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“The Rent Eats First”: Rental Housing Unaffordability in the United States

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ABSTRACT

The United States is in a housing affordability crisis, with nearly half of all renter households spending more than 30% of their incomes on rent and utilities each month. This traditional measure of housing affordability may understate the hardships renter households face because it does not consider the array of expenses households have. Whereas housing policy has relied on percentage-of-income measures to indicate whether housing is affordable, researchers over the last three decades have called for a residual income approach that uses spending estimates to calculate what a household can actually afford. This article examines the extent of the affordability crisis by comparing standard cost burden rates for working-age renter households with residual-income cost burdens. Using the Economic Policy Institute’s Family Budget Calculator and the 2018 American Community Survey, we estimate the number of renter households that do not have enough income to afford a comfortable standard of living after paying rent and utilities. We investigate several policy levers, finding that a combined policy that addresses both housing and transportation affordability would have the largest impact on reducing residual-income cost burdens.

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affordability; renter households; affordability measures

The United States is in a rental affordability crisis. During the financial crisis in the late 2000s, renter incomes fell in real terms while rents continued their upward climb. The share of cost-burdened renter households spending more than 30% of their incomes on housing rose from 40.6% in 2001 to a peak of 50.7% in 2011. In the wake of the recession, renter incomes recovered slowly whereas rents continued to increase at a steady rate. Cost burdens have receded slightly from the peak but remained high at 47.5% in 2018 as 20.8 million renter households lived in housing that cost more than 30% of their incomes. The COVID-19 pandemic will only increase the affordability challenges that renters face and will likely raise the number and share of cost-burdened renter households.

The affordability crisis has serious implications for the stability and well-being of renter households. Housing is the biggest expenditure for most households (U.S. Bureau of Labor Statistics, 2020). Rent is also an expense that occurs on a fixed schedule and must be paid or the household will face eviction. In short, “the rent eats first” (Desmond, 2016, p. 302). And with high housing costs that consume a substantial portion of household income, there is often little money left over to cover basic needs. The Joint Center for Housing Studies (2020) found that the median renter earning less than \$15,000 annually had only \$410 left each month for all other

spending after paying for rent and utilities. With so little left over, these households spend less on other basic necessities such as food and healthcare. Further, the Urban Institute (Scally & Gonzalez, 2018) found that almost half of renters had faced material hardship at some point in the previous 12 months, reflecting difficulty paying rent or utilities, food insecurity, or unmet medical needs.

Identifying cost burdens using the 30% of income measure has become the standard method for assessing housing affordability, but it does not fully account for the cost of other basic necessities, nor does it illustrate the hardships and tradeoffs that households likely face. This article builds on Michael Stone's (1993, 2004, 2006) conceptualization of shelter poverty to identify households that do not have enough income left over to afford a basic but comfortable standard of living after paying rent and utilities each month, which we refer to as residual-income housing cost burdens. Whereas recent research on shelter poverty has focused on specific geographies, we contribute to the existing literature by estimating the level of residual-income burdens nationally and quantifying how much burdens would be reduced by potential policy interventions.

The analysis relies on a modified version of the Economic Policy Institute (EPI)'s Family Budget Calculator and the American Community Survey to create a national-level estimate of residual-income burdens among renter households with working-age adults, excluding households with a person age 65 or older. We examine how this residual-income cost burden estimate differs from the traditional 30% cost burden standard by household type and household income. We use logistic and ordinary least squares regression to highlight the household and metropolitan characteristics associated with a higher likelihood and larger magnitude of residual income. Finally, we simulate what would happen to residual-income burdens if different policy interventions were enacted.

Housing Burdens and the Residual Income Approach

There are several methods for assessing rental housing affordability in the United States. The National Low Income Housing Coalition (NLIHC, 2021) uses the housing wage as one metric, which is the hourly wage amount that would be needed to afford the rent for a modest home. Over the last several years, NLIHC has consistently found that housing costs are out of reach for renters working a 40-hour week at minimum wage. In 2019, the national housing wage far exceeded the minimum wage, at \$24.90 for a modest two-bedroom rental home. NLIHC produces a second measure of affordability that estimates the number of affordable and available homes at different income levels. Only 37 homes are affordable and available for every 100 extremely low-income renter households making less than 30% of area median income (NLIHC, 2021a). Joice (2014) used a similar method to calculate the aggregate number of housing units that are available and affordable to renters, a measurement that is incorporated into the U.S. Department of Housing and Urban Development (HUD)'s Comprehensive Housing Affordability Strategy data.

The most widely used measure of housing affordability in both research and public policy is the ratio approach, which divides a household's monthly rent and utilities by their monthly income. Households are typically considered housing cost burdened if they spend more than 30% of their income on housing costs. In federal housing policy, the exact percentage has changed over time, with the 1981 Brooke Amendment raising the cap that households in public housing programs should spend from 25% of income to 30% of income (Pelletiere, 2008; U.S. Department of Housing and Urban Development, n.d.). In scoping the need for affordable housing, HUD (U.S. Department of Housing and Urban Development, 2019) also uses 50% as the threshold for determining whether a household has worst-case needs.¹ Regardless of what level it is set at, the percentage or ratio standard has remained the most widely used method for

assessing rental housing affordability because it can be easily calculated on a large scale and over time and requires just the household's income and the amount they are spending on rent and utilities.

Beyond policy, the ratio approach has been used in several recent studies that estimate the number and share of households living in unaffordable housing (Joint Center for Housing Studies, 2021; Quigley & Raphael, 2004), document median rent-to-income ratios nationally or for certain geographies (Quigley & Raphael, 2004), examine associated hardships (Shamsuddin & Campbell, 2021), and identify the household characteristics associated with housing cost burdens (Colburn & Allen, 2018; Hess et al., 2020).

The validity of this standard, however, has long been subject to debate. Michael Stone began formulating the concept of shelter poverty in the 1970s, producing seminal work that argues for a different approach to measuring housing affordability. Stone (2004, 2006) critiqued the 30% standard because it does not account for what a household can actually afford to pay for housing while meeting their other spending needs. A percentage standard treats all income levels the same, implying that a lower-income household paying 30% of income could meet their nonhousing needs just as well as a higher-income household paying 30%. The standard also cannot account for variations in nonhousing needs, including food, healthcare, and childcare, for different household types, sizes, or ages. The percentage standard approach to affordability would thus categorize two households of the same income and paying the same housing costs but of different sizes as equally cost-burdened, although larger households have higher nonhousing expenses.

Stone instead proposed using shelter poverty to assess housing affordability. Unlike a percentage or ratio standard, shelter poverty is a residual income approach. Stone (2006) refers to residual income as the amount of income required to cover nonhousing expenses after paying for housing. He described the residual income approach as a sliding scale because, unlike the 30% standard, this measure of affordability varies by both income and household type. A household is shelter poor if it "cannot meet its nonhousing needs at some minimum level of adequacy after paying for housing" (Stone, 2006, p. 44). Stone also distinguishes between absolute poverty and shelter poverty. Households with absolute poverty would not have enough income to meet basic nonhousing needs even if they had no housing costs, whereas those with shelter poverty would have enough for these basic nonhousing needs if not for high housing costs.

Several studies have operationalized a residual income approach, using different methods for determining household expenses and illustrating how the magnitude of housing affordability differs between the percentage or ratio standard and residual income approaches. Stone's (2004) short article used the U.S. Bureau of Labor Statistics (BLS) Lower Budgets to estimate shelter poverty, finding that about a third of households nationwide, including both owners and renters, were shelter poor. He expanded the analysis and framework in his 2006 chapter, noting that in comparison with the share of households spending at least 30% of income on housing, shelter poverty rates were actually lower. Whereas 32 million households were shelter poor, about 34.5 million were cost burdened under the 30% standard. Stone pointed out, however, that the distribution of households was substantially different between the two measures; many shelter-poor households were not traditionally cost burdened whereas many traditionally cost-burdened households were not considered shelter poor.

Kutty (2005) similarly used a residual income approach to identify housing-induced poverty. Kutty assumes that nonhousing expenses would cost at least two thirds of the federal poverty line for a minimum standard of living; she refers to these expenses as a "poverty basket of nonhousing goods" (Kutty, 2005, p. 115). Kutty then categorized households as being in housing-induced poverty if, after paying for housing, they did not have enough left over to afford the poverty basket of nonhousing goods. Kutty estimated that a total of 17.2 million households (renters and owners) lived in housing-induced poverty. The use of the residual income approach changed the geographic concentration of poverty, suggesting more households were in near

poverty in the Northeast and West and in metropolitan areas than the 30% standard would indicate. Additionally, more non-White households experienced shelter-induced poverty compared with the 30% measure.

More recently, Herbert et al. (2018) examined how the 30% standard and the residual income approaches differ for certain kinds of households in a selection of metro areas. The authors analyzed three metro areas (Los Angeles, California; Phoenix, Arizona; and Cleveland Ohio), and limited the analysis to renter households of up to four adults. The authors used the Self-Sufficiency Standard produced at the University of Washington, which encompasses the cost of housing, childcare, food, transportation, healthcare, and miscellaneous expenses and is meant to capture the amount of income needed for a household to live independently without the use of public or private assistance. Relative to the 30% standard, the authors found that cost burdens using the residual income approach were higher for lower-income households and households with children in all three markets. The authors also found that cost burdens might be overstated in high-cost markets like Los Angeles, where higher-income households and households without children are more likely to spend 30% of income on housing but typically have enough income to cover nonhousing expenses. However, the geographic scope of the analysis was limited.

Finally, Grady (2019) quantified the difference between the 30% standard of housing affordability and the residual income approach. Grady similarly employed the University of Washington's Self-Sufficiency Standard as the baseline for nonhousing expenses, using Pearce's (2015) report that details basic expenditures for counties in Ohio. Using microdata from the 2012 to 2016 American Community Surveys across Ohio public-use microdata areas (PUMAs), Grady calculated the share of renters living in shelter poverty (defined as households whose rent and nonhousing expenditures exceed their annual income). He also calculated the amount by which household incomes fell short of the combined housing and nonhousing expenses, referring to this as the affordability gap. Grady found that the shelter poverty rate as well as the median and aggregate affordability gaps were significantly higher than the corresponding measures of cost burdens using the 30% standard.

The residual income approach is not necessarily better than a percentage standard. The residual income approach can be difficult to calculate, particularly on a large scale and over time. It requires an estimate of necessary nonhousing expenses for a range of household configurations. Embedded within these estimates is also a normative determination of what constitutes requisite expenses as well as an assumption about what a decent standard of living should be. However, when the two approaches are compared for the same set of households, they provide a more complete picture of the housing affordability challenges that households face.

Our article builds upon existing studies by producing a recent, national-level estimate of residual-income housing cost burdens for working-age renter households under the age of 65. Similar to studies that have used the Self-Sufficiency Standard, we consider how much income households would need to cover nonhousing expenses that would provide a basic but comfortable standard of living, rather than trying to estimate an absolute minimum amount needed. Our article also contributes to the existing body of research by examining the effect of several policy interventions on reducing household cost burdens.

Data and Methods

Data

The primary data source on household expenditures used in this article is the EPI Family Budget Calculator. The EPI provides estimates of expenditures on housing, food, childcare, transportation, health care, taxes, and other necessities at the county level and with complete geographic coverage of the United States for all household combinations with one or two adults and zero to four children. We chose this data set for its geographic coverage, consistent time period, and

public availability. An analysis by Stone (2006a) that compared data sources for residual income analyses found that the EPI budgets were similar to the BLS standard used in his work when excluding childcare.²

The EPI budgets measure the income needed for families to attain a modest standard of living. All estimates are adjusted for inflation to 2018 dollars. Notably, the minimum amount needed for nonhousing expenses for the smallest household in the least expensive county is \$18,000, and the average amount is \$40,000, leaving most lower-income households with residual-income burdens. A major limitation of this data set is that it assumes adults are of working age and does not translate to the needs of older adults. For this reason, we exclude households with a person age 65 or older. A second limitation is that it does not specifically include categories for retirement or cash savings, which could lead to downstream quality-of-life effects as households age.

The EPI budgets are estimated for theoretical households in each county, but we map these expenditures onto actual households in the 2018 1-Year American Community Survey (ACS) Public Use Microdata Sample. The ACS is a large, nationally representative survey conducted annually by the Census Bureau that collects information on the housing, demographic, and economic characteristics of the nation's households. To obtain county-level estimates, we reweight the ACS sample using the population-interpolated Geocorr 2014 crosswalk from the Missouri Census Data Center, which accounts for the probability a household resides in a given county. Estimates are summed to the national level for analysis. From the ACS, we observe each household's location, the ages and relationships of household members, and each household's income and rent.

Most expenditures are derived from EPI's estimated budgets. Our analysis either takes as given or recalculates the EPI estimates to account for the observed ages of household members in the ACS and, for income taxes, the household incomes (see Table 1). EPI's transportation estimates are derived from the Center for Neighborhood Technology's Housing and Transportation affordability index. Transportation includes the cost of auto ownership, use, and maintenance as well as transit use for commuting to work (for the first and second adults) and nonsocial trips (for the first adult only). According to EPI, the expenditure estimate for the first adult is equal to 72% of the national average of vehicle miles traveled and for the second adult is equal to 45% of the national average.

Health care spending assumes households obtain health insurance through the Affordable Care Act (ACA) exchanges and includes two primary components. The first is monthly premiums, which assume the purchase of the lowest-cost bronze plan for a 40-year-old adult nonsmoker. These estimates vary by ACA rating areas, which are usually comprised of multiple counties. The second component is out-of-pocket costs. Using the Medical Expenditure Panel Survey from 2012 to 2014, average out-of-pocket spending is calculated separately for children under 18 and adults 18–64 years old by region and metro-area status based on insured people covered on private plans. These costs are averaged across the three survey years and combined with the estimated premiums.

The remaining expenditures on food, childcare, taxes, and other necessities are altered to better reflect the observed characteristics of households in the ACS. Spending on food, for example, varies significantly with age. Children age 5 and younger, 6–11, and 12–18, and adults age 19–50 and 51–64, have differential spending needs in our estimates with respect to food. Food expenditures assume use of the U.S. Department of Agriculture's low-cost meal plan in June 2017. All estimates are averaged for males and females in the relevant age ranges, and household size multipliers are used. A county-level multiplier is then applied to all estimates using the ratio of county food costs to national food costs imputed from the EPI estimates for two-adult households with two children.

Likewise, childcare spending also varies with the age of children, and our estimates of childcare spending are recalculated given the observed ages of children in each household. Our estimates assume that children age 5 and under require intensive full-time care, school-age children

Table 1. Economic Policy Institute (EPI) spending categories, original sources, and brief description of adjustments.

Expenditure	EPI source(s)	Adjustment	Description of adjustment
Transportation	Center for Neighborhood Technology, Housing and Transportation Affordability Index	None	N/A
Health care	Kaiser Family Foundation, 2017 Health Insurance Marketplace Calculator; Department of Health and Human Services, 2017 QHP Landscape Individual Market Medical data set; Department of Health and Human Services, Medical Expenditure Panel Surveys	None	N/A
Food	Department of Agriculture, Official USDA Food Plans: Cost of Food at Home at Four Levels; Feeding America, Map the Meal Gap 2017	Yes	Food expenditures are calculated by age of household member and adjusted for each county using interpolated adjustment factor from EPI estimates
Childcare	Childcare Aware of America, Parents and the High Cost of Childcare	Yes	Childcare expenditures by age of child for each county are inferred from EPI estimates
Taxes	National Bureau of Economic Research, TaxSim 9.3	Yes	Tax expenditures are recalculated using the National Bureau of Economic Research TaxSim 27
Other necessities	Bureau of Labor Statistics, 2017 Consumer Expenditure Survey	Yes	Spending on other necessities is recalculated as 40% of spending on food and housing
Housing	HUD 2018 fair market rents	Not used	Spending on housing observed in American Community Survey

Note. HUD = U.S. department of housing and urban development; QHP = qualified health plan; USDA = U.S. Department of Agriculture.

Source: Economic Policy Institute Family Budget Calculator, 2018.

6–11 years old require afterschool and summertime care, children age 12 require only summertime care, and children 13–17 years old require no additional care. We calculated the cost for each child using the EPI calculator as a starting point. The EPI data assume that a household with one child requires childcare for a 4-year-old, a household with two children requires care for a 4-year-old plus an additional school-age child (age 8), and a household with three children requires additional summer care for a school-age child (age 12). Households with four children are assumed to require no additional care beyond that already described (the fourth child's age is assumed to be 16). We use EPI's number of children in household and age assumptions to calculate the cost of care for children in each age group. The difference between a household with one child and a household with two children in the same county, for example, provides the additional childcare estimate for school-age children.

The EPI's estimates of miscellaneous costs are calculated from the 2017 Consumer Expenditure Survey and include spending on clothing, school supplies, reading materials, household cleaning supplies, and other essential household items. For families in the 20th to 40th percentile of income, miscellaneous costs comprise about 40% of the household's spending on food and housing, on average, according to EPI tabulations. Using this share, we recalculate spending on miscellaneous necessities as 40% of the reestimated food and housing expenditures.

Estimates of federal and state taxes are also recalculated using TaxSim 27 from the National Bureau of Economic Research (NBER). TaxSim estimates federal and state tax liabilities for households based on NBER's microsimulation models of the U.S. tax system. State and federal tax liabilities are combined to estimate each household's total liability. We observe pretax household income in the ACS and allow our estimates to vary with a household's specific circumstances.

The final budget line item is housing costs. EPI's estimates of housing costs are derived from HUD's fair market rents, which are generally the 40th percentile of housing costs within a given county or metro area. However, we observe actual spending on housing in the ACS, which reflects rent and utilities.³

We also observe actual household incomes in the ACS. The income variable in the ACS includes income from a variety of sources, including wages, self-employment, interest, dividends, public assistance (through programs like Supplemental Security Income and Temporary Assistance for Needy Families), and all other income. Some households report negative incomes, and we recoded those to zero income.

Sample

Our primary sample of interest is renter households in the United States with one or two working-age adults and with zero to four children. These restrictions are applied to comport with the EPI Family Budget Calculator estimates. We exclude any households with a member age 65 or older, given the differential spending needs for older adults that are not accounted for in this analysis. The head of household is treated as an adult regardless of age. We also exclude a small number of households where the married or unmarried partner is under age 18.

With these exclusions, we capture 71% (30.9 million) of the nation's renter households. Of the remaining 29%, 18% have an older adult living in the home, nearly 11% have three or more adults, and less than 1% are excluded for other reasons (primarily households with more than four children). With older adults accounting for a large percentage of excluded households, our sample likely underestimates the extent of residual-income burdens nationally. This may be slightly offset by the exclusion of households with three or more adults who may have lower residual burdens by reducing housing costs. High shares of excluded households also live in California (16%) and New York (10%), which could also contribute to an underestimate.

Methods

Starting with the EPI data, we modify the estimates as described above. We merge these estimates to the crosswalked ACS file by county. Using the actual ages of children in the household, we sum the estimated expenses from the EPI data. Next we subtract spending on housing in the ACS from the household's reported income. If this residual income amount is not enough to cover the combined nonhousing expenditures, we classify the household as having residual-income housing cost burdens. Those that do have enough left over do not have residual-income burdens. For all estimates in this study, household weights provided by the U.S. Census Bureau, adjusted at the county level by multiplying the household weight by the crosswalk's allocation factor, are used to account for variations in sampling across subpopulations.

Using this estimate of residual-income housing cost burdens, we first produce descriptive estimates of the share of working-age renter households with such burdens by different household characteristics across the nation. Next, we use multivariate analyses to identify the household and market-level characteristics associated with having residual-income cost burdens and the magnitude of those burdens. These models go beyond the descriptive statistics to illustrate how household and market characteristics contribute to the likelihood and degree of residual-income cost burdens. We use logistic regression with residual-income burden status set as the dependent variable. We present three logistic regression models: the first includes household characteristics only (Model 1), the second includes metro-level dummies (Model 2), and the third includes metro-level characteristics (such as median rent and the rentership rate) that are intended to capture broader market conditions (Model 3). The full set of variables is shown in the results section below. We also model the amount of income households have left over using ordinary least squares regression (Models 4–6) and the same control variables as in the logistic regression. The outcome variable is calculated as the household's income minus the household's housing and annual budget needs, which we refer to as the residual income. Negative values indicate that households do not have enough to cover their basic needs, whereas positive values indicate that

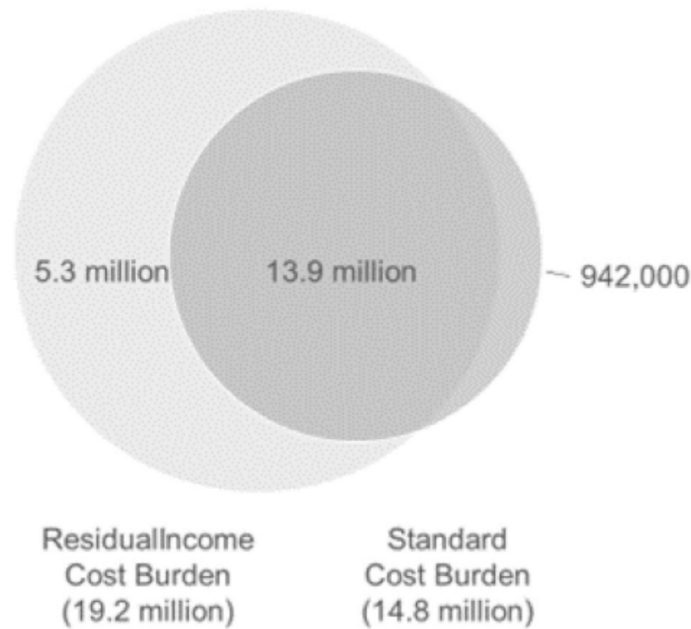


Figure 1. Most cost-burdened households also have residual-income cost burdens. *Sources.* Authors' tabulations of U.S. Census Bureau, 2018 American Community Survey 1-year estimates; and Economic Policy Institute Family Budget Calculator, 2018.

they have sufficient incomes. To produce a plausible model, we remove outliers and limit the sample to households with an income surplus or deficit below \$100,000. The sample subset used for the continuous models includes 98% of the unweighted observations, amounting to a weighted total of 30.2 million households. For each model, we present the Akaike information criterion (AIC) as a relative indicator of model performance. The models with metro-level dummies have the lowest AIC values, indicating better performance, and we primarily focus on these regressions when discussing the modeling results.

Finally, we simulate the effect that various policy interventions (including universal childcare, healthcare subsidies, more affordable transportation options, and housing subsidies) would have on residual-income burden rates. To do this, we set the associated expenditure to 0 or 50% of the current estimate and repeat the burden calculation. In the case of the housing affordability intervention, we set the percentage at 30% unless the household is already paying less than 30% of its income on housing. For the affordable housing and transportation policy intervention, we similarly set the threshold at 45% of income unless the observed housing costs and estimated transportation costs are already below that level. We estimate the cost of each policy by first identifying households who have residual-income cost burdens but would be unburdened if the policy were enacted. For these households, we subtract the recalculated expenditure under that policy from their current estimated expenditure. Because we cannot observe the full range of subsidies households already receive or the amount, the assumption is that these policy interventions would be layered on top of any subsidies a household already has.

Results

Residual-Income Housing Cost Burdens and the 30% Standard

In our sample of 30.9 million renter households, 19.2 million (62.1%) are cost burdened using the residual income measure whereas 14.8 million (47.9%) have standard cost burdens (see Figure 1). In total, 13.9 million households are burdened under both the residual-income and the standard cost burden measures. This indicates that 94% of households who have standard cost

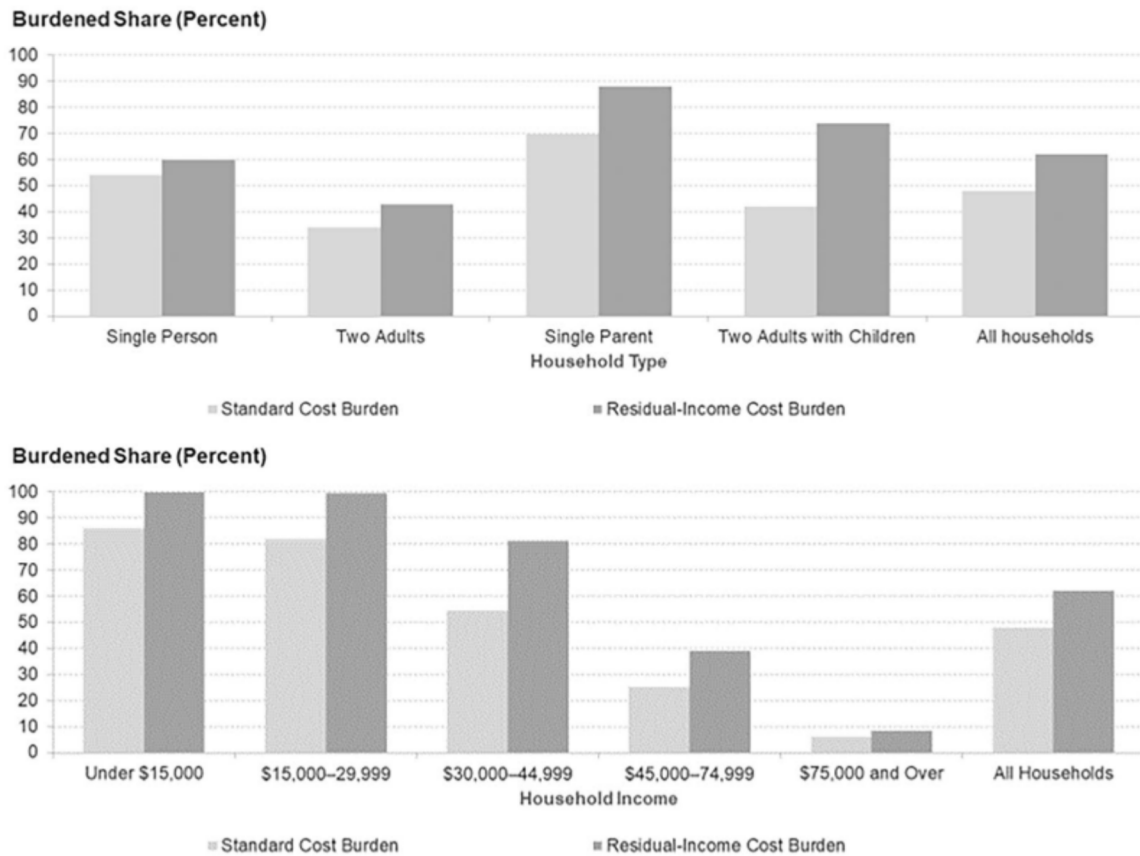


Figure 2. Residual-income cost burdens are much higher than the standard measure for households with children and middle-income renters. *Sources.* Authors' tabulations of U.S. Census Bureau, 2018 American Community Survey 1-year estimates; and Economic Policy Institute Family Budget Calculator, 2018.

burdens also have residual-income burdens. Of the 942,000 households who have standard cost burdens but not residual-income burdens, 65% are single-person households, an additional 26% are two-adult households with no children, and 88% make more than \$45,000 annually. It is therefore plausible that these households have lower nonhousing expenses and may live in more expensive housing by choice. On net, 4.4 million more households are residual-income burdened compared with the standard 30% measure, and the burden rate is also 14 percentage points higher.

Residual-income cost burden rates are higher across all household types (see Figure 2). The two measures are closest for single-person⁴ and two-adult households. The differences become much larger when children are present in the household. For single-parent households, the residual-income burden rate is 88%, compared with a standard burden rate of 70%. Relative to single-parent households, two-adult households with children have lower burden rates under both measures. However, the gap between residual and standard cost burdens is widest for two-adult households. This is primarily because two-adult households are more likely to have two or more children, which are associated with higher expenses despite a greater likelihood of having multiple wage earners. Seventy-four percent of two-adult households with children have residual-income burdens, which is 32 percentage points higher than their standard cost burden rate.

A criticism of the traditional cost burden measure is that it does not account for other household spending needs. The residual income approach accounts for nonhousing expenditures in a way that the 30% standard does not. As a result, low-income renters, and even many middle-income renters, have little or insufficient income left over to cover their expenses after

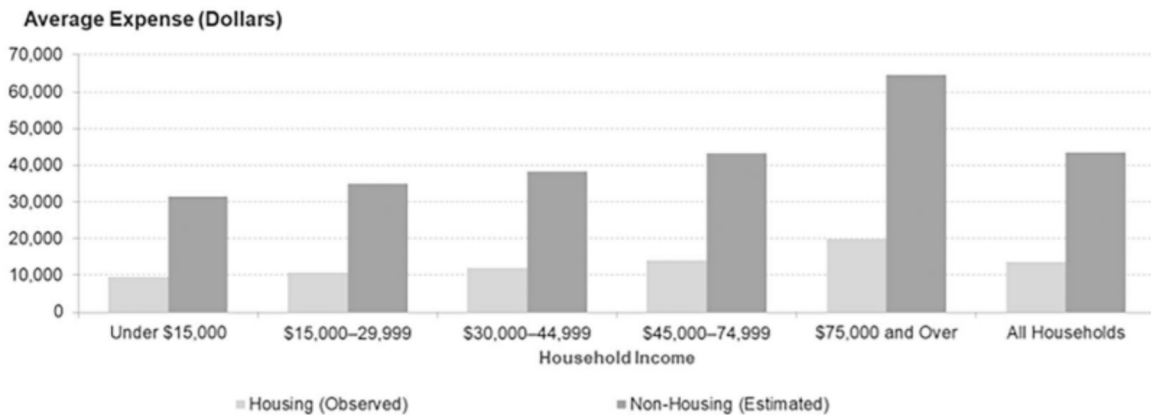


Figure 3. On average, working-age renter households need more than \$40,000 per year just to cover nonhousing expenses. *Note.* Actual monthly housing expenses are observed in the American Community Survey and include rent and utilities. Nonhousing expenses are estimated based on the modified Economic Policy Institute Family Budget Calculator data. *Sources.* Authors' tabulations of U.S. Census Bureau, 2018 American Community Survey 1-year estimates; and Economic Policy Institute Family Budget Calculator, 2018.

accounting for their housing payments. The minimum nonhousing expenditure needed for a decent standard of living for even the smallest household in the least expensive county is a little more than \$18,000 per year. On average, renter households need more than \$40,000 to cover their nonhousing expenses alone (see Figure 3). As a result, nearly all of the households making less than \$30,000 per year have residual-income burdens. These households also have high burden rates by the standard measure, at 84%. The largest gap between the 30% standard and the residual-income burden measure is among middle-income households making between \$30,000 and \$45,000 per year. A little more than half of these households are cost burdened, but 81% have residual-income burdens. The residual burden measure indicates that housing affordability challenges are more widespread among middle- and lower-income renter households than the traditional measure would suggest.

Households with residual-income burdens have a large gap between their incomes and the cost of a basic standard of living. For middle- and higher-income households, the cost of housing and basic expenses is just too high. For lower-income households, the gap highlights both the high cost of housing and basic needs on one hand and the simply insufficient amount of income on the other. The average residual-income burdened household is short by nearly \$25,000 per year, adding up to a total national deficit for working-age renters of just under \$471 billion. The lowest income households, making less than \$15,000, would need \$34,000 per year on average to cover the difference between their incomes and a basic cost of living. Those making between \$15,000 and \$30,000 would need \$24,000 on average. Even higher income households (making more than \$75,000) who have residual-income burdens are short by \$14,000 on average.

Characteristics Associated With Residual-Income Housing Cost Burdens

To understand the household characteristics associated with a higher likelihood of having residual-income housing cost burdens, we conduct a series of logistic regression analyses (Models 1–3). Next, we use ordinary least squares regression to examine the household characteristics associated with having more income left over after meeting household expenses (Models 4–6). These models show how the likelihood or magnitude of residual-income cost burdens increases when controlling for other characteristics. Models 1 and 4 contain demographic variables, Models 2 and 5 add in metro dummies, and Models 3 and 6 substitute the metro dummies with metro-level variables related to the broader housing market. The variables used in both models are presented in Table 2. The first two columns show the percentage of households

Table 2. Household-level independent variable descriptive statistics.

	Percentage or mean		Mean income left over after all estimated expenses
	Not residual-income burdened	Residual-income burdened	
<i>Household composition</i>			
Number of adults			
One	33.2	66.8	– 5,797
Two	42.7	57.3	1,302
Number of children			
Zero	47.1	53.0	6,731
One	31.1	68.9	– 5,025
Two	15.7	84.3	– 24,128
Three	11.6	88.5	– 34,687
Four	7.1	93.0	– 34,862
Race/ethnicity of householder			
White	45.0	55.0	4,282
Black	27.7	72.3	– 10,813
Hispanic	26.4	73.6	– 13,955
Asian/another race	45.3	54.7	4,757
Nativity			
Native born	38.9	61.1	– 1,196
Foreign born	33.2	66.8	– 7,084
Age of householder	39.3	39.0	– 4,362
Household income			
80% of AMI or less	6.8	93.3	– 23,929
More than 80% of AMI	84.7	15.3	30,296
Education			
No high school diploma	13.4	86.6	– 22,795
High school diploma/GED	25.0	75.0	– 12,885
Some college	33.3	66.7	– 7,373
Bachelor's degree or higher	62.6	37.4	19,616
Employment status			
Employed	49.2	50.8	6,487
Unemployed	19.5	80.5	– 17,388
Out of labor force	8.2	91.8	– 24,351
Recent mover			
Did not move in last year	37.7	62.4	– 2,463
Moved in last year	38.5	61.6	– 1,835
Overcrowding status			
Not overcrowded	42.9	57.1	3,322
Overcrowded	28.7	71.3	– 12,503
Building type			
Single-family	37.5	62.5	– 3,329
2–19 units	36.5	63.5	– 4,488
20+ units	44.9	55.1	6,743
Manufactured	21.9	78.2	– 14,698
Year structure built			
pre-1950	37.0	63.0	– 2,603
1950–1970	34.5	65.5	– 5,505
1970–1990	35.5	64.5	– 4,916
1990–present	43.1	56.9	2,718

Note. For continuous variables, the mean income left over is taken at the average value for that variable.

Sources. Authors' tabulations of U.S. Census Bureau, 2018 American Community Survey 1-year estimates; and Economic Policy Institute Family Budget Calculator, 2018.

that fall into each logistic regression outcome for categorical variables and the mean value of continuous variables for each outcome. The third column shows the average amount of income left over after accounting for all estimated expenses for the full sample. Positive values indicate that the household income is greater than the estimated expenditures needed. For continuous variables, this column shows the average leftover income amount at the mean value for that variable. The logistic regression results are presented in [Table 3](#), and the ordinary least squares regression results follow in [Table 4](#).

Household composition and the presence of children are significantly associated with both residual-income burdens and the magnitude of income left over after meeting spending needs.

Table 3. Logistic regression results.

Outcome: Household has residual-income burden						
	Model 1: Household characteristics		Model 2: Household characteristics with metro dummies		Model 3: Household characteristics with metro variables	
	Odds ratio	<i>p</i>	Odds ratio	<i>p</i>	Odds ratio	<i>p</i>
<i>Household composition</i>						
Number of adults						
One	Reference category		Reference category		Reference category	
Two	1.46	.00	1.57	.00	1.56	.00
Number of children						
Zero	Reference category		Reference category		Reference category	
One	3.80	.00	4.07	.00	3.93	.00
Two	16.71	.00	21.14	.00	18.87	.00
Three	14.82	.00	17.71	.00	15.85	.00
Four	20.38	.00	26.20	.00	22.13	.00
Race/ethnicity of householder						
White	Reference category		Reference category		Reference category	
Black	1.16	.00	1.19	.00	1.21	.00
Hispanic	1.19	.00	1.11	.00	1.08	.01
Asian/another race	0.99	.80	1.05	.21	1.05	.19
Nativity						
Native born	Reference category		Reference category		Reference category	
Foreign born	1.06	.05	1.13	.00	1.15	.00
Age of householder	0.98	.00	0.98	.00	0.98	.00
Household income						
80% of AMI or less	Reference category		Reference category		Reference category	
More than 80% of AMI	0.01	.00	.00	.00	0.01	.00
Education						
No high school diploma	Reference category		Reference category		Reference category	
High school diploma/GED	0.85	.00	0.87	.00	0.88	.00
Some college	0.70	.00	0.74	.00	0.74	.00
Bachelor's degree or higher	0.38	.00	0.46	.00	0.46	.00
Employment status						
Employed	Reference category		Reference category		Reference category	
Unemployed	2.58	.00	2.61	.00	2.53	.00
Out of labor force	5.18	.00	5.05	.00	4.82	.00
Recent mover						
Did not move in last year	Reference category		Reference category		Reference category	
Moved in last year	1.18	.00	1.21	.00	1.18	.00
Overcrowding status						
Not overcrowded	Reference category		Reference category		Reference category	
Overcrowded	0.91	.00	0.92	.00	0.92	.00
Building type						
Single-family	Reference category		Reference category		Reference category	
2–19 units	0.81	.00	0.97	.21	0.94	.01
20+ units	0.82	.00	1.10	.00	1.07	.02
Manufactured	1.35	.00	1.01	.76	1.11	.02
Year structure built						
pre-1950	Reference category		Reference category		Reference category	
1950–1970	1.11	.00	1.02	.44	1.00	.95
1970–1990	1.22	.00	1.05	.06	1.03	.33
1990–present	1.33	.00	1.17	.00	1.14	.00
Metro characteristics						
Median rent (\$100s)					1.33	.00
Median income (\$1,000s)					0.93	.00
Renter share (10%)					0.90	.00
Vacant share (10%)					1.02	.79
Share Black or Hispanic (10%)					0.95	.00
Share fully employed (10%)					0.74	.00
Share of housing built before 1950 (10%)					1.00	.82
Share with college education (10%)					0.80	.00
Constant	13.57	.00	35.34	.00	2,843.51	.00

(continued)

Table 3. Continued.

Outcome: Household has residual-income burden						
	Model 1: Household characteristics		Model 2: Household characteristics with metro dummies		Model 3: Household characteristics with metro variables	
	Odds ratio	<i>p</i>	Odds ratio	<i>p</i>	Odds ratio	<i>p</i>
AIC	15,594,840		14,369,618		14,819,188	
<i>n</i> (unweighted)	496,724		496,724		496,724	
<i>n</i> (weighted)	30,927,233		30,927,233		30,927,233	
Chi ²	61,839		61,682		61,380	
Log likelihood	-7,797,395		-7,183,851		-7,409,561	
Pseudo <i>R</i> ²	0.62		0.65		0.64	

Note. AIC = Akaike information criterion.

Sources. Author tabulations of U.S. Census Bureau, 2018 American Community Survey 1-year estimates; and Economic Policy Institute Family Budget Calculator 2018.

Households with one adult have lower odds of being burdened than those with two adults. According to Model 2, the model with the best fit, two-adult households are 1.6 times as likely to be burdened as one-adult households. Although their odds of being burdened are higher, Model 5 shows that households with two adults tend to have more income left over on average than single-adult households, at about \$260. Having more children in the household also significantly increases the odds of being burdened and is associated with a larger income deficit. Whereas having one child is associated with being 4.1 times as likely to have residual-income burdens compared with households with no children, the odds ratio increases substantially for two children (21.1), dips slightly for three children (17.7), and is highest for households with four children (26.2). Households with children also have less left over after accounting for expenditure needs when controlling for all other factors in the model, and the addition of one child is associated with a reduction of about \$8,000 in leftover income. Compared with households with no children, households with four children have \$33,600 less income per year after accounting for housing and household expenses.

The race and nativity of the householder are also significantly associated with greater burdens.⁵ Householders of color, particularly Black and Hispanic renters, are more likely to be burdened. Compared with White households, the odds of being residual-income burdened are 1.2 times higher for Black households and 1.1 times higher for Hispanic households in Model 2. The amount of leftover income for these two groups is more than \$1,000 less than that of White households. The likelihood of being burdened and the amount of leftover income are not significantly different between White householders and the Asian/another householder of color category.⁶ Foreign-born householders are more likely to be burdened and to have significantly lower amounts of income left over (\$2,312 in Model 5) after meeting spending needs than native-born householders are.

Socioeconomic status is also significantly associated with the likelihood and degree of residual-income cost burdens. The odds of having residual burdens is lower for more educated households. For households in which the householder has at least a bachelor's degree, their likelihood of being burdened is half that of a householder with no high school degree. More education is also associated with larger amounts of income left over. Householders with at least a bachelor's degree have nearly \$7,000 more income left over than those with no high school diploma. This finding is likely related to educated households having higher incomes. Similarly, householders who are out of the labor force and must rely on nonwage incomes are about 5 times as likely to be burdened as those who are employed. Household income is a key component of the residual income equation, making it difficult to entirely control for household incomes. However, we are able to control for households who are above or below the low-income threshold at 80% of area median income. Unsurprisingly, low-income households are

Table 4. Ordinary least squares regression results.

Outcome: Household income minus all estimated expenses						
	Model 4: Household characteristics		Model 5: Household characteristics with metro dummies		Model 6: Household characteristics with metro variables	
	β	p	β	p	β	p
<i>Household composition</i>						
Number of adults						
One	Reference category		Reference category		Reference category	
Two	265.05	.01	259.17	.01	200.76	.03
Number of children						
Zero	Reference category		Reference category		Reference category	
One	-7,578.37	.00	-7,552.10	.00	-7,604.95	.00
Two	-23,561.86	.00	-23,576.74	.00	-23,611.02	.00
Three	-28,656.96	.00	-28,699.75	.00	-28,703.83	.00
Four	-33,462.55	.00	-33,597.81	.00	-33,603.34	.00
Race/ethnicity of householder						
White	Reference category		Reference category		Reference category	
Black	-1,047.76	.00	-1,304.50	.00	-1,387.83	.00
Hispanic	-1,398.19	.00	-1,270.58	.00	-1,265.71	.00
Asian/another race	-23.03	.90	-124.04	.50	-171.09	.36
Nativity						
Native born	Reference category		Reference category		Reference category	
Foreign born	-2,285.41	.00	-2,312.00	.00	-2,382.64	.00
Age of householder	177.70	.00	179.40	.00	177.09	.00
Household income						
80% of AMI or less	Reference category		Reference category		Reference category	
More than 80% of AMI	37,017.77	.00	37,326.44	.00	37,264.98	.00
Education						
No high school diploma	Reference category		Reference category		Reference category	
High school diploma/GED	622.53	.00	655.01	.00	652.50	.00
Some college	1,517.99	.00	1,597.32	.00	1,542.44	.00
Bachelor's degree or higher	7,160.27	.00	6,809.09	.00	6,794.23	.00
Employment status						
Employed	Reference category		Reference category		Reference category	
Unemployed	-8,921.79	.00	-8,713.91	.00	-8,688.67	.00
Out of labor force	-12,391.40	.00	-12,109.80	.00	-11,997.76	.00
Recent mover						
Did not move in last year	Reference category		Reference category		Reference category	
Moved in last year	-970.46	.00	-1,067.31	.00	-1,009.31	.00
Overcrowding status						
Not overcrowded	Reference category					
Overcrowded	3.23	.98	0.57	1.00	21.24	.86
Building type						
Single-family	Reference category		Reference category		Reference category	
2-19 units	217.66	.04	-152.70	.14	-141.49	.18
20+ units	808.88	.00	185.71	.20	188.43	.19
Manufactured	-279.60	.10	566.70	.00	258.69	.12
Year structure built						
pre-1950	Reference category		Reference category		Reference category	
1950-1970	-349.87	.01	-138.61	.29	-22.65	.86
1970-1990	-495.17	.00	-144.02	.25	-38.74	.76
1990-present	-433.31	.00	-157.53	.25	-80.42	.56
Metro characteristics						
Median rent (\$100s)					-1,481.21	.00
Median income (\$1,000s)					383.75	.00
Renter share (10%)					317.87	.00
Vacant share (10%)					170.85	.63
Share Black or Hispanic (10%)					582.99	.00
Share fully employed (10%)					1,005.83	.00
Share of housing built before 1950 (10%)					-265.77	.00
Share with college education (10%)					-366.91	.00
Constant	-19,208.94	.00	-20,951.89	.00	-36,908.87	.00
AIC	10,930,419		10,915,278		10,922,189	

(continued)

Table 4. Continued.

Outcome: Household income minus all estimated expenses						
	Model 4: Household characteristics		Model 5: Household characteristics with metro dummies		Model 6: Household characteristics with metro variables	
	β	p	β	p	β	p
n (unweighted)	488,466		488,466		488,466	
n (weighted)	30,227,968		30,227,968		30,227,968	
Chi ²	12,224		334		9,487	
Prob. > F	.00		.00		.00	
R^2	0.68		0.68		0.67	

Note. AIC = Akaike information criterion.

Sources. Authors' tabulations of U.S. Census Bureau, 2018 American Community Survey 1-year estimates; and Economic Policy Institute Family Budget Calculator.

substantially more likely to be burdened and have much less income left over after meeting spending needs; the difference between estimated necessary expenditures and incomes is about \$37,000 greater for lower-income households than it is for households with middle to high incomes.

Some housing characteristics are related to higher odds of being burdened. In Model 2, being a recent mover has a significant but small association with being burdened, whereas living in overcrowded households yields a slightly lower likelihood. Overcrowding may be a mechanism for reducing housing costs to meet an affordable standard of living. Households living in single-family, small multifamily, and manufactured housing do not have significantly different odds. Apartments in larger multifamily buildings with at least 20 units are associated with a slightly higher likelihood of residual-income burden, although the odds ratio is close to 1. Additionally, households living in new units built after 1990 are 1.2 times more likely to be burdened than those living in units built before 1950. This is likely a function of housing costs as older units tend to have lower rents over time whereas new units are more expensive. The age of housing does not have a significant relationship with the amount of income a household would have after meeting spending needs.

In Models 3 and 6, we also included metro-level variables to explore whether there are broader housing market characteristics that might affect household-level burdens. In the logistic regression model, a \$100 increase in median rent makes a household 1.3 times as likely to have residual burdens, whereas a \$1,000 rise in income is associated with decreased odds. Markets that have higher shares of renters, Black and Hispanic householders, and educated and employed households are all associated with a lower likelihood of a household experiencing residual-income burdens. The continuous model shows that a \$100 increase in monthly rent at the metro level is associated with a statistically significant \$1,481 decrease in how much a household has after meeting estimated spending needs. Metro areas with higher incomes, more renters, higher shares of Black and Hispanic householders, and greater attachment to the labor force are associated with more leftover income for renter households. However, a 10-percentage-point increase in the share of households with a college education at the metro level is associated with a decrease by \$367 in leftover income for households.

Areas for Policy Intervention

The standard cost burden approach implies that there are two possible interventions: reducing housing costs or increasing household incomes. Residual-income burdens offer several points of intervention, including decreasing any of the expenditure categories through different policy levers. We start with housing and then examine four other categories—transportation, childcare,

Table 5. Effect of policy interventions on residual-income cost burdens.

	Share (%) and number (in millions) of households with residual-income cost burdens											
	With policy intervention											
	Existing		Affordable housing		Affordable housing and transportation		Half healthcare subsidy		Half food subsidy		Full childcare	
	Share	Number	Share	Number	Share	Number	Share	Number	Share	Number	Share	Number
Single person	60.0	7.1	56.9	6.7	45.7	5.4	56.3	6.6	57.3	6.7	60	7.1
Two adults	42.9	3.5	41.4	3.4	35.8	2.9	37.2	3.1	38.9	3.2	42.85	3.5
Single parent	88.1	3.3	87.5	3.3	85.0	3.2	85.3	3.2	85.7	3.2	83.34	3.2
Two adults with children	73.9	5.3	73.6	5.3	73.1	5.2	68.3	4.9	68.6	4.9	65.13	4.7
All working-age renter households	62.1	19.2	60.4	18.7	54.2	16.8	57.6	17.8	58.5	18.1	59.49	18.4

	Average income deficit (\$) for households with residual-income cost burdens											
	With policy intervention											
	Existing		Affordable housing		Affordable housing and transportation		Half healthcare subsidy		Half food subsidy		Full childcare	
	Share	Number	Share	Number	Share	Number	Share	Number	Share	Number	Share	Number
Single person	16,400		11,800		6,300		15,100		15,500		16,400	
Two adults	19,100		14,800		8,900		17,300		17,900		19,100	
Single parent	32,900		27,800		20,600		29,500		29,300		24,500	
Two adults with children	33,700		30,200		24,000		29,500		29,200		25,400	
All working-age renter households	24,500		20,400		15,000		22,100		22,100		20,600	

	Average income deficit (\$) for households with residual-income cost burdens											
	With policy intervention											
	Existing		Affordable housing		Affordable housing and transportation		Half healthcare subsidy		Half food subsidy		Full childcare	
	Share	Number	Share	Number	Share	Number	Share	Number	Share	Number	Share	Number
Less than \$15,000	100.0	5.7	100.0	5.7	100.0	5.7	100.0	5.7	100.0	5.7	100	5.7
\$15,000–29,999	99.5	5.7	99.5	5.7	91.3	5.3	98.7	5.7	99.0	5.7	99.5	5.7
\$30,000–44,999	81.3	4.4	77.4	4.2	57.7	3.1	71.3	3.9	74.5	4.1	80.3	4.4
\$45,000–74,999	39.1	2.7	35.2	2.5	30.2	2.1	30.4	2.1	32.3	2.3	33.4	2.3
\$75,000+	8.3	0.6	7.8	0.5	7.8	0.5	5.5	0.4	5.1	0.4	3.3	0.2
All working-age renter households	62.1	19.2	60.4	18.7	54.2	16.8	57.6	17.8	58.5	18.1	59.5	18.4

Sources. Authors' tabulations of U.S. Census Bureau, 2018 American Community Survey 1-year estimates; and Economic Policy Institute Family Budget Calculator.

healthcare, and food—to understand how a change in those expenses would shift the number of working-age households with residual-income burdens. Each intervention by itself would help to reduce burdens only at the margins and only for middle- to higher-income households (see Table 5). A combination of policies or household income supports would be needed to substantially reduce burdens, particularly for the lowest-income households.

Housing is of course the largest household expense for most renters. On average, the households in our sample spent nearly \$14,000 annually on rent and utilities (see Table 6). Housing makes up 24% of needed household expenditures. If all households who spent more than 30% of their income instead paid 30% on housing, meeting the traditional standard for housing

Table 6. Average estimated expenses by household type.

	Single person	Two adults	Single parent	Two adults with children	All households
Average estimated expense (\$)					
Housing	11,852	15,229	12,047	15,457	13,609
Transportation	9,604	11,909	11,495	13,839	11,429
Healthcare	4,375	8,728	8,466	12,995	8,029
Food	3,287	6,108	8,468	13,196	6,967
Misc.	5,229	7,112	8,916	11,329	7,594
Childcare	0	0	9,284	11,308	3,756
Taxes	6,501	10,243	-2,127	3,587	5,764
All nonhousing	28,995	44,100	44,501	66,254	43,539
Total	40,847	59,329	56,548	81,710	57,148
Share of all expenses (%)					
Housing	29.0	25.7	21.3	18.9	23.8
Transportation	23.5	20.1	20.3	16.9	20.0
Share of nonhousing expenses (%)					
Transportation	33.1	27.0	25.8	20.9	26.3
Healthcare	15.1	19.8	19.0	19.6	18.4
Food	11.3	13.9	19.0	19.9	16.0
Misc.	18.0	16.1	20.0	17.1	17.4
Childcare	0.0	0.0	20.9	17.1	8.6
Taxes	22.4	23.2	- 4.8	5.4	13.2

Note. Negative tax expenses occur when households receive a tax credit (such as the Earned Income Tax Credit).

Sources. Authors' tabulations of U.S. Census Bureau, 2018 American Community Survey 1-year estimates; and Economic Policy Institute Family Budget Calculator.

affordability, housing expenses would fall by 22% on average. The number of renters with residual-income burdens in our sample would drop by 521,000 households and the rate would fall by a modest 2 percentage points, to 60%. The annual cost of this intervention for our sample would be about \$3.8 billion or an average of \$7,600 per household. For households who would still have residual-income burdens, their average income deficit would fall by \$4,000. Although housing expenses under this policy would decrease the most for households making less than \$15,000, who are more likely to be spending more than 30% on housing, the subsidy would not move the needle on residual-income burdens for this group because they would still lack enough income to cover most basic expenses. However, it would reduce their average income deficit by nearly \$7,500. As with all of these interventions, a housing subsidy would most benefit households making \$30,000 to \$44,999, who are right on the margin of being able to afford a comfortable lifestyle. Their residual-income burden rate would fall by 4 percentage points.

Aside from housing, transportation is the largest estimated expense for working-age renter households. The average estimated household transportation expenditure is \$11,000 per year, and estimated transportation needs make up a fifth of all household expenses and a little more than a quarter of nonhousing expenses. Transportation expenditures could be reduced through carpooling to work, through cities and regions building more robust and reliable public transportation systems, or through a transportation subsidy. We estimate what residual-income burdens would be if the combined housing and transportation expenses did not exceed 45% of household income. Under this scenario, the number of renter households with residual burdens would decrease by 2.4 million, the burden rate would fall to 54%, and the average income deficit for those still burdened would drop by \$9,500. This policy intervention, which effectively targets two of the largest household expenses through transportation networks and/or housing subsidies, would have the largest impact on reducing residual-income burdens but still would only result in an 8-percentage-point decrease in the overall burden rate and would cost about \$19.1 billion (\$7,900 per household on average). The majority of householders (77%) who would be unburdened after a housing and transportation subsidy commuted alone in a car, truck, or van. For the lowest-income households who would still have residual-income burdens, it would reduce the deficit income amount by \$17,000.

Healthcare is another point of intervention that has appeared frequently in policy discussions over the last several years, particularly around expanding Medicaid and other public health insurance options. Healthcare is the second largest nonhousing expenditure at \$8,000 on average. A subsidy that covered half of healthcare expenses would bring the residual-income burden rate of working-age renters down to 58%. A half-healthcare subsidy would pull 1.4 million renter households out of residual-income burden and reduce income deficits among those who are burdened by almost \$2,500. Aside from the combined housing and transportation intervention, a partial healthcare subsidy would have the most substantial impact on reducing residual-income burden rates, decreasing burdens by 5 percentage points. This subsidy would cost \$6.2 billion annually, at an average rate of \$4,400 per household.

On average, working-age renter households spend \$7,000 each year on food costs. The existing Supplemental Nutrition Assistance Program (SNAP) helps subsidize the cost of food for low-income households. According to the Center on Budget and Policy Priorities (2019), the average SNAP benefit for a single-person household is \$131 monthly or about \$1,600 annually, half of the average estimated food expenditure for this household type. If SNAP were expanded universally so that all households' food expenses were halved, the residual-income burden rate would fall by 4 percentage points to just under 59%, a decrease of 1.1 million households.⁷ Cutting food costs in half would cost a total of \$4.5 billion (\$4,100 per household on average). The income deficit for those who are still burdened would be reduced by \$2,400 annually on average.

Finally, childcare is a significant expense for households with children. On average, the estimated childcare expense for single-parent households is about \$9,000 annually, amounting to 21% of their nonhousing expenditures. Given that they typically have more children, the childcare cost is \$2,000 higher for two-adult households with children but makes up a smaller share (17%) of their nonhousing costs. The childcare costs assume that paid care would be needed, but some households may be able to rely on unpaid care from family members and friends. Policy proposals for universal childcare would also cut this household expense considerably. Under the best-case scenario, in which all households with children see their childcare costs go to zero, the overall residual-income burden rate would not move much, going from 62% to 60%. The effect is of course larger for households with children. The burden rate for single-parent households would go from 88% to 83%, whereas the rate for two-adult households with children would drop most dramatically, from 74% to 65%. Households with children who are still residual-income burdened would have their income deficits reduced by about \$8,000. This policy, however, is the costliest at nearly \$12 billion (\$14,900 per household on average) and would most benefit higher-income households making more than \$45,000.

Conclusions

The housing affordability crisis in the United States may be even worse than traditional cost burden statistics indicate. When accounting for other household needs, 62% of working-age renter households cannot afford a basic but comfortable standard of living. These households are likely making significant tradeoffs in spending, housing quality, or location to make ends meet. The potential effects on the health and well-being of households, and especially the children in those households, are incalculable. Ultimately, housing unaffordability is only one part of the equation. For many renters, incomes are just too low to meet all basic needs, and the cost of a comfortable lifestyle is out of reach without income supports.

The residual income approach helps highlight the many competing pressures on renter households. As previous authors have noted, it is a difficult measure to operationalize and would be complicated to implement in housing policy. The EPI family budget calculator goes a long way in quantifying the potential needs of different households. Even so, it does not cover the full range of household types, and no large-scale residual income methodology can account for

differences in individual needs and preferences. The estimates presented in this article are also limited by the inability to calculate residual-income burdens for households that include adults age 65 and older and for households with more than two adults or more than four children. Developing estimates for these households is an area ripe for future research. Additionally, we focus on national-level trends, and future research that explores who is burdened and why they are burdened within different geographic contexts would produce a more nuanced picture of residual-income burdens. This is particularly important if the sample is broadened to include older adults, three-adult households, and large families. Despite these limitations, the methodology we present and the data EPI provides shed light on the financial difficulties that many renter households are likely experiencing.

A comfortable standard of living for all Americans is a policy goal worth pursuing. There are several policy levers that could bring down residual-income cost burdens and minimize the tradeoffs that households must make. Among these policy levers, reducing both the cost of housing and transportation through land use, public transportation networks, and household-level subsidies would have the biggest impact on reducing household residual-income burdens. This could be achieved through several channels, including expanding existing housing subsidies, such as the Housing Choice Voucher program and project-based programs, that serve some lowest-income renter households. Expanding existing programs, making them entitlements, and possibly raising the income limits would bring down housing costs. Transportation cost reductions would require investment in more robust public transportation systems, land use that connects affordable housing with nearby transportation options, walkable and bikeable neighborhoods, and designated carpool networks and incentives. This would provide a greater range of affordable options, especially for the majority of households driving alone to work each day. A household-level transportation subsidy may be needed to help those who are not served by transportation infrastructure.

Whereas housing and transportation would have the largest impact, even this set of interventions would move the needle on residual burdens only slightly and would not reduce the burden rate for the lowest-income households. All of the subsidies and programs that help reduce the burden of household expenses are important pieces of the equation and need to be layered to support lower-income households. Expanding support for universal childcare, affordable healthcare, and public or shared modes of transportation would all help struggling households. Additionally, some households simply do not have enough income to meet basic needs. Increasing income supports for the lowest-income households through mechanisms such as the Earned Income Tax Credit, raising the minimum wage, or providing a universal basic income would help more families reach the threshold for a basic but comfortable standard of living.

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Notes

1. Worst-case needs are defined as renters making up to 50% of area median income who do not have housing assistance and spend more than 50% of income on rent and utilities and/or live in housing classified as severely inadequate. Notably, the majority of households with worst-case needs are severely cost burdened.
2. The BLS estimates assumed a mother at home and no childcare expenses.

3. A small share of renters occupy their units without paying rent. For these households, their housing costs are the sum of their utilities.
4. This may seem counterintuitive based on the previous finding that single-person households make up the largest share of those who have standard cost burdens but not residual-income burdens. Single-person households are the most common household type for renters, which in part explains their large share of households with different outcomes under the two measures. As a group, however, single-person households have similar burden rates under both measures.
5. We code race in mutually exclusive categories, where White, Black, and Asian/another householder of color are all non-Hispanic. Hispanic householders may be of any race.
6. This category includes people who do not identify as White, Black, or Hispanic, including people who are biracial, Native American, Pacific Islander, or any other race/ethnicity.
7. This assumes that 6.3 million households in our sample already receiving SNAP would get a deeper subsidy to also halve their food costs. If households already receiving SNAP had no additional food benefit, the number of burdened households would fall by 1 million instead of 1.1 million and the rate would be 58.9%.

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