housing affordability and mitigate the negative consequences of high housing costs in different communities.

This current study adds to the existing literature in a variety of ways. First, the study incorporates the housing cost to income ratio method to assess housing cost burden in a regional context for the Northeast, Midwest, South, and West. Second, this study looks at the share of households that are cost-burdened and severely cost-burdened based on income levels. Third, this study disaggregates the housing cost burden for renters and homeowners. Fourth, this study distinguishes the housing cost burden for rural and urban households separately. Finally, this study assesses the housing cost burden for households based on racial demographics. Among this study's many noteworthy findings concerning housing cost burden, we find a significant disparity in housing cost burden for low-income households, renter-occupied households, and households of color. The rest of the study is organized as follows: Section two provides a review of the extant literature, section three describes the research approach, section four presents the empirical analysis, and section five offers a conclusion of the study and possible policy prescriptions.

REVIEW OF LITERATURE

Many households in the United States bear a disproportionate share of housing cost burden. Millions of households, particularly low-income families, are negatively affected by housing costs in the US, and even with an increase in income, they are unable to compensate for increasing prices due to inflation (Desmond, 2012; Rohe, 2017; Medina et al., 2020). About 80 percent of low-income households have been affected by increasing housing costs. For most of those households, the housing cost-to-income ratio is above 50 percent, while the poorest tend to bear the most significant cost burden, (Larrimore and Schuetz, 2017; Shamsuddin and Cross, 2020). According to the Joint Center of Housing Studies report (2020), there were 20.8 million rental households in the United States who were cost burdened. During and after the Great Recession, the combination of increased housing costs and stagnating or even decreasing earnings put many households in an untenable position (Pilkauskas et al., 2012; Lee and Evans, 2020). Likewise, minorities are more likely to be burdened by housing costs, so it's important to account for those factors (Joint Center for Housing Studies, 2019).

Housing has become increasingly unaffordable in the United States. For example, average monthly housing expenditures for renters increased 95 percent from 1985 to 2005 (Eggers and Moumen, 2008). From the 1960s to the present, rising housing costs have been accompanied by a fundamental stagnation in the average wages of renters (Joint Center for Housing Studies, 2018). In no US state can a minimum-wage worker, working 40 hours a week, afford to rent a two-bedroom home at market rates (National Low Income Housing Coalition, 2018).[3] A report by the US Government Accountability Office (GAO) presents data on renter households and affordability from 2001 to 2017. The report shows that the percentage of households paying rent (in contrast to buying a home) began to rise in the United States after the financial crisis in 2007.[4]

Numerous studies show that there is a significant housing cost burden for renters, as well as homeowners. The historical trend suggests that in the US, the gap in housing costs between renters and homeowners is widening. The percentage of renters spending 30 percent or more of their income on housing has been largely consistent since 2006, whereas the number of homeowners reaching that cost burden threshold has declined. One explanation may be that tighter lending restrictions have contributed to a reduction in homeownership in the years following the subprime mortgage crisis and the Great Recession (2007-2010). When compared to 2001, there were roughly seven million more rental households in 2017. Renter households accounted for nearly 36 percent of all households in 2017. Despite an increase in the number of renters, the supply of rental apartments has not kept pace. This trend has resulted in a decline in affordability, especially among low-income families. Single-parent renter households were more likely than other renter households to have an excessive housing cost burden (Joint Center for Housing Studies, 2018). The Joint Center for Housing Studies 2020 report indicates that renters have

[3] https://nlihc.org/resource/nlihc-releases-out-reach-2018
[4] https://www.gao.gov/assets/gao-20-427.pdf

additional challenges with regards to housing cost burden and affordability when compared to homeowners. Among owner-occupied households, i.e., those who have an annual income below $25,000, tend to bear a disproportionate housing cost burden. More specifically, 69 percent of households in that income group were cost-burdened before the Covid-19 pandemic.

The housing cost burden has also been disproportionately burdensome for people of color. The Joint Center for Housing Studies 2020 report found that in the US, the housing cost burden of African Americans and Hispanics was 54 percent and 52 percent, respectively, which was higher by 10 percent than those of white households. According to McConnell (2013), a renter's or homeowner's place of origin and citizenship status suggests a higher housing cost burden. Housing segregation based on race appears to be linked to higher housing expenses for minorities, particularly for those with high energy and other utility expenditures (Hernández, 2016).

The housing cost burden is also different for rural and urban areas. Lower incomes and higher poverty rates are more common in rural rather than urban areas, with rural mining, industrial, and agriculturally dependent counties providing the highest incomes. Between 2007 and 2015, rural annual median wages have consistently maintained below $28,000, whereas urban annual median incomes were higher at $32,000 (USDA ERS, 2016). Housing affordability and increasing housing costs directly impact overall household welfare. The financial burden caused by excessive housing costs has a significant impact on one's health and well-being (Shaw, 2004; Braubach, 2011; Gibson et al., 2011; Kavanagh et al., 2016; Ortiz and Johannes, 2018). Housing affordability has been linked to physical and psychological health consequences (Krieger and Higgins, 2002; Lubell et al., 2007; Pollack et al., 2010; Woolf and Braveman, 2011; Mason et al., 2013; Ortiz and Johannes, 2018), and likewise, physical and psychological health problems have been associated with housing affordability (Krieger and Higgins, 2002; Lubell et al., 2007).

Odeyemi and Skobba (2022) found rural-urban disparities in housing affordability, with rural female householders experiencing a lower housing cost burden than their urban counterparts. However, a significant proportion of rural female householders still faced affordability challenges. Freemark and Steil (2022) examined affordable housing units and tenant-based housing benefits in metropolitan areas of the US, France, and the UK, revealing a high exclusion of subsidized renters in US metropolitan areas. Subsidized housing was concentrated in resource-limited areas, unaffected by the number of municipalities but influenced by localities' exclusionary practices. Clarke (2023) discussed the role of a basic income (BI) in addressing homelessness and housing affordability, emphasizing the need for combined efforts with social housing investment and rent controls. A BI can reduce stigma and transform welfare provision. Muchomba et al. (2022) attributed the increase in unaffordable housing in the US to housing cost inflation outpacing income growth, particularly affecting women during childbirth. Furth (2021) introduced a new approach to understanding rental unaffordability, revealing low incomes as the primary cause nationwide, but high rent's significance in expensive New England metropolitan areas. This approach aids affordability advocates in location-specific strategies.

RESEARCH APPROACH

Time Frame

This study examines changes in housing affordability from 2012 to 2020. While this period precedes the current inflation spike, which is important to consider given that inflation generally does adversely impact lower-income groups more than higher-income groups, detailed data for 2021 are not yet available.

Data Source

This study examines housing affordability disparities in various regions, including the Midwest, South, West, and North. These regions encompass diverse areas such as the Great Plains and the Mountain West, ensuring a comprehensive analysis of housing affordability across different geographic locations. To calculate the housing cost burden, based on the housing cost to income approach, we utilize secondary data from the American Housing Survey (AHS). The Department of Housing and Urban Development sponsors and the U.S. Census Bureau administers the data under Title 13, United States Code, Section 8 (U.S. Census Bureau, 2021). It is a longitudinal study with a nationally representative sample that is collected on odd-numbered years twice a year. The survey, on the other hand, emphasizes the housing unit rather than the household. Although a subset of AHS metropolitan data is available, this study's primary focus is the integrated national survey, which captures both urban and rural housing characteristics. The reconciliation of data addresses the consistency and accuracy of the data. The reconciliation of sampling with other reliable population sources addresses the data's accuracy and consistency. As a result, AHS data are chosen in accordance with robust survey design and strict validation standards**.** For estimating the cost burden for owner and renter households we also rely on data published by the American Community Survey (ACS). This data is made publicly available by the US Census Bureau, which is published annually and made available for download on their website.[5] The American Community Study (ACS) collects critical information on households' socioeconomic and demographic components).

Measuring Affordability

An understanding of what constitutes the housing cost burden measurement is also important for this research. While there are alternative techniques, some have questioned the simplicity of the percent-of-income strategy used in this study. The focus is on using a practical and accessible study strategy to compare across multiple categories, rather than debating the validity of a measure (i.e., space, tenure, and structure type). It underlines the need for a fundamental relationship between housing provisions and income as a measure of affordability (Stone, 2006). As stated earlier, cost-burdened households are those that spend 30 percent or more of their income on housing (Stone, 2006; Jewkes and Delgadillo, 2010).

Housing affordability is a problem for households if they spend a larger percentage of their income on housing than on other needs like food, clothing, and transportation. Housing, after all, consumes the majority of household income and is likely the most difficult to adjust. It is a fundamental paradigm; people have less money to spend on other things if they spend more money

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[5]The study gratefully acknowledges the US Census Bureau's use of data from the American Housing Survey, American Community Survey, and Consumer Expenditure Survey.

on housing (Herbert et al., 2018). As a consequence, using a 30 percent benchmark to generate a binary relationship from which the research may then distinguish cost-burdened families from those that are not cost-burdened is a reasonable assumption. This cost burden is calculated by dividing the monthly mortgage or rent payment by the monthly household income. Measuring and understanding affordability for homeowners is even more difficult than for renters. The tax and investment components of homeownership, in a fundamental economic sense, reduce the relationship between cash outlays and housing expenses (Mia and Zull, 2020).

One criticism of the housing cost burden as a benchmark of housing affordability is that it does not distinguish between people who have enough money to cover their household's requirements after shelter costs and those who do not (e.g., Stone, 2006; Herbert et al., 2018). Another criticism is that devoting a significant amount of one's salary to housing does not always indicate a housing affordability concern. Spending thirty percent of income on housing for higher-income households may be a conscious decision based on preferences for more spacious and higher-quality homes (Kutty, 2005).

Lower-income households, on the other hand, are more likely to spend thirty percent or more of their income on housing, which is a forced allocation of already scarce economic resources. This current study focuses on lower-income renters/homeowners, making it more likely that spending 30 percent or more of one's income on housing constitutes a "real" housing affordability problem that limits non-housing spending. It should be noted, however, that housing costs to income ratios do have limitations. Neither the quality of the dwelling nor the household's total purchasing power is taken into consideration in these ratios. Even though high-income allocations to housing expenditures are a requirement for certain households, particularly those of modest means, large allocations to housing are voluntarily selected by those at the top of the income distribution.

That said, this study does not seek to address the long-standing difficulty of measuring and interpreting affordability. This report instead focuses on the following questions: Has housing become more or less expensive in recent years? Who finds housing more expensive? Why is it more expensive? Even those who differ on how to define and evaluate housing affordability may find agreement on whether it is increasing or decreasing, as well as the reasons for the changes.

HOUSING AFFORDABILITY ANALYSIS BASED ON COST TO INCOME APPROACH

Table 1 shows the housing cost burden for households in the four US regions: the Northeast, the Midwest, the South, and the West both for owner and renter-occupied households. The term "cost burdened" refers to both homeowners and renters whose median cost to median income ratio is more than 30 percent. Between 2012 and 2020, the Northeast and West regions exhibited the highest housing cost burden. However, during this time period, there was a decrease in the cost burden for both renters and owners. However, from 2012 to 2020 the housing cost burden was reduced by 16 percent, 20 percent, 18 percent, and 19 percent to 18.3 percent, 15.6 percent, 16 percent, and 19.1 percent in the Northeast, Midwest, South, and West region, respectively.

The findings indicate that the West region shows a negligible decline in housing cost burden ratio for renters from 2012 to 2020. Table 1 demonstrates some interesting findings. First, compared to owners, renters have a high median housing cost to income ratio. Secondly, compared to owners, renters have a cost to income ratio which is more than 30 percent in all four regions. However, the housing cost to income ratio for owners is significantly lower than 30 percent in all four regions. Based on the findings, it is clear that between 2012 and 2020, owners are not as cost burdened as renters. The Midwest is the only region where renters' housing costs have decreased to less than 30 percent.

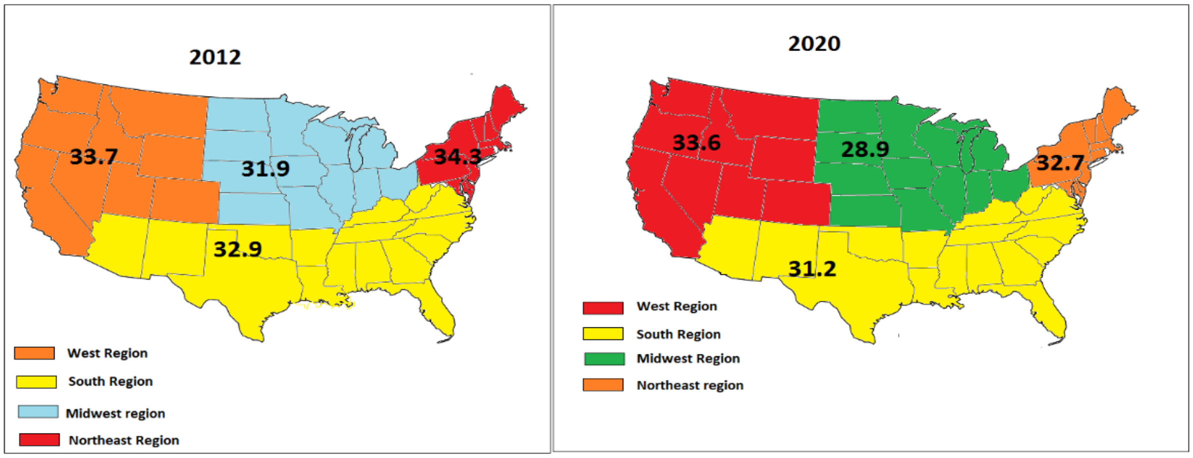
Table 1: Housing cost Burden using Cost to Income Approach (percent of households)

	Owner Occupied Households			Renter Occupied Households		
Region	2012	2016	2020	2012	2016	2020
Northeast Region	21.9	20.1	18.3	34.3	34.8	32.7
Midwest Region	19.4	17.1	15.6	31.9	30.7	28.9
South Region	19.4	17.5	16.0	32.9	32.5	31.2
West Region	23.6	20.6	19.1	33.7	33.6	33.6

Note: Authors' calculations based on area median income and housing costs.
Source of data: U.S. Census Bureau, American Housing Survey, ACS 5-Year Estimates Data Profiles

The analysis also reveals that, compared to renters, owner-occupied households experienced a more significant decline in their housing cost burden between 2012 and 2020. Renters shouldered a greater burden of housing costs in two different ways. First, unlike owners, they are more financially burdened because their housing cost to income ratio is higher than 30 percent. Secondly, unlike owners, renters saw only a modest decline in housing cost burden between 2012 and 2020. Additionally, the data show that in the West region it has been particularly difficult for renters. For example, in 2012, the housing cost to income ratio in the west was 33.7 percent, however, by 2020, it had remained virtually the same, at 33.6 percent, indicating a very modest decline of only 0.3 percent. The findings show that renters struggle more than owners to meet their housing cost needs. Rent affordability has long been a problem for low-income households, but even middle-class families are having difficulty, particularly in cities with robust job markets, which increase demand for housing (Schuetz, 2020). The housing cost burden for both renter-occupied and owner-occupied households is depicted in Figures 1.1 and 1.2 below.

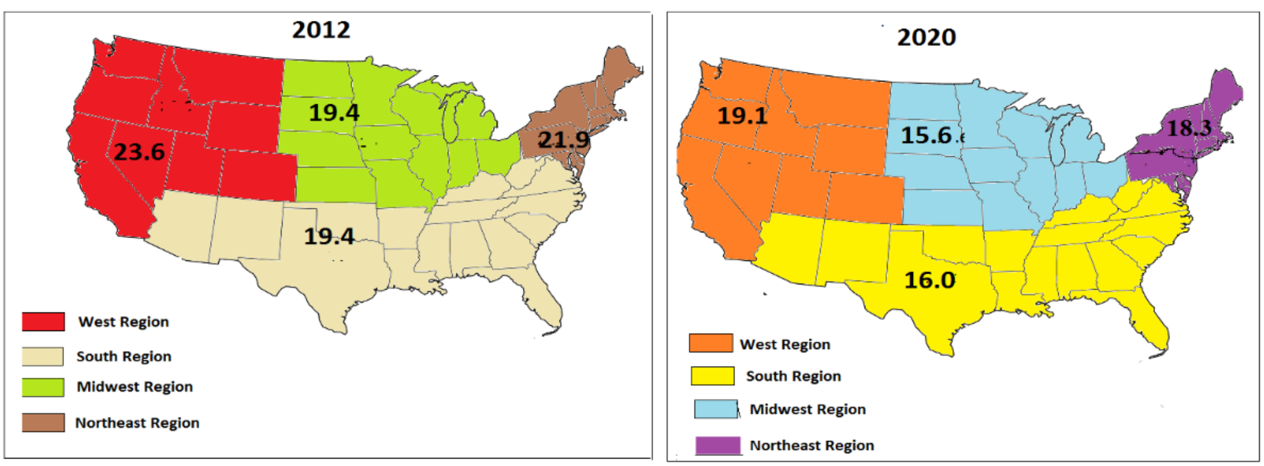
Fig-1.1: Share of Renter Occupied Households



Source of Data: US Census Bureau, American Housing Survey, ACS 5-Year Estimates Profiles

In terms of regional comparisons, we can observe that the Northeast and West regions consistently have a higher housing cost burden for both owner-occupied and renter-occupied households across all three time periods. In 2020, the Northeast region had the highest housing cost burden for owner-occupied households at 18.3 percent, followed by the Midwest region at 15.6 percent, the South region at 16.0 percent, and the West region at 19.1 percent. Similarly, for renter-occupied households, the Northeast region had the highest burden at 32.7 percent in 2020, followed by the South region at 31.2 percent, the West region at 33.6 percent, and the Midwest region at 28.9 percent.

Fig-1.2: Share of Owner Occupied Households



Source of Data: US Census Bureau, American Housing Survey, ACS 5-Year Estimates Profiles

Looking at the trends over the years, we can observe that the housing cost burden has decreased for all regions and household types from 2012 to 2020. For owner-occupied households, the Northeast region saw the greatest decrease in housing cost burden, from 21.9 percent in 2012 to 18.3 percent in 2020, a decrease of 3.6 percentage points. Similarly, for renter-occupied households, the Northeast region also saw the greatest decrease in housing cost burden, from 34.3 percent in 2012 to 32.7 percent in 2020, a decrease of 1.6 percentage points.

In terms of household type comparisons, we can observe that renter-occupied households consistently have a higher housing cost burden compared to owner-occupied households across all regions and years. For instance, in 2020, the housing cost burden for renter-occupied households was 32.7 percent in the Northeast region, while for owner-occupied households, it was 18.3 percent. Similarly, in the Midwest region, the housing cost burden for renter-occupied households was 28.9 percent compared to 15.6 percent for owner-occupied households. In summary, the table provides valuable insights into the housing cost burden for different regions and household types. The decrease in the housing cost burden over the years is a positive trend, but the consistently higher burden for renter-occupied households compared to owner-occupied households highlights the need for more affordable housing options for renters. Compared to owners, renters bear a disproportionately greater share of cost increases. Renters are often compelled to renew their lease every year, which is sometimes accompanied by a rent increase to accommodate rising inflation (Sherraden, 1990). Unlike renters, homeowners are unaffected by rising housing prices since they are not required to purchase a new home each year. Owner-occupied families with fixed-rate mortgages generally only see increases in property taxes and insurance. Additionally, home mortgages lock-in monthly payments; ostensibly acting as a hedge against inflation (Ozanne, 2012). As a result, homeowners' and renters' divergent paths have yielded radically different economic consequences over time (Johnson and Carswell, 2021).

Various economic conditions, demographic dynamics, market structure, and local tax laws explain variations in housing cost burdens across the four US regions. For example, the Northeast has a higher percentage of older housing stock, which may be more expensive to maintain and repair. The region's population has been growing more slowly than other regions, which can lead to a tighter housing market and higher housing costs. The Northeast is also home to some of the most expensive housing markets in the country, particularly in major cities like New York and Boston (Zillow Research, 2022). This can contribute to higher housing cost burdens for both renters and owners. Additionally, the Northeast region has the highest state and local tax burden in the country, with an average state-local tax burden of 12.5 percent of income in 2021 (York and Walczak, 2021).

In the Midwest, the housing market is relatively stable and affordable, but there is significant variation within the region. In some areas, declining populations and slow job growth can lead to lower demand for housing and lower prices, while in other areas, strong job growth and a tight housing market can drive up prices and increase housing cost burdens. Additionally, the Midwest region has a lower state and local tax burden compared to the Northeast region, with an average state-local tax burden of 10.0 percent of income in 2021 (York and Walczak, 2021). Property tax rates tend to be lower in the Midwest, making homeownership more affordable for many.

The South has a relatively low cost of living compared to other regions, which can make homeownership more affordable in some areas (S&P Global, 2020). However, the region also has a higher percentage of low-income households, which can contribute to a higher housing cost burden for renters. The South has experienced significant population growth in recent years, which has increased demand for housing and led to higher prices in some areas (Zillow Research, 2022). Property tax rates in the South also tend to be low compared to other regions of the country. However, some southern states have higher sales tax rates and may rely more heavily on other taxes and fees, which can contribute to a higher overall cost of living and higher housing cost burdens for renters.

The West has some of the most expensive housing markets in the country, particularly in major cities like San Francisco and Los Angeles. The high cost of living and strong job growth in these areas can lead to a tight housing market and higher housing costs for both renters and owners (S&P Global, 2020). Additionally, the region's high population growth and limited housing supply can exacerbate the problem, leading to even higher prices and a greater housing cost burden for many (Zillow Research, 2022). The West region has a slightly higher state and local tax burden compared to the South region, with an average state-local tax burden of 10.4 percent of income in 2021 (York and Walczak, 2021). Property taxes are also an important source of revenue for local governments in the West region. Some states in the West, such as California and Washington, have additional taxes on certain goods and services, such as sales taxes and excise taxes.

Furthermore, the increase in housing costs can be attributed to the enforcement of stringent local laws and building regulations. Consequently, the scarcity of housing supply has led to further escalation in prices and rents, as highlighted by Glaeser and Gyourko (2018). Our findings corroborate the existing body of literature, which indicates substantial regional disparities in rental housing affordability, encompassing both rental costs and household income. Generally, metropolitan areas on the West Coast exhibit the highest median monthly rents, while the Midwest and South tend to have comparatively lower rents. Despite higher incomes in expensive regions, they do not fully offset the elevated rental levels, as indicated by Crump and Schuetz (2021).

SEVERELY COST-BURDENED HOUSEHOLDS

Figure 2 below indicates the proportion of severely cost-burdened owner-occupied and renter-occupied households in the four regions of the United States. A household is severely cost-burdened when it spends more than 50 percent of its income on housing. For owner-occupied households, the data reveals that the Northeast region had the lowest share (12 percent) of severely cost-burdened households in 2012, while the West region had the highest share (20 percent). Between 2012 and 2020, the number of severely cost-burdened households in the Northeast increased by 25 percent. On the other hand, between 2012 to 2020, the number of severely cost-burdened households decreased by 21 percent, 29 percent, and 20 percent in the Midwest, South, and West, respectively. It demonstrates that the South region did well in terms of lowering the number of severely cost- burdened households (by 29 percent). While the Northeast was the only region where the number of severely cost-burdened households increased. The proportion of severely cost-burdened households is higher in rural areas than in urban areas, with the exception of the Northeast, where the proportion of severely cost-burdened households is higher in urban areas.

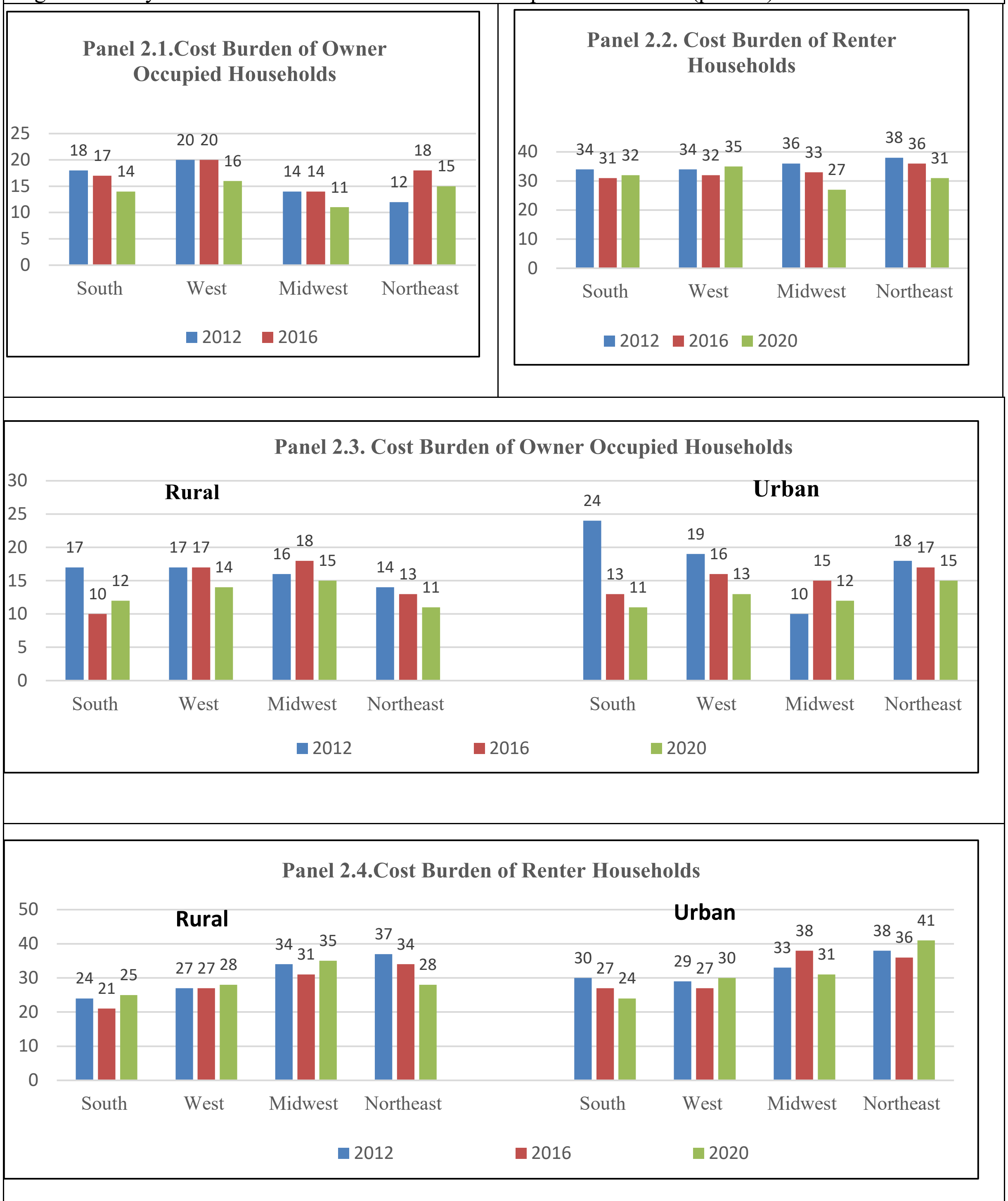
In 2012, the Midwest had the lowest proportion, 10 percent, of severely cost-burdened households in urban areas, while the Northeast had the lowest proportion, 14 percent, of severely cost- burdened households in rural areas. From 2012 to 2020, the share of severely cost-burdened households declined in both urban and rural areas, with the exception of the Midwest, where it increased in urban areas. In other words, the proportion of severely cost-burdened households declined in the urban (rural) areas of the Northeast, South, and West regions by 17 percent (21 percent), 54 percent (29 percent), and 31 percent (17 percent), respectively, but increased (decreased) by 2 percent (6 percent) in the urban (rural) areas of the Midwest, respectively.

The ratio of severely cost-burdened households is higher in renter-occupied households than in owner-occupied households. It demonstrates that renters have a higher proportion of a severe cost burden than owners. The proportion of severely cost-burdened households for renters decreased in the three US regions, namely the Northeast, Midwest, and South, but increased in the West. The burden of housing costs, for example, was reduced by 18 percent, 25 percent, and 6 percent in the Northeast, Midwest, and South, but increased by 3 percent in the West. For renters, the housing cost burden is not significantly different for urban and rural areas in each region of the United States, though there is a disparity in the proportion of severely cost-burned households across regions.

The data indicates that from 2012 to 2020, the number of households that were severely cost burdened increased by 7.9 percent and 3.4 percent in urban areas of the Northeast and the West, respectively, but decreased by 6 percent (20 percent) in the Midwest (South).[6]

[6] One of the possible reasons for the increasing housing cost burden in urban areas of the Northeast and the West is the excessive land use regulations in comparison to the rural areas that restricted the supply of affordable housing units (Glaeser and Gyourko 2018)

Fig 2: Severely Cost Burdened Owner and Renter Occupied Households (percent)



Note: Authors' calculations based on area median income and housing costs.

Source of data: U.S. Census Bureau, American Housing Survey, ACS 5-Year Estimates Data Profiles

Interestingly, the ratio of severely cost-burdened renter households increased in the rural areas of the Midwest, South, and West by 3 percent, 4.2 percent, and 3.7 percent, respectively, with the exception of the Northeast, where in rural areas, the proportion of severely cost-burdened households declined by 24 percent, which is quite impressive. Rural affordability issues receive less attention because it is widely assumed that housing costs are lower in rural areas, which is true when compared to metro areas. Rural areas, by contrast, are generally regions with lower average incomes and many rural areas experience poverty (Mathur, 2016). Indeed, poverty is a widespread issue in some rural areas, affecting 18 percent of the population. Additionally, non- metro areas have a higher proportion of inadequate housing stock, as measured by the number of units lacking complete plumbing or a complete kitchen. In non-metro areas, the share of units lacking complete plumbing is 4 percent, compared to 2 percent nationally (Mathur, 2016). National housing assistance is one area of policy support aimed at people with very low incomes. Rural areas, however, have a lower share of housing assistance when compared to urban areas. In the West and the South, less than 25 percent of very low-income renter households received assistance. In contrast, in the rural Northeast and Midwest, more than 30 percent of very low-income renters received housing assistance (Steffen et al., 2015).

Accordingly, estimates of severely cost-burdened households reveal that across the four US regions, both homeowners and renters, for both urban and rural areas, bear disproportionate housing cost burdens. The disparity in the housing cost burden can be attributed to a variety of socioeconomic factors. For example, some areas serve as economic hubs for jobs and other activities, attracting more people and increasing housing demand and costs (Ganong and Shoag, 2017). In contrast, in other regions local laws may influence housing supply decisions, potentially limiting housing supply and causing negative implications for both renters and owners, for both rural and urban households (Hsieh and Moretti, 2015).

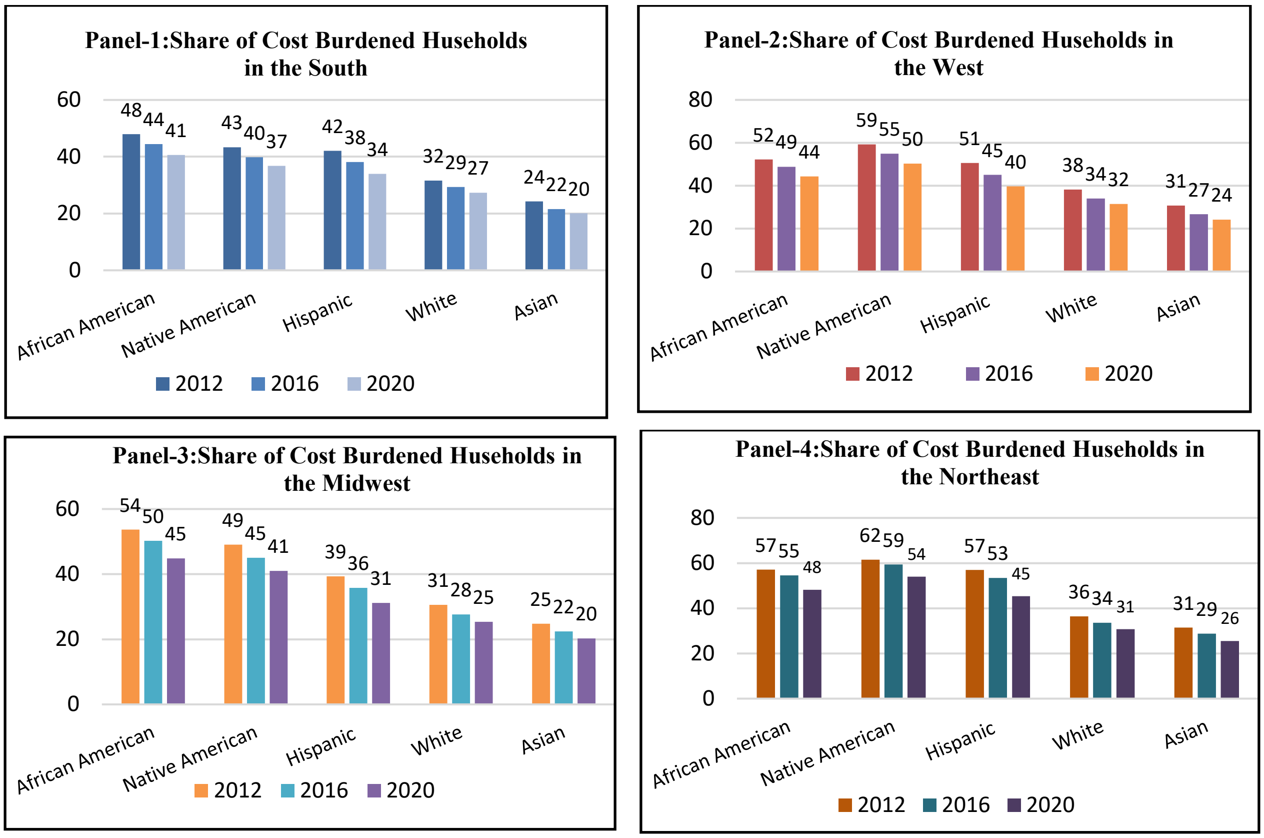
Figure 3 depicts the housing cost burden broken down by ethnicity. The analysis also shows that African Americans and Native Americans are the most cost-burdened demographic groups, followed by Hispanics, while Asians perform better in terms of housing affordability. Figure 4 shows that the housing cost burden is higher in the urban zone compared to the rural region; this pattern is consistent across four US Census designated regions and various ethnicities. When housing demand outpaces supply, prices rise. As supply grows in response to that demand, prices begin to level off. In many areas of the United States, the housing market has not followed this pattern—although rents and home prices have increased and vacancy rates have decreased, the housing supply has not yet recovered. Millions of households have difficulty paying for housing due to a lack of available housing supply and sluggish income growth. [7,8] A growing number of households, including those with moderate incomes, are cost-burdened and spend more than 30 percent of their income on housing, with renters bearing the brunt of this burden (Blumenthal, 2016). Numerous factors, such as a lack of available land, strict land-use restrictions, environmental regulations, inadequate infrastructure, expensive building materials, drawn-out permitting procedures, community opposition to higher-density development, tight credit and financing, all contribute to the lack of housing in expensive areas of the country (Mills et al., 2006; Joint Center for Housing Studies, 2015). Across all four US regions, the housing cost burden for

[7] https://www.jchs.harvard.edu/sites/default/files/reports/files/Harvard_JCHS_The_State_of_the_Nations_Housing_2020_Report_Revised_120720.pdf

[8] https://www.huduser.gov/portal/sites/default/files/pdf/Worst-Case-Housing-Needs-2021.pdf

these demographic groups are lower in rural areas compared to urban regions. Academics frequently use the place stratification perspective to explain why minority groups have worse housing and residential outcomes than Whites (e.g., Charles, 2006; Rosenbaum and Friedman, 2007; Iceland and Nelson, 2008).

Fig 3: Regional Housing Cost Burden by Race /Ethnicity (percent of households)



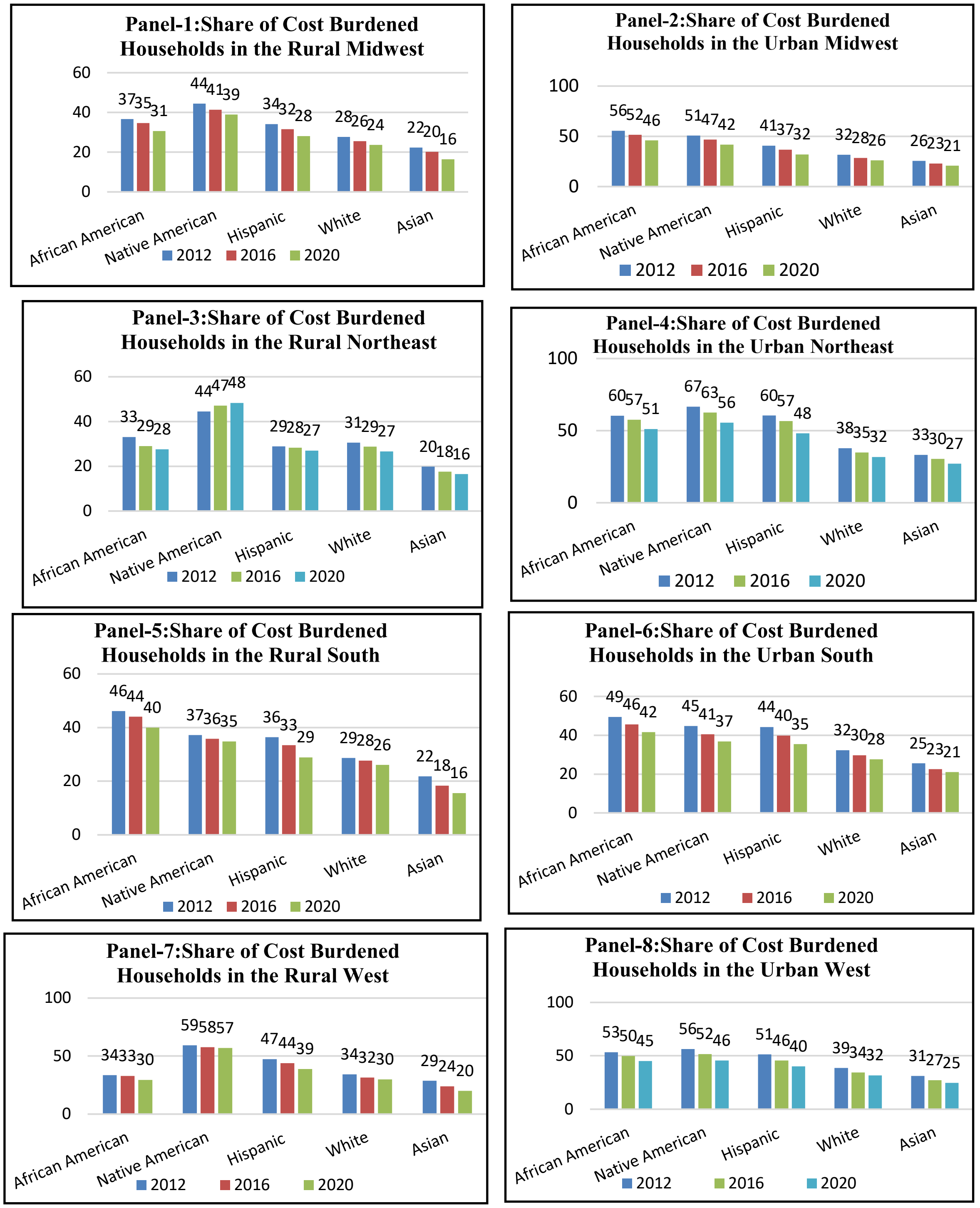
Source: U.S. Census Bureau, American Housing Survey and American Community Survey, ACS 5-Year Estimates Data Profiles

According to this theory, racial and ethnic minorities in the United States, especially African Americans and Hispanics, have fewer opportunities even when they have socioeconomic resources comparable to Whites (e.g., Alba and Logan, 1993; Massey and Denton, 1993; Charles, 2006; Rosenbaum and Friedman, 2007).

Among other reasons, such as discriminatory practices against these minority groups, for example, less favorable mortgage terms and real estate agents steering clients to specific neighborhoods or areas, Hispanics, African Americans, and other demographic minorities have fewer housing options and opportunities than Whites (Massey and Denton, 1993; Oliver and Shapiro, 1995; Conley, 1999; Galster and Godfrey, 2005; Ross and Turner, 2005; Bocian, 2006; Roscigno, 2009).

Our current analysis shows that the burden of housing costs is somewhat decreasing over time for all ethnic groups in the four US regions. In other words, while there is a disparity in the housing cost burden among various ethnic groups, the housing cost burden has tended to decline over this time period implying that the housing affordability issue may be attenuating to some degree.

Fig 4: Housing Cost Burden by Race/Ethnicity in the Rural and Urban Areas (percent of households)



Source: U.S. Census Bureau, American Housing Survey and American Community Survey, ACS 5-Year Estimates Data Profile

CONCLUSION AND POLICY DISCUSSION

This study highlights disparities in housing affordability based on income, housing tenure, and race in US Census-designated regions. The analysis reveals that the Northeast and West regions consistently had the highest housing cost burden, with a decreasing trend over time for both renters and owners in all regions. Renters faced significantly higher burdens compared to owners across all regions. Regional variations in housing cost burdens can be attributed to economic conditions, demographics, market structure, and local tax laws.

Furthermore, the findings demonstrate regional variations in severely cost-burdened households, with the Northeast having the lowest proportion of owner-occupied households facing severe cost burdens, while the West had the highest. The number of severely cost-burdened households increased in the Northeast but decreased in the Midwest, South, and West. Rural areas generally had a higher proportion of cost-burdened households, except in the Northeast where urban areas had a higher proportion. The proportion of severely cost-burdened households declined in urban and rural areas of the Northeast, South, and West, but increased in the Midwest's urban areas. Renters had a higher cost burden compared to owners, with a decreasing proportion in the Northeast, Midwest, and South, but an increasing proportion in the West.

The analysis also indicates that African Americans and Native Americans are the most cost-burdened demographic groups, followed by Hispanics, while Asians tend to fare better with regards to housing affordability. The challenges faced by these groups in meeting housing costs appear to stem from their predominance as low-income earners. Housing cost burdens for ethnic groups are generally lower in rural areas compared to urban regions. Discriminatory practices and limited housing options contribute to disparities faced by minority groups, although there is a slight decrease in the housing cost burden over time, suggesting potential improvement in housing affordability.

Overall, the findings emphasize the need to address housing affordability issues and consider socioeconomic factors that influence housing supply and demand. Policies should aim to reduce housing cost burdens, particularly for vulnerable populations, and promote equitable access to affordable housing across regions and ethnic groups. Specifically, addressing the rental affordability crisis and economic and social injustice is crucial. Reforms in land use regulations at the state and local levels are necessary to incentivize the production of lower-cost housing and allow for higher-density construction. Efforts should be made to address historical discrimination in housing and mortgage markets, enforcement of federal fair housing regulations, and provision of down payment aid to historically underprivileged communities. These initiatives can empower underprivileged households to transition from rentals to homeownership, serving as a hedge against inflation risk and fostering wealth building.

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Appendix

Table2: Percentage of Severely Cost-burdened Households
(Paying more than 50 percent of their income for housing)

Owner-occupied Households						
	2012		2016		2020	
Region	No. of Households	percent of Households	No. of Households	percent of Households	No. of Households	percent of Households
Northeast Region	1551133	12	2374337	18	2056796	15
Midwest Region	2576817	14	2410213	14	2067514	11
South Region	5016110	18	4773734	17	4192816	14
West Region	3067988	20	3002336	20	2642495	16
Northeast Region -- Urban	1934313	18	1793759	17	1570230	15
Northeast Region -- Rural	370879	14	1667740	13	1407846	11
Midwest Region -- Urban	1226289	10	2994102	15	2643594	12
Midwest Region -- Rural	838127	16	2430313	18	2132739	15
South Region -- Urban	4945807	24	348043	13	300979	11
South Region -- Rural	1387832	17	537560	10	650920	12
West Region -- Urban	2559683	19	1303352	16	1151055	13
West Region -- Rural	358679	17	349173	17	325243	14
Renter-occupied Households						
	2012		2016		2020	
Region	No. of Households	percent of Households	No. of Households	percent of Households	No. of Households	percent of Households
Northeast Region	2934694	38	2883041	36	2508629	31
Midwest Region	2862148	36	2807232	33	2348344	27
South Region	4769581	34	4795694	31	5102253	32
West Region	3385037	34	3403041	32	3842246	35
Northeast Region -- Urban	2735506	38	2704825	36	3155190	41
Northeast Region -- Rural	2535070	37	2502227	34	2082705	28
Midwest Region -- Urban	3972755	33	5019732	38	4274558	31
Midwest Region -- Rural	3181725	34	3198742	31	3606620	35
South Region -- Urban	151434	30	140202	27	121116	24
South Region -- Rural	236472	24	221267	21	259187	25
West Region -- Urban	586329	29	578339	27	651544	30
West Region -- Rural	157030	27	163917	27	170598	28

Source: U.S. Census Bureau, American Housing Survey and American Community Survey, ACS 5-Year Estimates Data Profiles.