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# Alternatives to Mortgage Financing for Manufactured Housing

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## Executive Summary

A small but consistent percentage of Americans live in manufactured housing—that is, homes that conform to the Manufactured Home Construction and Safety Standards (HUD Code), which became effective in 1976. In 2015, manufactured homes made up 9% of all new single-family homes; in 2019, manufactured homes made up 10% of the new single-family housing market (U.S. Census Bureau, 2021). Because of its relative affordability, manufactured housing has been described as our nation’s largest source of unsubsidized, affordable housing (Burkhart, 2010; Sullivan, 2017; MacTavish, Eley, and Salamon, 2006). Manufactured homes differ from site-built homes not just in their affordability, but also in how they are purchased. Manufactured homes are more likely than site-built homes to be purchased without financing, that is, to be bought outright with cash. Moreover, because manufactured homes can be titled either as real or personal property, they can be financed with either a mortgage or a personal property loan. However, in most states, manufactured homes are sold and titled as personal property by default, which can limit the financing choices available to buyers.

Little research has been done specifically on the financing decisions of buyers of owner-occupied manufactured homes, including which buyers choose to purchase with financing versus paying with cash, and, for those who choose to finance, how the type of financing chosen relates to their personal financial situations and outcomes. The current paper begins to fill this gap, using data from the 2018-19 American Housing Survey (AHS), 2018-19 manufactured housing owner title records for Texas, and data from the Manufactured Home Owners Survey (MHOS), which collected information about loan shopping experiences from buyers in Texas who purchased manufactured homes from 2015 to 2018.

We find from the AHS that the primary factors associated with cash purchase for both manufactured housing and site-built housing relate to household finances and the life cycle. That is, cash purchasers tend to have lower household incomes, on average, compared with purchasers who use financing. Cash purchasers are also less likely to be first-time homeowners, are slightly older and more likely to be retired, and are more likely to live alone. Given their greater average progress in the life cycle and greater likelihood of prior homeownership, some cash buyers may have previously accumulated home equity that they are able to use in purchasing their manufactured homes. On average, cash buyers also purchase smaller, less expensive housing units. Although cash purchase is more common in nonmetropolitan areas for site-built units, the likelihood of cash purchase is not significantly different by metro classification for manufactured units.

Our analysis of Texas manufactured home title records suggests that buyers of manufactured homes are more likely to use financing for larger, newer units in more affluent, more White areas; when more than one property owner is listed on the title, which may represent a potential loan co-signer or additional household wage earner; and in areas where manufactured housing is more prevalent, which may reflect greater lender familiarity with manufactured housing. We also find that retail purchases are more likely to involve financing, and that a higher local denial rate for manufactured housing loans is associated with a higher likelihood of cash purchase among manufactured home buyers who title their units as personal property.

In considering the relationship of loan type to household financial circumstances among MHOS respondents, all of whom purchased manufactured homes in Texas using financing, we find that homebuyers who use personal property loans differ little from those who use mortgage loans. These

two groups of borrowers look very similar with respect to household financial circumstances and credit profiles, both before and up to two years after home purchase. The small differences that we do observe appear to reflect primarily income and life cycle effects, with personal property loan borrowers slightly older and reporting that they have lower incomes and are more likely to be receiving retirement income, on average. Consistent with the fact that mortgages involve a greater loan amount, on average, compared with personal property loans, we also find that mortgage borrowers tend to take on and carry more debt.

Thus, our results suggest that the decisions of manufactured home buyers to use cash rather than financing mainly reflect income and life cycle considerations but may also reflect limited access to home purchase financing. The similarity between manufactured home buyers who use personal property loans and those who use mortgages with respect to household financial circumstances and credit profiles, both before and after home purchase, is consistent with the idea that factors other than credit history likely determine loan type for many homebuyers who do use financing. Given the low levels of financial literacy observed among lower-income households in the United States and discussed in the existing academic literature, consumer education may help borrowers make more informed home financing decisions. In addition, redesigning mortgages to increase the availability of smaller loans of shorter duration may help make them more attractive to consumers.

We envision at least a couple of avenues for future research. First, evaluating the costs and benefits associated with cash purchase and the available financing options will require loan performance data for both mortgages and personal property loans. Second, given the average smaller loan size, smaller monthly payment size, and shorter duration of personal property loans compared with mortgages, we hypothesize that cash-flow considerations and debt aversion may be important drivers of the decisions to purchase with cash or to select personal property loans instead of mortgages. Survey or qualitative research capturing general attitudes toward debt usage in this population, in comparison with similar data for buyers of site-built units who take out mortgages, would provide an important test of this hypothesis. If debt aversion proves an important determinant of how prospective owners of manufactured homes make their purchase financing decisions, the salient policy questions will be less about how to make lower-cost mortgage financing more widely available and more about how to help homebuyers minimize or avoid debt entirely when that is their preference.

## I. Introduction

A small but consistent percentage of Americans live in manufactured housing—that is, homes that conform to the Manufactured Home Construction and Safety Standards (HUD Code), enacted in 1976. In 2015, manufactured homes made up 9% of new single-family homes; in 2019, they accounted for 10% of that housing market (U.S. Census Bureau, 2021). There are 6.76 million occupied manufactured/mobile homes<sup>1</sup> in the United States, making up 5.4% of all occupied housing (U.S. Census Bureau, 2020a). The majority of these homes (75%) are owner-occupied (U.S. Census Bureau, 2020a).

The role of manufactured homes in the American housing market may be due to these homes' affordability, especially relative to site-built housing: In 2019, the average sales price of a new single-family manufactured home was \$81,900 (\$56.56/square foot), while the average price of a new single-family, site-built home was \$383,900 (\$118.91/square foot) (U.S. Census Bureau, 2021).<sup>2</sup> Of course, these figures are not strictly comparable, because the sales price of a new single-family home generally includes the cost of land, while the price of a new manufactured home does not. A more accurate comparison might be the cost of constructing a new single-family home (absent land), which was estimated in 2019 at a national average of \$296,652, more than 3.5 times the average price of a new manufactured home (National Association of Home Builders [NAHB], 2020). Because of its relative affordability, manufactured housing has been described as our nation's largest source of unsubsidized affordable housing (Burkhart, 2010; Sullivan, 2017; MacTavish, Eley, and Salamon, 2006).

Although manufactured housing's share of the overall housing market has been relatively steady in recent years, the number of new manufactured homes shipped has increased, rising by 34% between 2015 and 2019, from 70,544 to 94,615. The American South leads the manufactured housing market: When ranked in terms of states' receipt of shipments of new manufactured homes, nine of the top 10 states are in the South.<sup>3</sup> Texas dominates this group, receiving 18% of all new manufactured units in 2020.

Manufactured homes differ from site-built homes not just in their affordability, but also in how they are purchased. There are two main differences. First, manufactured homes are more likely than site-built homes to be purchased without financing, that is, to be bought outright with cash. Analysis of sales data for new manufactured homes sold in Texas between 2015 and 2018 suggests that 46% of these homes were purchased with cash (UNC Center for Community Capital and Freddie Mac, 2020); in contrast, an estimated 14% to 24% of all homes sold nationally between 2018 and 2020 were purchased with cash (National Association of Realtors [NAR] Research Group, 2020; Anderson, 2020). Second, for those who finance a home purchase, the options for doing so differ between manufactured and site-built homes.

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<sup>1</sup> The U.S. Census Bureau's AHS defines "manufactured/mobile homes" as "a housing unit that was originally constructed to be towed on its own chassis." This includes homes built before as well as after the National Manufactured Housing Construction and Safety Standards Act of 1974, which became effective in 1976. That act defines a manufactured home as one built to the standards of the Manufactured Home Construction and Safety Standards (HUD Code). Homes built before 1976 are referred to as "mobile homes." The AHS data cited here includes both manufactured and mobile homes.

<sup>2</sup> The figures for site-built homes include the cost of land; the figures for manufactured homes do not.

<sup>3</sup> The top 10 states and the share they receive of all new manufactured homes shipped are Texas (18%), Florida (7%), North Carolina (6%), South Carolina (5%), Alabama (5%), Louisiana (4%), Mississippi (4%), Georgia (4%), Michigan (4%), and Kentucky (4%) (U.S. Census Bureau, 2021).

Because manufactured homes can be titled either as real or personal property, they can be financed with either a mortgage or a personal property loan; however, loan eligibility varies with title type. Manufactured homes titled as personal property are ineligible for mortgage financing. Conversely, site-built homes and manufactured homes titled as real property are ineligible for personal property finance. Recent research into the purchase of new manufactured homes in Texas found that 73% of buyers who used financing for their homes used personal property loans. Even among buyers who might have been eligible for mortgage finance because they own the land on which their homes are sited, personal property loans predominated, at 61% (UNC Center for Community Capital and Freddie Mac, 2020).

There are several reasons why manufactured homes are less likely than site-built homes to be financed with a mortgage. First, given the lower costs of manufactured homes, the loans needed to finance them tend to be smaller than those for site-built housing. Small-dollar mortgages (those under \$150,000) have become increasingly rare following the Great Recession. McCargo et al. (2018) analyzed Home Mortgage Disclosure Act (HMDA) data to assess the availability of small-dollar mortgages and determined that there were a “substantial number of low-cost property sales taking place across many diverse housing markets, but access to credit via traditional mortgage lending was limited for these properties.” Second, as mentioned above, manufactured housing can be more challenging to finance with a mortgage because of titling differences associated with this type of property: Unlike traditional site-built housing, which is always titled as real property, manufactured homes can be titled as real property<sup>4</sup> or personal property. About 77% of new manufactured homes are titled as personal property, which makes them ineligible for mortgage finance (Manufactured Housing Institute [MHI], 2020). Retitling a manufactured home as real property requires the owner to undertake steps to convert the title,<sup>5</sup> a process that can be complicated by several factors, including issues related to land ownership, costly foundation/installation requirements, and complex titling conversion processes that might necessitate legal assistance (National Consumer Law Center [NCLC], 2015b). Third, some have hypothesized that manufactured home buyers may be “steered” by sales representatives to particular lenders, which may affect financing choices (Edelman and Zonta, 2017; Finkelstein, 2018).<sup>6</sup> According to the NCLC (2015a), “steering [is] when the loan originator recommends a lender based on the loan originator’s best interest, rather than the borrower’s interest.” Previous research using MHOS data that will be leveraged for this paper revealed that half of buyers who used financing to purchase new manufactured homes in Texas between 2015

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<sup>4</sup> In general, manufactured homes titled as real property will be eligible for mortgage finance only if they are also 1) sited on land owned by the homeowner, with both home and land used as collateral for the loan, and 2) installed on a permanent foundation in compliance with the Department of Housing and Urban Development’s (HUD) 2005 installation codes.

<sup>5</sup> According to the NCLC (2015b), “While more than three-quarters of states have some statutory method for converting a manufactured home from personal property to real property, these statutes are often inadequate.”

<sup>6</sup> Research reported by the Consumer Financial Protection Bureau (CFPB) in 2014 suggests that relationships between retailers and lenders might constrain consumer choice when it comes to financing the purchase of a manufactured home. According to this source, “Most large national chattel lenders require independent retailers to enter into nonexclusive contractual agreements in order for the retailers’ customers to be able to access the lender’s financing; these lenders will not offer loans to consumers shopping outside of their network of partner retailers. In order for a consumer to purchase a home from a particular retailer with financing from a particular lender, the retailer and lender must first agree to conduct business together. If a particular lender and retailer do not have an agreement, a consumer must try to obtain financing from a different local or national lender willing to finance purchases from that retailer or purchase a home from a retailer approved by the lender.” (p. 41)

and 2018 chose their lender from a list provided by their home retailer (UNC Center for Community Capital and Freddie Mac, 2020).

Personal property loans carry higher interest rates than mortgage loans for manufactured housing— between 50 and 500 basis points higher, according to one study (Consumer Financial Protection Bureau [CFPB], 2014). More recent research has found that the median personal property loan to purchase a manufactured home has an interest rate 3.7 percentage points higher than the median mortgage loan for the same purchase (CFPB, 2021). Nonetheless, buyers of manufactured homes rely more heavily on personal property loans than they do on mortgage finance. The fact that they may be taking on personal property loans with less favorable interest rates raises the question of whether these borrowers fully understand the trade-offs associated with the home finance options available to them.<sup>7,8</sup> Recent research into the loan shopping experiences of manufactured home buyers between 2015 and 2018 in Texas found that 43% did not know their loan’s interest rate, and 7% did not know their loan’s term (UNC Center for Community Capital and Freddie Mac, 2020). Interest rate and loan term both affect how much is paid monthly and over the life of the loan, and borrowers’ inability to report these items suggests that they might not be shopping with full awareness of these costs.

Little research has been done specifically on the financing decisions of buyers of owner-occupied manufactured homes, including which buyers choose to purchase with financing versus paying with cash, and, for those who choose to finance, how the type of financing chosen relates to their personal financial situations and outcomes. The current paper begins to fill this gap. Using data from the 2019 AHS, a nationally representative survey of housing units in the United States, and an administrative database of public title records for manufactured homes purchased in Texas during 2018-19, we explore the demographic, unit, and local area characteristics associated with the cash purchase of owner-occupied manufactured homes. As permitted by the AHS, we also compare the factors associated with the cash purchase of manufactured homes with the factors associated with the cash purchase of owner-occupied, site-built, single-family housing. We then analyze household financial information and associated consumer credit metrics from the MHOS survey, conducted in 2018, to investigate the relationship of loan type to household financial stability, both before and after home purchase, among owners of manufactured homes in Texas who used home purchase financing to buy primary residences from January 2015 to April 2018.

In brief, our analysis of the AHS indicates that manufactured units are more likely than site-built units to be purchased with cash. Nationally, about 37% of manufactured units are purchased with cash, compared with about 11% of site-built units. The greater propensity toward cash purchase among owners of manufactured homes coincides with lower average property values that reflect a variety of physical/structural property differences, including differences with respect to lot size, foundation type (permanent versus impermanent), and land ownership. Owners of manufactured homes have lower levels of educational attainment and lower household incomes, on average, compared with owners of site-built homes; they are also more likely to receive retirement income, to live in poverty, and to

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<sup>7</sup> Not all manufactured homes are eligible for mortgage finance. If a manufactured home is titled as personal property, it is eligible only for a personal property loan. If a home is titled as real estate, in general it is eligible for mortgage finance only if it is sited on land owned by the homeowner (with both home and land used as collateral for the loan) and installed on a permanent foundation in accordance with HUD’s 2005 installation codes.

<sup>8</sup> As noted by the CFPB (2014), “the extent to which consumers are aware of these trade-offs and how consumers weigh them remains an open question.”



receive some type of public financial assistance. Notably, manufactured housing accounts for 25% of housing units owned by households below the poverty level, and in rural areas it accounts for 16% of housing units owned by Hispanics, 17% of housing units owned by Whites, 30% of housing units owned by Blacks, and 45% of housing units owned by Indigenous peoples.

The AHS also reveals that the primary factors associated with cash purchase for both housing types relate to household finances and the life cycle: Cash purchasers tend to be slightly older and have lower household incomes, on average, compared with purchasers who use financing. Cash purchasers are also less likely to be first-time homeowners and more likely to live alone. On average, cash buyers also purchase smaller, less expensive housing units. Put differently, both higher household incomes and more potential earners in the household make it more likely that the household will use financing. In addition, we find that Blacks are less likely than other racial/ethnic groups to purchase with cash, all else being equal. These similarities for site-built units and manufactured units notwithstanding, we do observe a few noteworthy differences. Although cash purchase is more common in nonmetro areas for site-built units, the likelihood of cash purchase is not significantly different by metro classification for manufactured units. Moreover, we find that household income and number of adults in the household is more highly correlated for manufactured unit owners than for site-built unit owners, which suggests a closer linkage between the number of potential wage earners and the likelihood of living in poverty among manufactured unit owners, and that owners of manufactured homes are relatively more sensitive to increases in property values when making financing decisions: For a similar dollar-valued increase in the purchase price, manufactured home buyers will be more likely to use financing.

Our analysis of the Texas public title records for manufactured housing sheds additional light on the factors associated with the cash purchase of manufactured housing by considering local area characteristics. Moreover, in contrast to the AHS, the Texas public records contain information about how manufactured units are titled (as personal or real property), which has an impact on the available financing options, as well as whether they were purchased from retailers. We link these records with county-level characteristics drawn from the American Community Survey (ACS) and HMDA data, including the percentage of households living in poverty, the percentage of manufactured/mobile homes as a share of the housing stock, and the denial rate for manufactured home purchase financing applications. Our analysis finds that buyers of manufactured homes are more likely to use financing for larger, newer units in more affluent, more White areas; when more than one property owner is listed on the title, which may represent a potential loan co-signer or additional household wage earner; and in areas where manufactured housing is more prevalent, which may reflect greater lender familiarity with manufactured housing. We also find that retail purchases are more likely to involve financing, and that a higher local denial rate for manufactured housing loans is associated with a higher likelihood of cash purchase among manufactured home buyers who title their units as personal property.

Finally, in considering the relationship of loan type to household financial circumstances among MHOS respondents, all of whom purchased manufactured homes in Texas using financing,<sup>9</sup> we find that

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<sup>9</sup> As discussed later in this paper, MHOS data indicates that about 44% of manufactured homes purchased with finance in Texas from 2015 to 2018 were pre-owned. Research by Durst (2019) and Ward and Peters (2007) has found that pre-owned manufactured/mobile homes are particularly important in informal subdivisions (“colonias”) in periurban regions of the United States, including those in Texas. Although we suspect that cash purchase plays a

homebuyers who use personal property loans differ little from those who use mortgage loans. These two groups of borrowers look very similar with respect to household financial circumstances and credit profiles, both before and up to two years after home purchase. The small differences that we do observe appear to reflect primarily income and life cycle effects, with personal property loan borrowers slightly older and reporting that they have lower incomes and are more likely to be receiving retirement income, on average. Consistent with the fact that mortgages involve a greater loan amount, on average, compared with personal property loans, we also find that mortgage borrowers tend to take on and carry more debt.

Thus, our results suggest that the decisions of buyers of manufactured homes to use cash rather than financing mainly reflect income and life cycle considerations but may also reflect limited access to home purchase financing. The similarity between manufactured home buyers who use personal property loans and those who use mortgages with respect to household financial circumstances and credit profiles, both before and after home purchase, is consistent with the idea that factors other than credit history likely determine loan type for many homebuyers who do use financing. Given that the available evidence suggests that the financial literacy of owners of manufactured homes is relatively low with respect to home purchase loans, it may be that some part of the loan choice process is essentially random and/or reflects the effect of proximity to different types of lenders or retailers who influence borrower loan choice. However, as previously noted by the CFPB, borrowers choosing between personal property loans and mortgages face a variety of trade-offs (CFPB, 2014), so an alternative interpretation of our results is that borrowers are exercising choice along dimensions other than the interest rate. Such dimensions include the desire not to buy or encumber land, which has previously been found to be a key driver of loan type choice (UNC Center for Community Capital and Freddie Mac, 2020); a more convenient closing process; the desire for a smaller monthly payment; and the desire to take on less debt and pay it off more quickly.

In light of existing literature on financial literacy and debt aversion, we hypothesize that a combination of cash-flow considerations and a preference for debt avoidance might motivate the decision of some buyers to use cash instead of credit, and to use personal property loans rather than mortgages, when purchasing a manufactured home. Although personal property loans have higher interest rates than mortgages, they typically involve shorter loan terms, smaller loan amounts, and smaller monthly payments.<sup>10</sup> Among MHOS respondents, about 21% of personal property loan borrowers and 12% of mortgage borrowers indicated that a shorter loan term was one of the three most important factors they considered in selecting a loan.<sup>11</sup> Moreover, about 40% of sample respondents who took out each type of loan indicated that a smaller monthly payment was one of the most important factors determining loan choice, whereas a lower interest rate was a key factor for about 41% of mortgage

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particularly important role in the pre-owned manufactured housing market, we are unable to look specifically at the use of cash to purchase pre-owned homes in Texas because the MHOS data is limited to homes purchased with financing.

<sup>10</sup> Personal property loans would typically have higher monthly payments than mortgages if the loan amount were held constant, because the interest rate for a personal property loan is typically higher than that for a mortgage. In practice, personal property loans have lower monthly payments at the median because the loan amounts for personal property loans are smaller than the loan amounts for mortgages.

<sup>11</sup> Note that survey respondents were not asked explicitly about a choice between a personal property loan and a mortgage; the survey question was structured to elicit general preferences regarding what loan features the borrower considered most important.

borrowers and 34% of personal property loan borrowers. Thus, manufactured home buyers appear to have diverse preferences regarding loan features, with factors other than the interest rate sometimes influencing the choice of loan. Because the data at our disposal does not include information about general borrower attitudes toward credit usage, testing this hypothesis represents an important avenue for future research.

At this stage of our research on manufactured housing, the implication for policymakers is that consumer education about the availability of mortgage financing options may help some manufactured home buyers to make more informed financing choices. In addition, making mortgages, which have lower average interest rates than personal property loans, attractive to more manufactured home buyers may involve redesigning mortgage products to permit smaller loan sizes and shorter loan terms. Borrowers opting for redesigned mortgages may benefit from both lower interest rates and greater consumer protections with respect to foreclosure.

In the next section, we provide an introduction to manufactured housing, the manufactured housing finance market, and some relevant findings from the existing literature. Following this, we offer a more detailed overview of the data and methods used for our analysis, which is followed by the descriptive and multivariate results. In the final section, we present conclusions, discuss limitations of the analysis, and suggest directions for future research.

## II. Background and Relevant Literature

### *What Is Manufactured Housing?*

Manufactured housing differs from site-built housing<sup>12</sup> as well as from older mobile homes, also called “trailers,” in several distinct ways. The U.S. Department of Housing and Urban Development (HUD) defines a manufactured home as one that is “built to the Manufactured Home Construction and Safety Standards (HUD Code) and displays a red certification label on the exterior of each transportable section. Manufactured homes are built in the controlled environment of a manufacturing plant and are transported in one or more sections on a permanent chassis” (HUD, 2021). The HUD Code, which is statutorily mandated and is updated from time to time, created federal standards pertaining to the design, performance, and installation of manufactured homes — essentially requiring that “new homes meet certain expectations regarding design, fire safety, thermal protection, ventilation, plumbing, heating/cooling, electrical systems, and site transportation” (Jones et al., 2016).<sup>13</sup> The federal regulation of manufactured housing is one of several ways that this form of housing differs from site-built housing, which is regulated at the local, regional, and state level.

Another way in which manufactured housing differs from site-built housing is in the choice owners have when it comes to siting their homes. Owners of manufactured homes can either place their homes on rented land (often within a community designated for manufactured housing) or on land that they themselves own. About 37% of new manufactured homes are placed in manufactured housing communities (MHI, 2020), which can result in a tenuous relationship between homes and the land on which they are sited. Because of this, owners who choose to site their homes on rented land have been referred to as “vulnerable” or “housing insecure” (Sullivan, 2018; Aman and Yarnal, 2010; Walker, 2016).

### *How Manufactured Homes Are Purchased*

Those who purchase manufactured and site-built housing have different options when it comes to paying for their homes, as illustrated in Figure 1. Site-built housing can be purchased outright with cash or it can be financed using a traditional mortgage. Manufactured home purchasers have three options: They can pay outright with cash, they can use a mortgage loan, or they can use a personal property loan.<sup>14</sup>

The option to use either a mortgage or a personal property loan for the purchase of a manufactured home depends on several factors. To be eligible for mortgage finance, a manufactured home must be titled as real property, that is, it must be titled as real estate. In addition, homes are generally eligible for mortgage finance only if the home purchaser owns the land on which the home is sited, is willing to

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<sup>12</sup> Site-built homes are constructed at the site on which they will be permanently located. Originally, these homes were referred to as “stick-built homes” because they were built “on site, out of sticks—pieces of lumber cut and nailed together into walls and roof trusses, linked together and sheathed with plywood on the exterior and drywall on the interior, and then finished with shingles, clapboard, vinyl siding, adobe or some kind of brick or brick veneer” (Mortgage News Daily, 2005).

<sup>13</sup> For the most recent rule amending the Federal Manufactured Home Construction and Safety Standards, which went into effect on March 15, 2021, see <https://www.federalregister.gov/documents/2021/01/12/2020-28227/manufactured-home-construction-and-safety-standards>.

<sup>14</sup> Those purchasing manufactured or site-built homes can also pursue contract-for-deed or lease-to-own options. These forms of home purchase are beyond the scope of the current analysis.

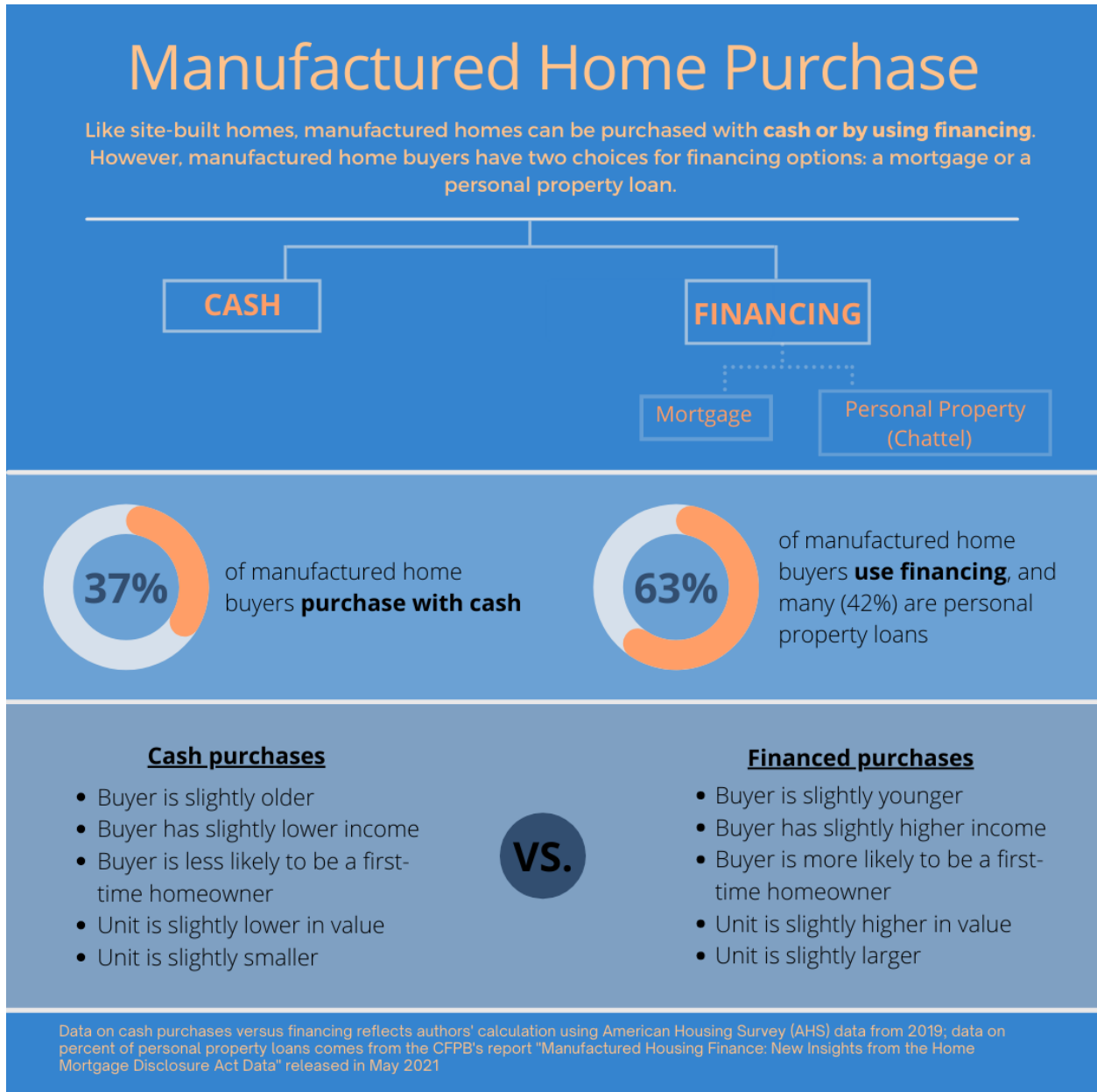
encumber both the home and the land in the borrowing process, and installs the home on a permanent foundation. In contrast, eligibility for a personal property loan requires that the home be titled as personal property, which is the default in many states; in fact, the majority (77%) of new manufactured homes are titled as personal property (MHI, 2020).<sup>15</sup> In addition, personal property finance does not require the purchaser to own the land under the home, does not require the purchaser to encumber any land (if owned), and does not require that the home be set on a permanent foundation. Given the lower hurdle associated with personal property finance, it is unsurprising that research into the loan choices of recent buyers of manufactured homes in the state of Texas revealed that even among those who might have been eligible for mortgage finance, the majority chose personal property loans: Among landowner purchasers, 61% financed their home purchases with personal property loans (UNC Center for Community Capital and Freddie Mac, 2020). On the national level, 42% of buyers with financing used a personal property loan, though usage rates vary significantly by state and region (CFPB, 2021).

There are several factors that homebuyers may take into consideration when choosing a type of financing. Mortgage loans, in general, have lower interest rates and allow for financing over a longer term. They also provide greater protection under foreclosure laws. Personal property loans have lower origination costs and do not require land encumbrance (CFPB, 2014; Goodman and Ganesh, 2018); they have often been characterized as settling more quickly than mortgage loans, although recent analysis by the CFPB (2021) found either similar closing times between the two types or longer closing times for personal property loans. Because personal property loans typically offer shorter loan terms, they may be attractive to borrowers who want to pay off their loans more quickly. Thus, the choice between these options may depend on preferences concerning shorter-term costs, longer-term costs, and—for those who own their land—the desire to leave land untouched in the borrowing process.

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<sup>15</sup> Titling a manufactured home as real property often involves “the completion of statutorily specified procedures for ‘converting’ the title from personal to real” (Burkhart, 2010, p. 442). As of 2016, 40 states had laws that laid out a procedure for converting manufactured homes from personal to real property (NCLC, 2016). As mentioned earlier, in most states, manufactured homes are sold and titled as personal property by default. Retitling a home as real property requires the homeowner to take steps to convert the title. This process can be complicated by several factors, including land-ownership issues, foundation/installation requirements, and complex title conversion processes that might necessitate legal assistance (NCLC, 2015b).

Figure 1



## *Mortgages Versus Personal Property Loans*

The loan choices of those who finance the purchase of their manufactured homes has been studied extensively, using data from the 2018 MHOS (UNC Center for Community Capital and Freddie Mac, 2020). This survey provides information about the loan shopping experiences of a sample of manufactured home buyers in Texas who successfully obtained home purchase financing between 2015 and 2018. We review here what we know about loan-type choice from this data.

One important contribution of the MHOS data to our understanding of manufactured home finance decisions is that it allows for a better understanding of **the relationship between land ownership and loan-type choice**.<sup>16</sup> As a reminder, of those who used finance to purchase a manufactured home in Texas between 2015 and 2018, 73% chose to finance with a personal property loan. Among landowners—who, in theory, might have been eligible for mortgage finance—61% chose to finance their manufactured home purchase with a personal property loan. When asked about their reasons for choosing this type of finance, 43% of landowners indicated that they did not want to use their land as collateral for the loan. Multivariate statistical analysis of the MHOS data reveals that “those respondents who did not want to use the land as collateral are significantly more likely to select a personal property loan, as they have more than three times the odds of doing so, all else equal” (UNC Center for Community Capital and Freddie Mac, 2020, p. 91). As for mortgage finance, 27% of manufactured home buyers chose a mortgage for the purchase of their home. Descriptive analysis of the data reveals that 74% of buyers who wanted to purchase their home and land simultaneously used mortgage finance to do so, and multivariate analysis of the data confirms the importance of land ownership to financing preference in the loan decision-making process: According to the report, “those respondents who wanted to purchase the home and land at the same time and finance them with a single loan have a greatly *reduced* likelihood of selecting a personal property loan” (UNC Center for Community Capital and Freddie Mac, 2020, p. 91).

The MHOS data allows for a consideration of **the relationship between borrower demographics, including credit-related factors, and loan-type choice**. Several demographic factors are associated with the loan decision. Those 55 or over have about twice the odds of taking out personal property loans, compared with those under 45. Those who speak a language other than English at home and for whom it is important that the lender speak or provide documents in that language have two to three times the odds of using a personal property loan.<sup>17</sup> Those with a joint property title (inferred to be married purchasers) have about half the odds of electing to use a personal property loan. Credit-related factors are also associated with loan type choice, with purchasers with higher credit scores being more likely to

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<sup>16</sup> Analysis of the MHOS data reveals that 61% of home purchasers own the land on which their homes are sited, and that 65% of these landowners purchased their land before purchasing their homes. Certain demographic factors are associated with land ownership. First, the odds of owning land increase as income increases. Second, non-Hispanic White homeowners have about twice the odds of owning land as non-Hispanic Black homeowners. Third, higher credit scores are significantly associated with a greater likelihood of land ownership among low-to-moderate-income households. See UNC Center for Community Capital and Freddie Mac, 2020, pp. 9-10 for details.

<sup>17</sup> Sullivan (2018) and Durst (2019) have found that manufactured homes play an important role in housing immigrants to the United States, and that this is especially true in Texas. Immigration has been found to be correlated with homeownership (DeSilva and Elmelech, 2012; Painter, Gabriel, and Myers, 2001), and it might also be correlated with the choice of how to finance home purchase. The MHOS does not contain any information on immigration status, so we are unable to explore the relationship between immigration status and the choice of how to pay for the purchase of a manufactured home.

use a personal property loan. All else being equal, those with credit scores over 700 have about twice the odds of using a personal property loan, compared with those whose credit scores fall between 300 and 579.<sup>18</sup>

The MHOS data has been used to examine **how awareness of financing options might be related to loan choice**. Interestingly, manufactured home purchasers who had “low loan process knowledge”<sup>19</sup> had about half the odds of selecting a personal property loan; that is, all else being equal, they had roughly twice the odds of using a mortgage, rather than a personal property loan, to finance their home purchase. The increased reliance on mortgages persists even when land ownership is taken into account. “Conditional on owning land, borrowers with low loan process knowledge are less likely than more informed borrowers to take out personal property loans” —50% compared with 62% (UNC Center for Community Capital and Freddie Mac, 2020, p. 92). Although it is unclear what is driving this difference, one possible explanation might be that landowners with low prior loan process knowledge may have heard of mortgages but not personal property loans, and therefore may be more likely to seek mortgage financing.

The MHOS data has been used to assess **how sources of information on manufactured home loans are related to loan choice**—that is, whether there is any link between where homebuyers get their information about manufactured home loans and the type of loans they ultimately select. Multivariate statistical analysis of the data reveals that borrowers for whom the lender was an important source of information have roughly half the odds of using a personal property loan (compared with those for whom the lender was not an important source of information). Similarly, borrowers for whom a real estate agent was an important source of information had approximately 40% lower odds of using personal property loans. Those borrowers who applied to multiple lenders—which, we might assume, would bring them into contact with multiple sources of information about the borrowing process—were less likely to select personal property loans than borrowers who did not submit multiple applications. Interestingly, this was true “unless they also were referred to the lender by or submitted loan applications through the retailer/seller, in which case they were more likely to receive a personal property loan” (UNC Center for Community Capital and Freddie Mac, 2020, p. 92). Applying to multiple lenders roughly doubles the odds of using a personal property loan by borrowers who were assisted by a retailer/seller.

The MHOS data has also been used to assess **the importance of loan features in loan type choice**. Is the preference for a shorter time to close, lower closing fees, a lower down payment, a fixed interest rate, and a shorter loan term associated with the choice of a personal property loan or mortgage? Multivariate statistical analysis of the data reveals that several of these variables are significantly associated with loan type choice, although not necessarily in the way one might expect. Borrowers who indicated that lower closing fees were important in their loan choice had 40% lower odds of selecting personal property loans (compared with borrowers for whom this was not an important feature). This is

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<sup>18</sup> This is particularly true for certain subpopulations of borrowers. The data reveals that “the tendency of higher credit score borrowers to select personal property loans ... appears most pronounced among buyers of new homes and households located in small/medium metro areas” (UNC Center for Community Capital and Freddie Mac, 2020, p. 95).

<sup>19</sup> “Loan process knowledge” is an indicator that captures how familiar MHOS respondents were with various aspects of the loan process when beginning loan shopping. For a full explanation, see UNC Center for Community Capital and Freddie Mac, 2020.



a surprising result, given that mortgages tend to have higher closing fees; however, it “appears primarily to reflect the preferences of [non-duty-to-serve eligible<sup>20</sup>] households, purchasers of existing homes, and households located in large metropolitan and rural areas” (UNC Center for Community Capital and Freddie Mac, 2020, p. 94). Borrowers who wanted to pay off their loans over a shorter time period, representing about 20% of survey respondents, had 83% higher odds of selecting personal property loans—unsurprising, given the shorter duration of these loans. Interestingly, an expressed preference for a shorter time to close the loan was not significantly associated with loan type choice for the full sample of borrowers, although this was a significant factor in personal property loan choice for buyers in large metro areas and for those purchasing new manufactured homes. Interest rates are only significantly associated with loan type choice for certain subsets of borrowers: Among duty-to-serve eligible households, those buying existing homes, and those in either large metro or rural areas, an expressed preference for a lower interest rate was significantly associated with greater odds of choosing a mortgage. Similarly, duty-to-serve eligible households that wanted a fixed interest rate were more likely to use mortgages to purchase their homes.

The MHOS data also allows for a consideration of **changes in loan terms between loan application and closing**. The data reveals that the majority of Texas manufactured home loan borrowers experienced no changes to their expected monthly payment (67%), interest rate (81%), closing costs (76%), or fees associated with the loan (76%). For those manufactured home borrowers who experienced changes in loan terms between application and closing, those changes were more likely to increase rather than decrease their costs. Almost three times as many borrowers experienced an increase rather than a decrease in their monthly payment (20% versus 7%); almost three times as many saw their interest rate rise rather than fall (8% versus 3%); almost four times as many experienced higher- as opposed to lower-than-expected fees (11% versus 3%); and four times as many saw their closing costs rise as opposed to fall (12% versus 3%).<sup>21</sup> As for mortgage versus personal property loan borrowers, mortgage borrowers were more likely to report changes to their expected monthly payment (38% of mortgage borrowers versus 31% of personal property loan borrowers), and they were also more likely to report changes to their closing costs (29% versus 22%). As for the direction of changes for mortgage borrowers, a larger share reported increases rather than decreases to their anticipated monthly payments (24% versus 8%), and increases rather than decreases to their estimated closing costs (16% versus 4%).

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<sup>20</sup> The analysis reported on here was undertaken to inform Freddie Mac’s duty-to-serve obligation to help improve liquidity in the manufactured housing finance markets through the development and refinement of safe, sound, and sustainable loan products. In this analysis, households were considered “duty-to-serve eligible” if they had an annual income less than 100% of area median income (AMI). For full details, see UNC Center for Community Capital and Freddie Mac, 2020.

<sup>21</sup> The MHOS data also provides some perspective on how changes to loan terms between application and closing for manufactured home buyers compare with those experienced by borrowers for site-built housing. When examined against the experience of a comparable group that borrowed for the purchase of site-built housing (derived from National Survey of Mortgage Originations data), a greater share of MHOS homebuyers experienced such changes. Compared with borrowers for the purchase of site-built housing, manufactured home borrowers were more likely to report an increase in their monthly payment (20% of manufactured home buyers versus 8% of site-built home buyers), an interest rate increase (8% versus 4%), and an increase in fees (11% versus 8%). Interestingly, site-built home borrowers were more likely than borrowers for manufactured housing to report an increase in closing costs (13% of site-built buyers versus 10% of manufactured home buyers). See UNC Center for Community Capital and Freddie Mac, 2020, p. 16, for full details.

In our companion white paper<sup>22</sup> considering loan denial rates for manufactured housing, using HMDA data, we also find important differences in the frequency with which complete manufactured home purchase loan applications are denied, both nationally and in Texas. These patterns are illustrated in Figures 2-4. Nationally, we estimate the denial rate for manufactured housing personal property loans at 64% and for manufactured housing mortgages at 40%. A slightly higher percentage of manufactured housing mortgages are denied in Texas (51%). By contrast, about 7% of mortgages for site-built housing are denied nationally, and about 8% are denied in Texas. We also find that these denial rates differ somewhat by loan size, with denial rates generally lower for larger loans. For loan amounts less than \$150,000, the national denial rates are 64% for manufactured housing personal property loans, 45% for manufactured housing mortgages, and 10% for site-built housing mortgages. For loans of \$150,000 or more, comparable denial rates are 60%, 26%, and 7%. We observe a similar pattern in Texas, except that the denial rate for personal property loans is slightly higher for larger loans than for smaller loans (69% versus 64%), and the denial rate for manufactured housing mortgages remains elevated (45%) when compared with the national denial rate for such loans (26%).

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<sup>22</sup> Riley, Sarah, Allison Freeman, and Jess Dorrance. 2021. "Is Manufactured Home Financing Hard to Get? An Exploratory Analysis of Home Purchase Loan Applications." UNC Center for Community Capital white paper prepared for The Pew Charitable Trusts.

Figure 2

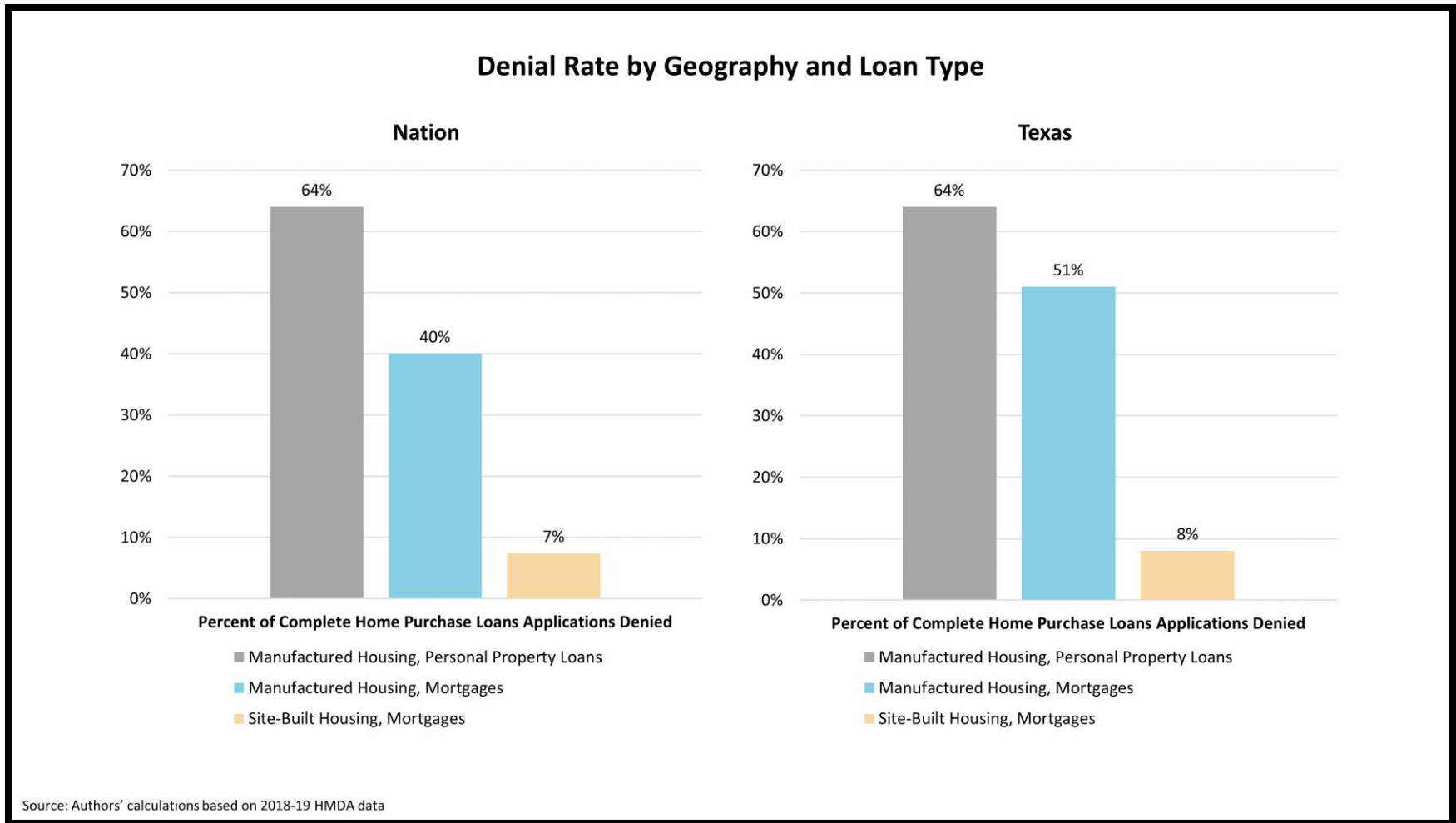
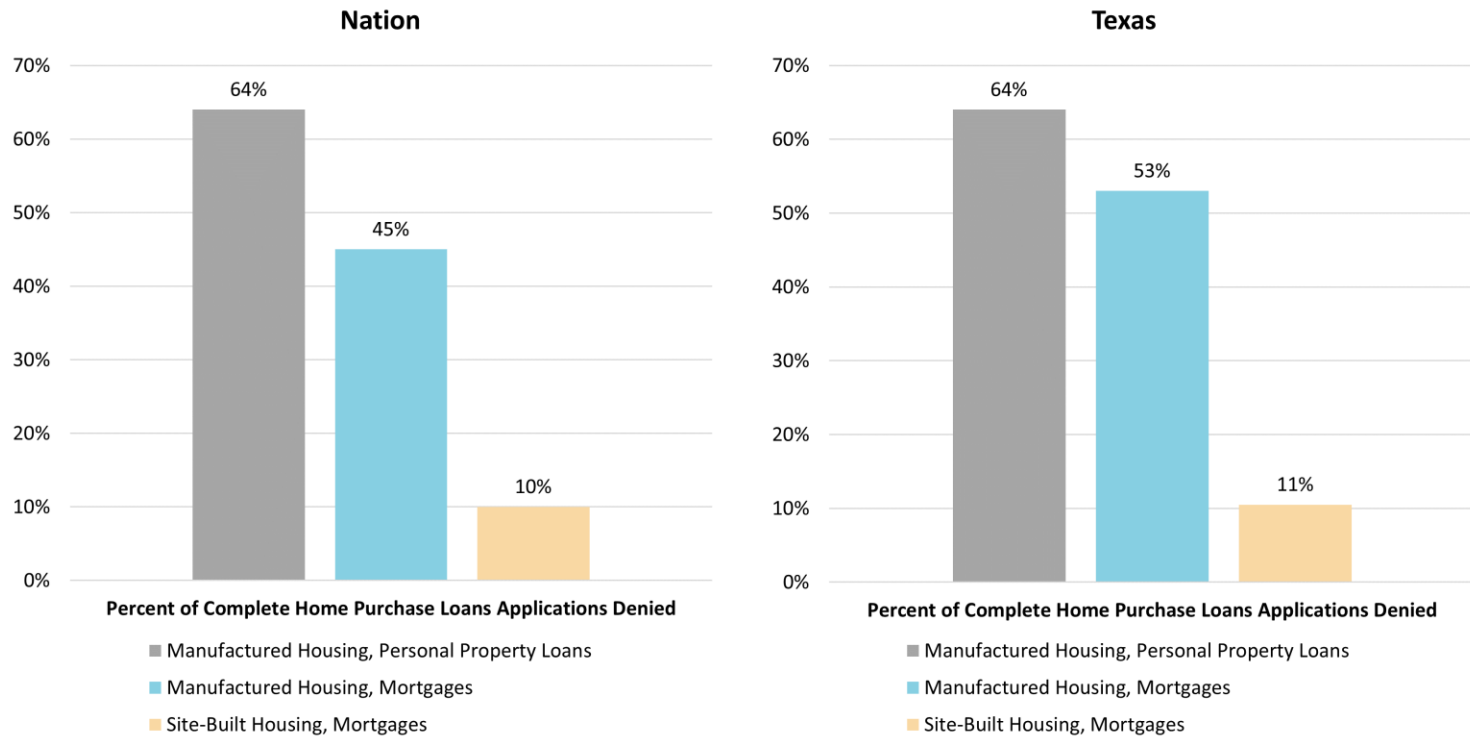


Figure 3

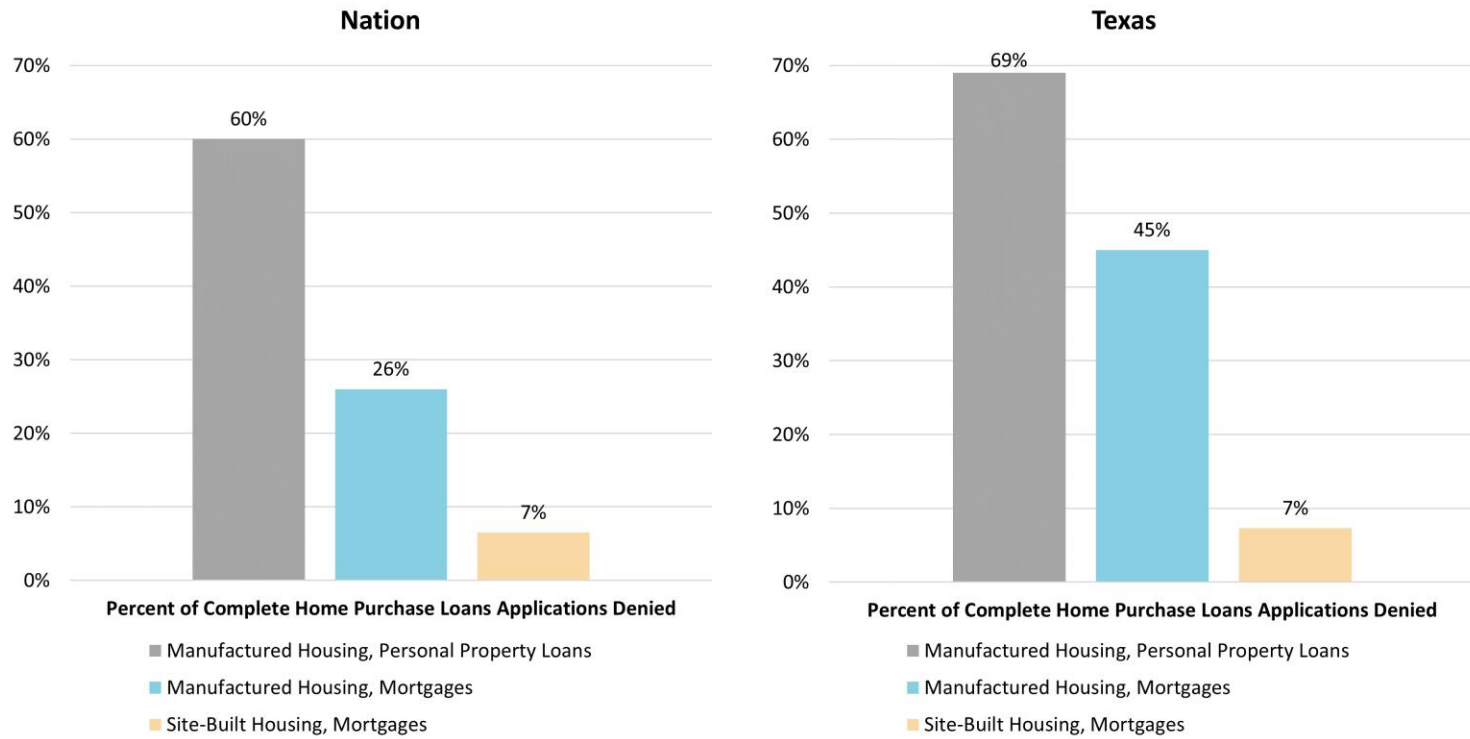
Denial Rate by Geography and Loan Type, **Where Loan Amount < \$150,000**



Source: Authors' calculations based on 2018-19 HMDA data

Figure 4

**Denial Rate by Geography and Loan Type, Where Loan Amount  $\geq$  \$150,000**



Source: Authors' calculations based on 2018-19 HMDA data

## *Cash Purchase*

Although the MHOS data allows for consideration of manufactured home loan choice and some of the factors associated with this, it does not include any information on those who pay cash for their homes. In fact, little research has been undertaken on the issue of which manufactured home owners pay with cash and the factors associated with their doing so. Because of this scarcity of research—a gap this paper is intended to help close—this section considers issues related to the cash purchase of housing more broadly, and it draws from both academic and more popular literature.

How prevalent are all-cash purchases of housing? That figure can be hard to come by, with recent estimates of 14% to 24% of all homes (manufactured and site-built) sold nationally between 2018 and 2020 being purchased with cash (NAR Research Group, 2020; Anderson, 2020). Certainly, the use of all-cash purchase changes over time. Jauregui, Tidwell, and Hite (2017) noted that “in October of 2008, approximately 15% of Realtor® transacted house sales were cash transactions, whereas in April of 2013 the percentage had increased to 31%” (p. 118). These authors noted that although investors were more likely to purchase with cash, the uptick in cash purchases was due to “an increasing proportion of current homeowners electing all cash transactions” (Ibid., p. 118). The NAR (2021) estimates that all-cash purchases currently make up 33% of the residential sales market. The association sees this as a “unique trend” credited in part to “the aging baby boom generation, many of whom are trading down and paying for their purchase with cash accumulated from decades of equity.”

Some link the increasing importance of cash sales of residential housing to the tightening of credit standards following the financial crisis of 2008. In their research on “missing loans,” Bai, Goodman, and Zhu (2016) determined that maintaining 2001 credit standards (i.e., the standards in place prior to the housing crisis) would have resulted in 5.2 million more loans being made between 2009 and 2014. The authors drew a connection between tightening credit markets and the increase in all-cash purchases. According to Goodman, Zhu, and Bai (2016), “With home sales down only modestly but mortgage activity down dramatically, cash sales made up the difference. Their share increased from 18 percent in 2001 ... to 33 percent in 2015. Many of these cash buyers are investors, a situation the tight credit box has encouraged. In a tight credit environment, sellers often take the cash bid to avoid the delay and uncertainty of waiting to hear if a mortgage application has been approved.”

The likelihood of cash purchase differs by region and submarket. For example—and perhaps related to the potential effect (mentioned earlier) of Baby Boomer retirees on housing markets—“Florida saw half of all home purchases bought with cash while Nevada, Arizona and West Virginia also witnessed high levels of all-cash sales” (NAR, 2021). In competitive markets, all-cash offers are more common and more likely to be accepted: “In neighborhoods and at price points where inventory is tight and bidding wars almost a certainty, the financing-free strategy at the bargaining table has become more commonplace—and more or less imperative” (Marino, 2016). Of course, the ability to pay in cash for a home requires the means to do so, and some descriptive analyses suggest that the likelihood of cash purchase increases with home price. For example, in Manhattan in 2016, 44% of homes were bought with cash, and the percentage of all-cash sales increased with home price: 33% of homes selling for less than \$500,000 were bought with cash, while 81% of homes that cost more than \$5 million were purchased in this way (Marino, 2016). Interestingly, cash purchases are sometimes illusory: Those with the means to do so sometimes “delay financing” their home by liquidating assets (e.g., retirement funds or

investments) in order to make a cash offer and then taking out a mortgage against the home to replenish those funds (Marino, 2016; Trulia, 2021).

The main attraction for sellers of working with an all-cash buyer is the speed with which the sale can take place and the certainty of a closed deal: There is no need to wait for approval of a loan, and other lender requirements such as home inspections and appraisals are unnecessary. This may make sellers more likely to accept lower offers in exchange for the certainty of a cash sale. In essence, cash sales eliminate “financing risk” (i.e., the uncertainties and delays that attend closing a transaction when a buyer is seeking mortgage finance). The academic literature has explored the price effects of all-cash versus mortgage-financed purchases, considering the “discount” associated with cash sales. Asabere, Huffman, and Mehdiian (1992) undertook one of the first analyses of the effect of all-cash purchase on home prices, focusing on the sale of row houses over a two-year period in Upper Darby, Pennsylvania. They determined that all-cash purchases were associated with discounted sales prices of approximately 13% compared with transactions involving mortgage financing. These researchers concluded that “because financing contingencies create uncertainties, the market will exact a price premium for mortgage transactions” (p. 149). Lusht and Hansz (1994) repeated and extended this preliminary analysis using a different sample of row houses. They found that cash purchase was associated with a 16% discount in price compared with homes whose sales contracts involved a mortgage contingency clause.

There is a long gap in the literature between these early studies and further consideration of the relationship between cash payment and purchase prices, possibly because these early papers “confirm the intuition” that cash payment would be associated with a discount (Hansz and Hayunga, 2016). More recent research suggests that the discount associated with an all-cash purchase may have been overstated in these early works (Jauregui, Tidwell, and Hite, 2017). In a recent exploration of the effect of cash on housing prices in Los Angeles, Han and Hong (2020) found that all-cash purchases were associated with a discount of about 5%. These researchers noted that the likelihood of all-cash purchases had quintupled in the Los Angeles housing market since 2010, with the growth most evident among experienced buyers, those flipping homes, and out-of-state buyers. Interestingly, their analysis revealed that the “cash discount increases with experience and proximity of homebuyers, suggesting the importance of information advantage when a buyer bargains over a cash offer” (p. 29). In a recent examination of the relationships among sales price, cash-purchase, environmental issues, and income constraints in Franklin County, Ohio, Jauregui, Tidwell, and Hite (2017) discovered an average cash discount of about 9% across their sample. They also uncovered a more nuanced relationship between all-cash purchase and housing prices: First, they found that cash discounts were greater in areas more proximate to environmental hazards; second, they discovered that “purchasers in high-income areas were more likely to pay a *cash premium* compared with market participants in areas with comparably lower income” (p. 134, emphasis ours).

As has been stated, there is little research into the issues of which buyers of owner-occupied manufactured homes pay outright with cash and the factors associated with their doing so. We do know that people who buy housing as an investment (to rent out or flip for profit) are more likely than residential buyers to pay cash (Jauregui, Tidwell, and Hite, 2017). An examination of NAR data indicated

that about 57% of investment homebuyers pay in cash (Davidson, 2019).<sup>23</sup> McCargo et al. (2018) have determined that investor cash purchase may play an especially important role in the affordable housing sector. Their analysis found that in 2015 just 28% of homes purchased for \$70,000 or less involved mortgage finance, explaining that “home sales without a mortgage were primarily cash sales, most by investors who fixed up and rented or flipped the homes” (p. 15).

The intersection of affordable housing and investors who engage in all-cash purchases raises the issue of the role that investment buyers might be playing in manufactured housing markets. Much of the writing on this topic focuses on the role that investors play in manufactured housing communities (also known as “trailer parks”), where homeowners site their homes on rented land (Sullivan, 2018; Rivlin, 2014; Kolhatkar, 2021; Dubb, 2019; Ryan, 2019; Foroohar, 2020). Institutional investment in manufactured housing communities has increased in recent years, as individual park owners have aged into retirement and sold their properties (Dubb, 2019; Foroohar, 2020). According to Foroohar, institutional investors “accounted for 17% of the \$4 billion in sector transactions in 2018, up from just 9% of the \$1.2 billion in transactions in 2013.” A report released in 2019 by three nonprofits—the Private Equity Stakeholder Project, MHAAction, and Americans for Financial Reform—noted that “with more than 150,000 home sites, private equity firms and institutional investors now control a substantial portion of manufactured home communities” (Baker, Voigt, and Jun, 2019, p. 3). According to Ryan (2019), “investments in manufactured and mobile homes communities are among the most profitable in the real estate sector.” Trailer parks are “reliable sources of passive income—assets that generate steady returns and require little effort to maintain” (Kolhatkar, 2021). Much of the profit that institutional investors garner comes through steep rent increases and minimal maintenance (Sullivan, 2018). Resident purchase of communities—as would happen under the cooperative ownership model advocated by ROC USA<sup>24</sup>—could provide residents greater control over lot rents, repairs and improvements, and eviction processes. Thus, when it comes to park purchase, resident buyers are often competing with investors whose access to capital far exceeds their own (Dubb, 2019). Although an analysis of the impact of such competition on the home financing decisions of manufactured home owner-occupiers is beyond the scope of our analysis, it is potentially important to keep this broader market context in mind.

### *Knowledge of and Attitudes Toward Debt*

The existing literature on Americans’ financial literacy has generally found it to be low, and this will undoubtedly affect home purchase financing decisions. Financial literacy has, in turn, been found to be correlated with attitudes toward debt, risk aversion, and other factors that impact the decision to borrow for home purchase. We offer a brief consideration of these topics here.

Lusardi’s 2008 analysis of American financial literacy levels determined that “most individuals cannot perform simple economic calculations and lack knowledge of basic financial concepts, such as the working of interest compounding, the difference between nominal and real values, and the basics of risk diversification.” Although she determined that “[financial] illiteracy is widespread among the general population,” she found that it was “particularly acute” among specific subpopulations, including those with low levels of education. This is important for the purchase of manufactured housing, because manufactured/mobile homeowners tend to have lower education levels than owners of site-built

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<sup>23</sup> For perspective, the same source cites data from CoreLogic indicating that the share of all homes purchased by investors is about 11%.

<sup>24</sup> See <https://rocusa.org/> for information on the resident-owned community model.



housing: For 68% of manufactured home owners throughout the country, “high school or less” is their highest level of education, which is true of only 35% of those who own site-built homes (UNC Center for Community Capital and Freddie Mac, 2020). Research has also found that basic financial literacy levels are lower among those with lower incomes (de Bassa Scheresberg, 2013). Again, this is important for the current study because those who own manufactured housing tend to have lower incomes than those who own site-built housing: The national median income for owners of manufactured/mobile homes is \$35,300 compared with a median of \$80,000 for owners of site-built, single-family homes (U.S. Census Bureau, 2020b). Of further interest to this study, given that 51% of those who live in manufactured housing are 55 or older (U.S. Census Bureau, 2020a), is research that finds that older Americans “are not financially sophisticated: they fail to grasp essential aspects of risk diversification, asset valuation, portfolio choice, and investment fees” (Lusardi, Mitchell, and Curto, 2014).

Of particular importance to the issue of borrowing for manufactured housing is that Americans have been found to have low levels of “debt literacy,” that is, “the ability to make simple decisions regarding debt” (Lusardi and Tufano, 2015, p. 333). Research has found that “individuals with lower levels of debt literacy tend to transact in high-cost manners, incurring higher fees and using high-cost borrowing” (ibid., p. 332). Recent research into the loan shopping experiences of manufactured home buyers between 2015 and 2018 in Texas found a common lack of familiarity with both lending processes and potential loan options. Nearly a quarter (24%) of these individuals reported being not at all familiar with the loan process at the time they began getting their manufactured home loan, and more than half (53%) reported being not at all familiar with the difference between a mortgage and a personal property loan when they began the borrowing process (UNC Center for Community Capital and Freddie Mac, 2020). Moreover, the majority of survey respondents expressed concern about their ability to qualify for a loan (ibid.). Survey respondents were also unclear about the loans they had obtained to purchase their manufactured homes: About 22% were unable to report their loan amount, 43% did not know their loan’s interest rate, and 7% did not know their loan’s term (ibid.).

Some researchers have also found that financial literacy is correlated with choice of mortgage product, and that less informed borrowers tend to favor traditional mortgages. For example, Cox, Brounen, and Neuteboom (2015) investigated how financial literacy and reported willingness to take a financial risk impacted mortgage type choice in the Netherlands. They found that households that reported higher levels of financial literacy and lower levels of risk aversion were 55% to 97% more likely to choose interest-only mortgages. These researchers concluded that “alternative mortgage products, as opposed to traditional mortgages, are chosen by wealthier, older, and/or more sophisticated households that are more likely to have a greater understanding of the risks and benefits associated with these products” (p. 74). More recent research from the Netherlands on the link between financial literacy and mortgage borrowing found that “homeowners with relatively low debt literacy are more likely to take out traditional mortgages with principal repayments over the maturity of the loan. Riskier mortgages are more prevalent among homeowners with a better understanding of loan contracts” (van Ooijen and van Rooij, 2016). Recent research on the loan shopping behavior of manufactured home owners in Texas also suggests that borrowers who take out personal property loans are somewhat more knowledgeable about the process of getting a loan, on average, than those who take out mortgages (UNC Center for Community Capital and Freddie Mac, 2020).

Moreover, the amount of debt that borrowers prefer to take on has been found to vary with education and income, stage in the life cycle, financial optimism, and general attitudes toward debt usage. Godwin

(1997) explored the historical evolution of household income, debt, and attitudes toward debt using 1983-89 data from the U.S. Survey of Consumer Finances (SCF). Her analysis suggested not only that income, debt, and attitudes toward debt usage were quite variable over time, but that debt levels tended to be least variable over time among those who had the lowest amounts of debt, and that attitudes toward debt were most stable among those who believed that using debt was a bad idea. Similarly, Crook (2001) used 1990-95 data from the SCF to investigate how the demand for credit varied across individuals and found that higher-income households with a larger family size had a higher demand for credit, whereas households with a head older than 55 and who were more risk averse had a lower demand for credit. In addition, Brown, Garino, and Taylor (2008) developed a theoretical economic model of the relationship between financial expectations and mortgage debt and then presented empirical evidence from the 1993-2001 British Household Panel Survey that supported the implications of their model. They found that borrowers with more optimistic expectations about their financial futures (believing that they would be financially better off in the future) took on more mortgage debt than less optimistic borrowers did. They also found that the amount of mortgage debt was higher when the household head had a higher income and higher level of education and was married or cohabiting.

More recently, Almenberg et al. (2021) analyzed 2014 survey data and 2004-07 administrative data from Sweden and found that debt aversion was widespread, tended to persist in families across generations, and was inversely related to the tendency to accumulate debt and real estate assets. They also found that those who were debt averse had a greater desire to pay down the principal on their mortgages, were generally less likely to take on any type of debt, and were specifically less likely to take out mortgages. Furthermore, they found that adults who were less comfortable with debt were more likely to be older (retirement age), less educated, more risk averse, and less financially literate, and that they tended to have lower incomes and lower levels of long-term savings (although not necessarily different levels of net worth). Given the observed characteristics of the manufactured home buyer population in the United States (i.e., lower income and lower education), these general patterns discussed in the existing literature suggest a variety of possible linkages among financial literacy, attitudes toward debt, household demographic and life cycle factors, and manufactured home purchase financing decisions. Although we emphasize the roles of demographic and life cycle factors in our analysis below, understanding the potential relationships of financial literacy and debt aversion (which tend to be correlated with these demographic and life cycle factors) to loan type choice (which may involve a choice between a larger mortgage and a smaller personal property loan, for example) and the cash purchase of manufactured housing represents an important avenue for future research.

#### *Characteristics of Texas That May Limit the Generalizability of the Findings*

Texas has unique attributes that may limit the generalizability of the findings involving the Texas public records data and the MHOS. In the first place, Texas is growing rapidly and has a vibrant economy. The state has led “the nation in job creation over the last 10 years and in population growth over the last 14” (Texas Economic Development, 2021). Second, Texas has long been known for its supply of affordable

housing (although this is gradually shifting), especially in its metro areas, where nearly all of the state's economic and population growth are occurring<sup>25</sup> (Fulton, 2020).

One further factor inhibiting the generalizability of the Texas-based findings is that manufactured home titling laws are determined at the state level, and zoning regulations—which can affect the siting of manufactured homes—vary at the local level. Naturally, both of these conditions will affect the opportunity to choose and site manufactured housing and will also affect the financing one may use for home purchase. Because there is variation in the treatment of manufactured homes throughout the nation and because this treatment continues to evolve, the Texas-based findings in this paper will be most applicable to states that take an approach similar to that of Texas when it comes to legislating and regulating manufactured housing.

To clarify how things work in Texas, the state treats all manufactured homes as personal property by default. Titling a manufactured home as real property requires that the homeowner file an Application for Statement of Ownership within 60 days of purchase.<sup>26</sup> To be titled as real property in Texas, a manufactured home must be sited on land owned by the homeowner or on which the homeowner has a lease of at least five years, or, if that is not the case, the owner must have the written consent of all lienholders on file.<sup>27</sup> As for installation of manufactured homes, it is illegal in Texas for a retailer to sell a manufactured home with any type of temporary installation. All manufactured homes must meet, at a minimum, the Model Installation Standards established by HUD (Title 24, Subtitle B, Chapter XX, Part 3285) as well as Texas standards for permanent installation. These requirements apply regardless of property titling choice (real versus personal).<sup>28</sup>

In the next section, we introduce the data in more detail and summarize our methods of analysis. We offer an overview of AHS, Texas public title records, and MHOS data, including summary statistics that provide context for the subsequent descriptive and multivariate analyses. We also discuss the construction of the analytic samples and the methods that we use for the analyses.

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<sup>25</sup> Sixty-two percent of Texans live in the “Texas Triangle,” defined as “the 35 counties surrounding Houston, Dallas-Fort Worth, Austin and San Antonio” (Fulton, 2020). Estimates are that 85% of new population growth in Texas since 2010 has occurred in the Texas Triangle, where nearly 80% of the state's economic activity takes place (ibid.).

<sup>26</sup> All home purchasers in Texas are required to file with the Texas Department of Housing and Community Affairs an Application for Statement of Ownership within 60 days of the sale of a home.

<sup>27</sup> For full details, see the Texas Department of Housing and Community Affairs' [Manufactured Housing Rules \(state.tx.us\)](https://www.state.tx.us/hca/manufactured-housing-rules).

<sup>28</sup> Personal communication from industry representative in Texas. See also the Texas Department of Housing and Community Affairs' [Manufactured Housing Rules \(state.tx.us\)](https://www.state.tx.us/hca/manufactured-housing-rules).

### III. Data and Methods

We analyze three major data sources: (1) the 2019 American Housing Survey (AHS), (2) public title records for manufactured housing units purchased in Texas in 2018-19, and (3) Manufactured Home Owners Survey (MHOS) data collected in 2018 from manufactured home owners in Texas who used financing to purchase their homes between January 2015 and April 2018. Whereas the AHS data provides national coverage for both manufactured housing units and site-built housing units, permitting a comparison of the two, the Texas public title records and MHOS data provide coverage only for Texas and only for manufactured housing units. We use the first two of these data sources to investigate the demographic, property, and local area characteristics associated with cash purchase by owner-occupiers. We then use the third data source to explore whether the financial circumstances of buyers of owner-occupied manufactured homes who used financing to purchase their residences differ depending on the types of loans they took out (personal property loans or mortgages).

#### A. American Housing Survey

The AHS is nationally representative of housing units in the United States. Data is collected from the residents of sampled housing units where possible and from nonresident owners when a resident is unavailable or unwilling to complete the survey. AHS data is collected every two years, with the most recent data collection completed in 2019. The 2019 AHS data overall reflects about 63,000 survey responses weighted to represent nearly 140 million housing units. Single-family units, including both manufactured units and detached or attached site-built units, account for about 44,000 of these survey responses and represent about 103 million housing units.

The AHS provides detailed information about the occupancy of housing units. About 74% of single-family housing units in the United States are owner-occupied. An additional 15% are occupied by renters. Vacant units, more than half of which are used occasionally or seasonally, account for 10%. Properties potentially used for investment purposes, including rental properties, account for about 17% of single-family units.

The rate of owner occupation for single-family units is higher for site-built units (75%) than for manufactured units (61%); the rate of renter occupation is roughly similar for site-built units (15%) and manufactured units (17%). However, manufactured units are more likely to be reported as vacant and used for occasional or seasonal purposes (14% for manufactured units versus 6% for site-built units). In addition, investment units represent about 20% of manufactured units, compared with about 16% of site-built units.

In addition to cataloging occupancy, the AHS asks respondents living in owner-occupied primary residences to provide information about how they obtained their properties. Overall, owner-occupied units purchased with cash represent at least 5% of all single-family housing units. This figure rises to 13% for manufactured units and falls to about 5% for site-built units. Similarly, owner-occupied units purchased with financing represent at least 42% of all single-family units, 21% of manufactured units, and 44% of site-built units. These figures represent lower bounds, because 20% of survey respondents indicated that they had purchased their units but chose not to provide information about the method of

purchase. Respondents also reported that about 3% of all single-family units, 6% of manufactured units, and 2% of site-built units were obtained as gifts or inheritances.

### *Analytic Sample Construction*

For analytic purposes, we restrict the data to include only owner-occupied single-family units for which the method of purchase is known. As noted above, single-family units include manufactured units and detached or attached site-built units. In addition, we limit the sample to units with a property value of at most \$250,000, which represents the 99<sup>th</sup> percentile of the weighted property value distribution for owner-occupied manufactured units sited on land owned by the unit owners. This restriction permits a comparison of manufactured units with roughly similarly valued site-built units. In addition, we exclude cases with item-missing data for the key analytic variables of interest. After implementing these restrictions, we obtain a final analytic sample size of about 7,000 housing units representing about 20 million similar units nationally. Manufactured housing represents about 12% of the analytic sample (about 2.4 million housing units), with site-built housing representing the remaining 88% (about 17.8 million housing units).

### *Characteristics of Manufactured Units Versus Site-Built Units*

We provide detailed tables summarizing categorical analytic sample characteristics, both overall and by property type, in Appendix A. In addition, frequencies and means for selected measures are highlighted in Tables 1 and 2 below. Manufactured and site-built units differ in important ways with respect to the method of acquisition, land ownership, physical structure, and the populations that occupy each type of housing.

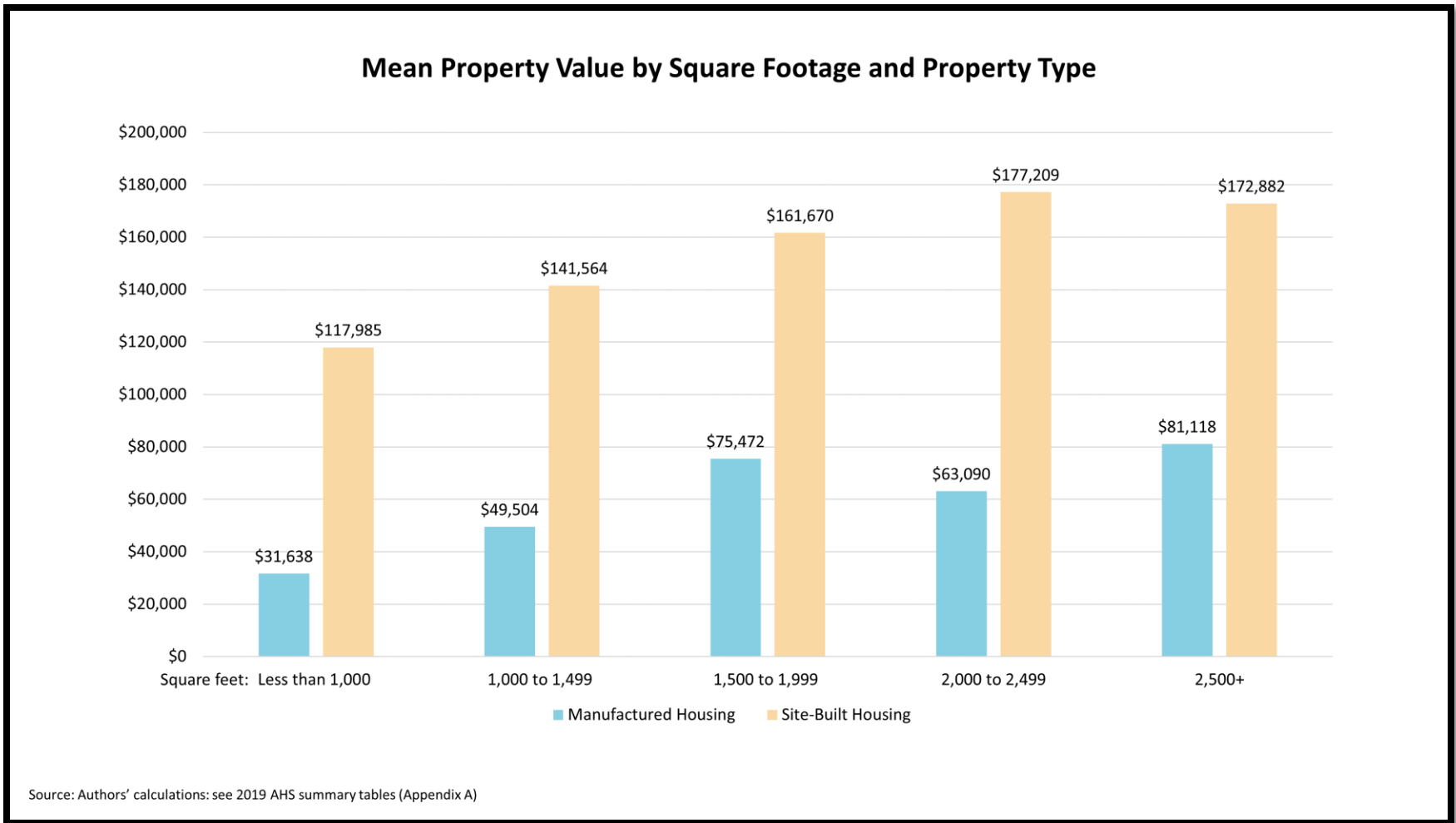
Manufactured units are more likely than site-built units to be purchased with cash: About 37% of manufactured units are purchased with cash, compared with about 11% of site-built units. The remaining 63% of manufactured units were purchased with financing, compared with 89% of site-built units. The greater propensity toward cash purchase among owners of manufactured homes coincides with lower average property values. The mean property value for manufactured units is about \$51,000, one-third the mean price of site-built units (about \$156,000). Moreover, about 75% of manufactured units are valued below \$75,000, compared with 9% of site-built units.

These differences in property value reflect differences in structural unit characteristics and the fact that fewer owners of manufactured homes than site-built homes own the land on which their homes are sited (61% versus 100%). In comparison with site-built units, manufactured units are more likely to have both very small and very large lot sizes. About 18% of manufactured units have a lot size less than one-eighth of an acre, compared with 12% of site-built units. The greater prevalence of small lots for manufactured units may reflect siting in manufactured home parks or communities. At the other end of the spectrum, about 52% of manufactured units have a lot size of at least 1 acre, compared with about 22% of site-built units. This difference partly reflects the fact that manufactured units are more likely to be located outside of metro areas (37% versus 22%).

Regarding physical structure, manufactured units tend to be smaller than site-built units. In particular, about 30% of manufactured units have less than 1,000 square feet, and an additional 42% have between 1,000 and 1,500 square feet. In contrast, only about 7% of site-built units have less than 1,000 square feet, and an additional 31% have between 1,000 and 1,500 square feet. Thus, the majority of

manufactured units have less than 1,500 square feet, whereas the majority of site-built units have more than 1,500 square feet. Moreover, the average cost per square foot for site-built units is more than twice that for manufactured units, as illustrated in Figure 5.

Figure 5



Manufactured units also tend to be newer than site-built units, on average, and to carry lower maintenance and utilities costs. About 7% of manufactured units were built before 1970,<sup>29</sup> compared with 43% of site-built units. (As noted earlier, the structural quality of manufactured housing improved after 1976, following the implementation of the HUD Code, which created federal standards for the design, construction, performance, and installation of manufactured homes. “Manufactured housing” comprises only units that meet HUD Code requirements.) Conversely, about 58% of manufactured units were built in 1990 or later, compared with 28% of site-built units. In further contrast with site-built units, more than half of manufactured units have a temporary foundation: Only 22% have a masonry foundation, and about 58% are sited on blocks. The annual maintenance cost for manufactured units averages \$584, compared with \$813 for site-built units, and the monthly average cost of utilities is \$200, compared with \$251 for site-built units.

Owners of manufactured units and site-built units rate their units and neighborhoods similarly, on average—about 8 on a scale of 1 to 10. However, this average masks substantial variation. Owners of manufactured units are more likely to give their units or neighborhoods a rating of 6 or below. About 15% of manufactured unit owners rate their units at 6 or below, compared with about 7% of site-built unit owners, and about 17% of manufactured unit owners rate their neighborhoods at 6 or below, compared with about 10% of site-built unit owners. More than 30% of both groups give their units and/or neighborhoods the highest possible rating of 10, with manufactured unit owners more likely to do so (38% versus 32%).

With respect to demographics, owners of manufactured units and site-built units have similar average ages (57 and 55, respectively) and roughly similar age distributions overall. Approximately 30% of both groups fall between the ages of 35 and 54, and more than half of both groups are 55 or older.

Manufactured unit owners and site-built unit owners also look largely similar with respect to first-time homeownership status, race, gender, country of birth, and language of interview.<sup>30</sup> About 75% of manufactured housing units and 78% of site-built units are owned by Whites. Hispanics represent 13% of manufactured unit owners and 11% of site-built unit owners.

Educational attainment is lower, on average, for manufactured unit owners than for site-built unit owners. About 20% of manufactured unit owners have not completed high school, compared with 8% of site-built unit owners. At the other end of the spectrum, about 10% of manufactured unit owners have at least a bachelor’s degree, compared with 33% of site-built unit owners. Moreover, although manufactured unit owners and site-built unit owners report a similar number of adults in the household (about two, on average), manufactured unit owners are more likely to report living alone (36% versus 26%) and less likely to report that there are two adults in the household (48% versus 56%). About 16% of manufactured unit owners and 18% of site-built unit owners report three or more adults in the household.

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<sup>29</sup> Technically, these units are not “manufactured housing.” As has been mentioned, homes built before the enactment in 1976 of the National Manufactured Housing Construction and Safety Standards Act of 1974 are not built to HUD Code and are referred to as “mobile homes.” Although the focus of the current study is solely on manufactured homes, the AHS data cited here includes both manufactured and mobile homes.

<sup>30</sup> Some AHS participants were interviewed/surveyed in a language other than English.



Consistent with these differences in educational attainment and the number of adults in the household, average household income is lower for manufactured unit owners than for site-built unit owners (about \$48,000 versus \$79,000). About 80% of manufactured unit owners have incomes below \$75,000, compared with about 56% of site-built unit owners. Moreover, about 18% of manufactured unit owners fall below the poverty level, compared with about 7% of site-built unit owners. Additionally, manufactured unit owners are less likely to earn wage income (62% versus 75%), more likely to receive some type of retirement income (46% versus 37%), less likely to receive interest/dividend/investment income (14% versus 21%), more likely to receive public assistance<sup>31</sup> (9% versus 4%), and more likely to receive nutrition assistance<sup>32</sup> (11% versus 4%).

Given that manufactured housing is more prevalent in rural areas, as previously noted, these differences in income by property type partly reflect differences in income by metro status. Figures 6 and 7 illustrate these differences. In particular, household income appears to differ more by metro classification for site-built units than for manufactured units. Roughly 80% of manufactured unit owners in metro and nonmetro areas have household incomes below \$75,000, and 17% have incomes between \$75,000 and \$150,000. In contrast, about 54% of site-built unit owners in metro areas have incomes below \$75,000, as do 62% in nonmetro areas, while 37% of site-built owners in metro areas and 30% in nonmetro areas have incomes between \$75,000 and \$150,000. When we consider household income in relation to the poverty level, the distribution for both property types is largely similar for metro and nonmetro areas, except that the percentage of site-built unit owners who have incomes of 400% or more of the poverty level is greater in metro areas than in nonmetro areas (46% versus 39%). Perhaps most striking is that the comparable percentage of manufactured unit owners (i.e., those with incomes of 400% or more of the poverty level) is less than half that of site-built owners (19% in metro areas and 18% in nonmetro areas).

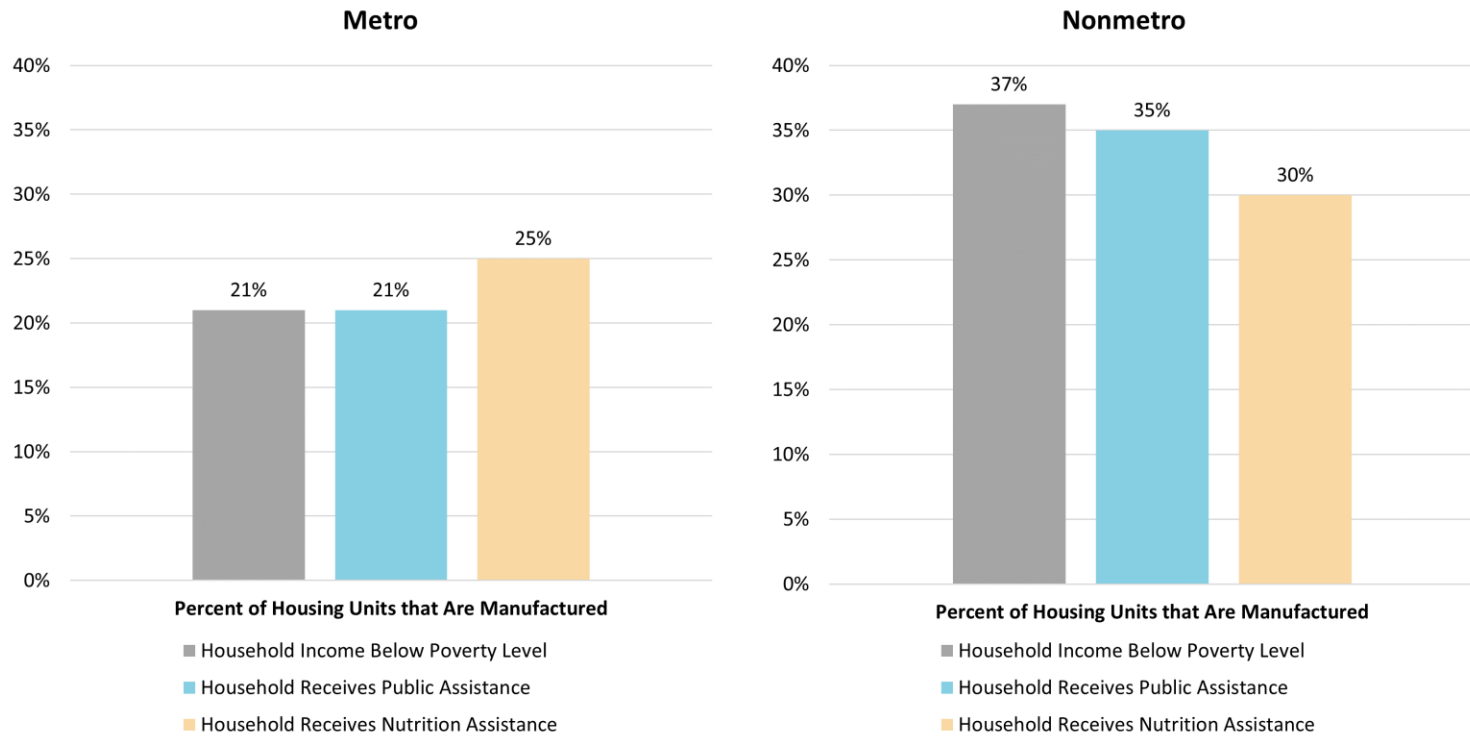
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<sup>31</sup> For analytic purposes, we combine responses to two AHS questions regarding Supplemental Security Income and other forms of public assistance income.

<sup>32</sup> This survey question asks about the Supplemental Nutrition Assistance Program, formerly known as the Food Stamp Program.

Figure 6

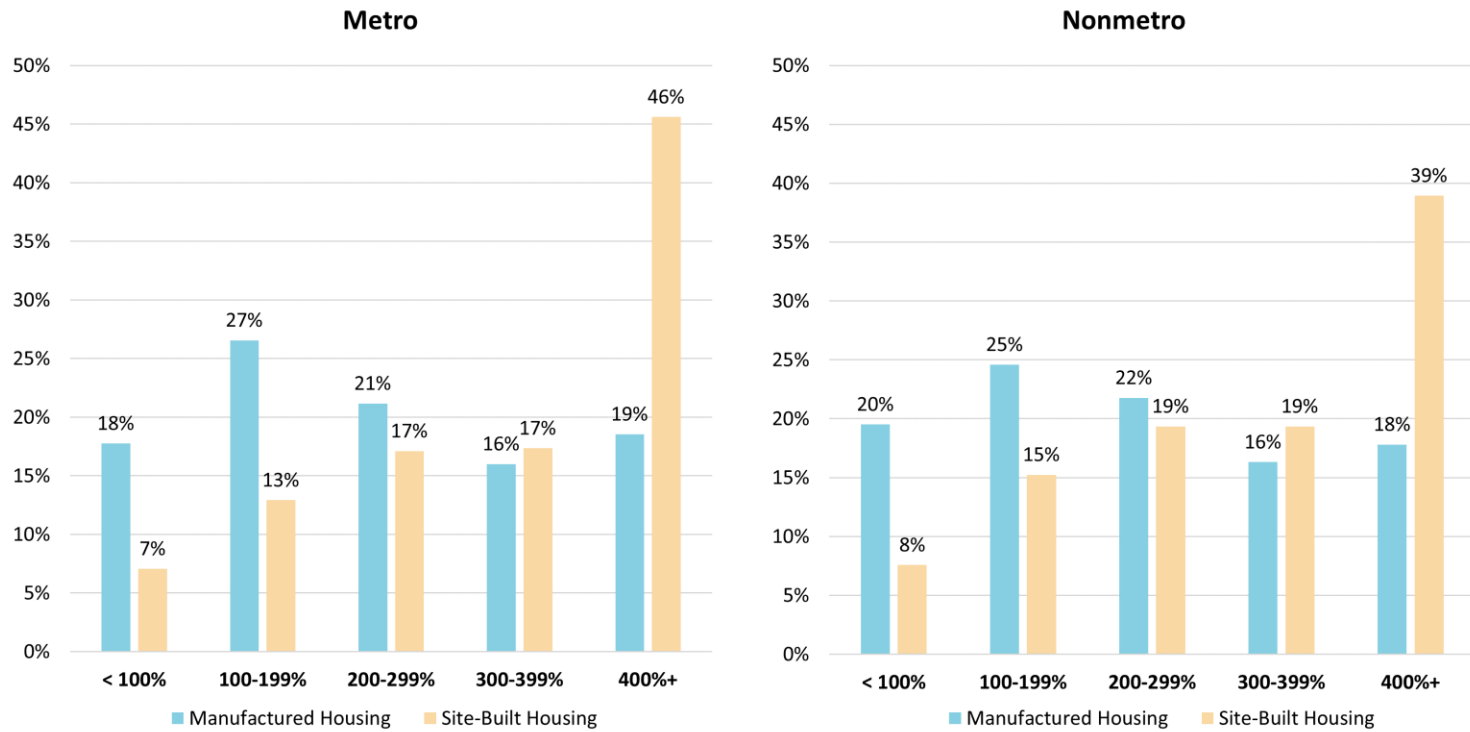
### Manufactured Housing Share of Housing Units by Owner Poverty Status and Metro Classification



Source: Authors' calculations: see 2019 AHS summary tables (Appendix A)

Figure 7

### Household Income as % of the Poverty Level by Property Type and Metro Classification



Source: Authors' calculations: see 2019 AHS summary tables (Appendix A)

<b>Table 1</b> AHS 2019: Analytic Sample, Unit Characteristics by Property Type (Column Percentages)	N	Sum of weights	Weighted percentage	Manufactured housing	Site-built housing
				Weighted percentage	Weighted percentage
All	7,254	20,195,069	100.00	100.00	100.00
How obtained					
Purchased with cash	1,035	2,800,266	13.87	37.12	10.74
Purchased with financing	6,219	17,394,803	86.13	62.88	89.26
Property value					
Less than \$75,000	1,217	3,480,721	17.24	75.14	9.45
\$75,000 to \$149,999	2,171	6,510,750	32.24	19.72	33.92
\$150,000 to \$249,999	3,866	10,203,598	50.53	5.14	56.62
Lot size					
Less than 1/8 acre	1,090	2,583,924	12.79	17.54	12.16
1/8 up to 1/4 acre	2,532	6,198,836	30.69	8.93	33.62
1/4 up to 1/2 acre	1,374	4,158,104	20.59	9.27	22.11
1/2 up to 1 acre	696	2,138,757	10.59	11.95	10.41
1 or more acres	1,562	5,115,449	25.33	52.31	21.70
Owns lot					
Yes	6,832	19,198,119	95.06	60.69	99.68
No	422	996,950	4.94	39.31	0.32
Unit Square Feet					
Less than 1,000	735	2,009,979	9.95	29.50	7.33
1,000 to 1,499	2,356	6,482,442	32.10	42.04	30.76
1,500 to 1,999	2,176	6,079,552	30.10	18.34	31.68
2,000 to 2,499	1,143	3,231,038	16.00	7.54	17.14
2,500+	844	2,392,057	11.84	2.58	13.09
Number of bedrooms					
<2	126	379,678	1.88	5.80	1.35
2	1,249	3,479,071	17.23	31.90	15.26
3	4,291	11,916,131	59.01	53.93	59.69
4+	1,588	4,420,190	21.89	8.36	23.70
Number of bathrooms					
1	1,442	4,214,741	20.87	21.20	20.83
1.5	1,106	3,176,037	15.73	7.19	16.87
2	3,249	8,873,613	43.94	68.17	40.68
2.5	971	2,570,454	12.73	1.59	14.23
3+	486	1,360,225	6.74	1.86	7.39
Metro classification					
Metro	6,103	15,472,737	76.62	63.44	78.39
Nonmetro	1,151	4,722,333	23.38	36.56	21.61

<b>Table 2</b> AHS 2019: Analytic Sample, Continuous Measures by Property Type	Manufactured housing	Site-built housing
	Weighted mean	Weighted mean
Property value (\$)	50,835.93	156,414.69
Annual maintenance cost (\$)	583.61	813.47
Monthly utilities cost (\$)	200.33	251.49
Respondent age (years)	56.85	54.86
Number of adults in household	1.80	1.92
Household income (\$)	47,700.22	79,063.52
Household income as % of poverty level	244.60	344.15
Unit rating (scale of 1 to 10)	8.19	8.56
Neighborhood rating (scale of 1 to 10)	8.26	8.37

### *How Usage of Manufactured Housing Differs by Race/Ethnicity and Household Income*

Manufactured housing is more prevalent overall among Whites, Hispanics, and Indigenous peoples<sup>33</sup> than among Blacks and Asians. Approximately 12% of housing units owned by Whites are manufactured, compared with 14% for Hispanics, 7% for Blacks, 4% for Asians, and 29% for Indigenous peoples. However, as illustrated in Figure 8, the prevalence of manufactured housing across these groups differs considerably by urban-rural status, with manufactured housing representing a larger share of housing units owned by racial/ethnic minority groups in rural areas compared with metro areas. In metro areas, manufactured housing represents 10% of units owned by Whites, 4% of units owned by Blacks, 13% of units owned by Hispanics, 4% of units owned by Asians, and 13% of units owned by Indigenous peoples. In nonmetro areas, in contrast, manufactured units represent 17% of units owned by Whites, 30% of units owned by Blacks, 16% of units owned by Hispanics, and 45% of units owned by Indigenous peoples.

Manufactured housing also represents a larger share of the housing stock among lower-income households. With respect to household income groups, about 16% of housing units owned by households with incomes below \$75,000 are manufactured. In contrast, manufactured units represent 6% of housing units owned by households with incomes of \$75,000-\$149,999, and 4% of housing units owned by households with incomes of \$150,000 or more. Manufactured housing constitutes 26% of housing units owned by households below the poverty level. Moreover, about 24% of owners who receive public assistance live in manufactured units, and 27% of owners receiving nutrition assistance live in manufactured units.

As illustrated in Figure 9, urban-rural differences are also apparent with respect to the usage of manufactured housing by income level and sources. In metro areas, about 14% of households with incomes below \$75,000 live in manufactured units; this figure rises to 22% in nonmetro areas. Similarly, 21% of households below the poverty level in metro areas live in manufactured units, compared with 37% in nonmetro areas. Among households receiving public assistance in metro areas, about 21% live in manufactured units; this percentage rises to 35% in nonmetro areas. As a share of units owned by households receiving nutrition assistance, manufactured housing accounts for 25% of units in metro areas and 30% in nonmetro areas.

### *How We Analyze the AHS Data*

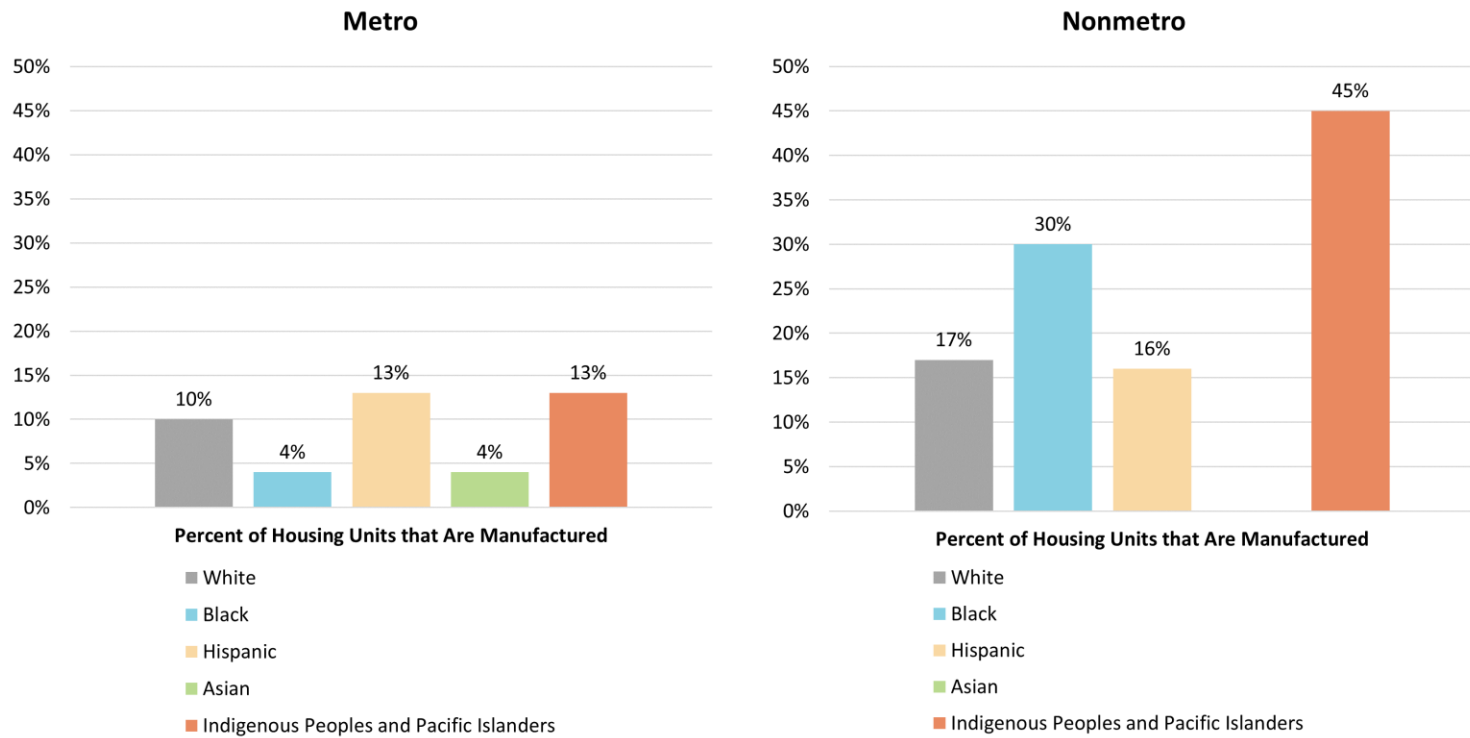
In the Results section, we present a descriptive analysis of how manufactured housing units purchased with cash differ from those purchased with financing, including physical unit characteristics and household demographic characteristics, by housing unit type (manufactured versus site-built). We then present results from multivariate probit models predicting cash purchase as a function of these characteristics for each type of housing. These analyses provide insight into which types of households nationally are more likely to use cash (versus financing) for home purchase and which types of housing units are more likely to be purchased with cash, as well as how the characteristics of cash purchasers and their housing units vary between manufactured and site-built units.

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<sup>33</sup> These groups are analyzed together to increase the sample size.

Figure 8

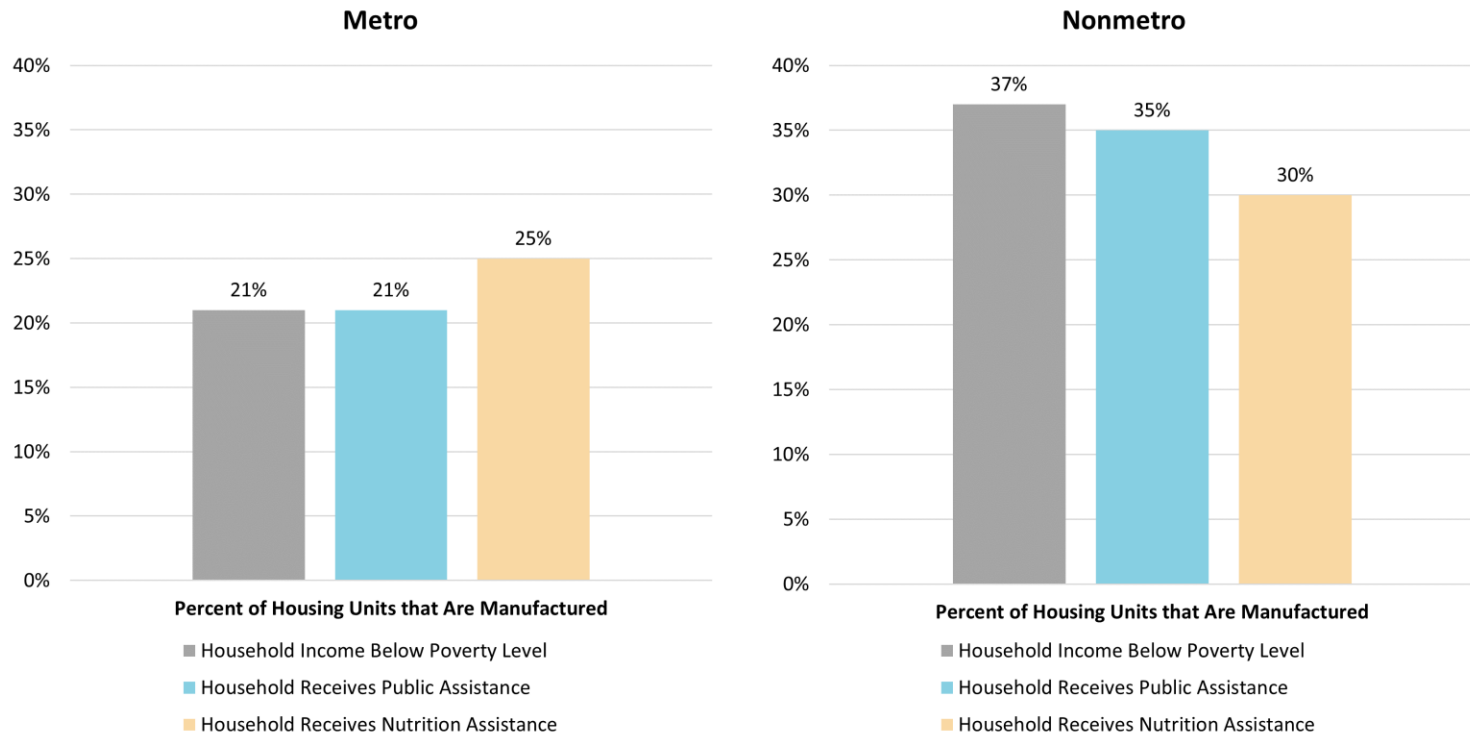
### Manufactured Housing Share of Housing Units by Owner Race/Ethnicity and Metro Classification



Source: Authors' calculations: see 2019 AHS summary tables (Appendix A). The manufactured housing share for Asians in nonmetro areas is not estimable due to sample size limitations.

Figure 9

### Manufactured Housing Share of Housing Units by Owner Poverty Status and Metro Classification



Source: Authors' calculations: see 2019 AHS summary tables (Appendix A)



## B. Texas Public Title Records for Manufactured Housing

Purchasers of manufactured homes in Texas are required to file an application for Statement of Ownership with the Manufactured Housing Division of the Texas Department of Housing and Community Affairs.<sup>34</sup> The title records generated from these applications, as well as the property sales records of licensed manufactured housing retailers, are publicly available via an online database.<sup>35</sup> Title records and retailer sales records can be downloaded based on either the date of sale or the date on which the title certificate was issued. We selected all records for manufactured housing units sited in Texas having sale dates in 2018 and 2019 as the basis for our analysis,<sup>36</sup> for a total sample size of 75,892 records. These records reflect sales of both new and previously owned units.

As summarized in Table 3, about 75% of the housing units are titled as personal property. Real property represents an additional 23%, and retailer inventory accounts for the remaining 2%. Overall, about 97% of units are used for residential purposes. Units titled for business and other nonresidential uses represent less than 1% of units, although units for which the owner name suggests that the unit may be used for some type of business or investment purposes (such as rental units) represent about 14%.<sup>37</sup> To identify owner-occupied units, we classify units based on the relationship of each unit's physical address to the contact address provided for the owner of record. If the owner's address matches the unit's location address, we infer that the unit is owner-occupied. Approximately half of the units sited in Texas meet this criterion. Units for which the owner's address does not match the property location address reflect owners who provided an out-of-state address, a P.O. box rather than a physical contact address, or some other address that does not match the unit's location.

Approximately 40% of units in the sample have a lien recorded for the date of purchase. Thus, we estimate the overall frequency of cash purchase at 60%. However, this figure may represent an upper bound. An important limitation of the Texas public title records data is that lien reporting is not required on title applications except when mandated by the lender.<sup>38</sup> Thus, there is the potential for liens to be underreported, which may lead to an overestimate of the frequency of cash purchase.

As a means of assessing the extent of lien underreporting, we benchmarked the Texas public title records data against originated home purchase loans for manufactured housing reported in Home Mortgage Disclosure Act (HMDA) data for 2018-19. The Texas public records reflect 30,140 recorded purchase liens, compared with 31,682 home purchase loans in HMDA. Breaking this down by loan type, we count 23,723 personal property loans in the Texas public records, compared with 20,314 personal property loans in HMDA. Similarly, we count 6,417 mortgage loans in the Texas public records,

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<sup>34</sup> <https://www.tdhca.state.tx.us/mh/>

<sup>35</sup> <https://mhweb.tdhca.state.tx.us/mhweb/main.jsp>

<sup>36</sup> We exclude 195 title records—all records for units sited outside Texas and four records that were recorded in duplicate.

<sup>37</sup> We classify owner names based on keyword searches that reflect business activity, such as "LLC," "Investments," "Properties," etc.

<sup>38</sup> Personal communication from administrators in the Manufactured Housing Division of the Texas Department of Housing and Community Affairs.

compared with 10,070 mortgage loans in HMDA. Thus, the data suggests that personal property loans are underreported in HMDA, and mortgage loans are underreported in the Texas public records data.<sup>39</sup>

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<sup>39</sup> This pattern partly reflects the fact that not all personal property lenders are included in HMDA. Estimated lender market shares differ considerably, depending on which data source is considered. Considering top-five lender loan frequencies for both the Texas public records and HMDA, we estimate that the top eight lenders account for about 67% of home purchase loans recorded in the Texas public records data.

2018-19 Texas Public Records: Manufactured Housing Units Sited in Texas	All	
	N	Percentage
All	75,892	100.0
Property type (derived from election type)		
Retailer inventory	1,195	1.57
Personal property	57,117	75.26
Real property	17,580	23.16
Use type (derived from election type)		
Abandoned or salvaged	421	0.55
Retail inventory (not abandoned or salvaged)	1,182	1.56
Business use	559	0.74
Other nonresidential use	76	0.10
Residential use (implied)	73,654	97.05
Occupancy (derived from location address and owner address)		
Address match – likely owner-occupied	37,370	49.24
Owner contact info suggests lives out of state	5,076	6.69
Unknown – owner in state but uses P.O. box	5,375	7.08
Unknown – other nonmatch	28,071	36.99
Owner name suggests business/investment/leasing		
No	65,536	86.35
Yes	10,356	13.65
Lien recorded for date of purchase		
No – likely cash purchase	45,752	60.29
Yes	30,140	39.71
Top 8 lenders		
Yes	20,052	26.42
No – other lender	10,088	13.29
No – no lien recorded	45,752	60.29

### *Analytic Sample Construction*

For analytic purposes, we link the Texas public records data with three sources of auxiliary data capturing local characteristics at the county level: (1) 2014-18 American Community Survey (ACS) estimates, (2) the 2013 Urban-Rural Classification Scheme for Counties<sup>40</sup> published by the National Center for Health Statistics (NCHS), and (3) the number of complete manufactured housing purchase loan applications reported in HMDA data for 2018-19 and the denial rate for those applications, which we calculate and discuss in a companion white paper.<sup>41</sup> The ACS provides estimates for local area population demographics and housing structure characteristics, and the NCHS classifies counties according to the degree of urban development, population size, and population density. The HMDA application denial rate reflects the degree of difficulty that loan applicants seeking financing for the purchase of manufactured housing may have in obtaining loans. As previously noted, the denial rate for manufactured housing loan applications tends to be many times higher than that for site-built housing loan applications. Denial rates reflect local population characteristics related to creditworthiness as well as the degree to which lenders are willing to make loans for manufactured housing and the credit standards they use to make lending decisions. We hypothesize that cash purchases will be more likely in counties where denial rates are higher.

In addition, we restrict the data to include only those units that we believe to be owner-occupied based on the match between the unit's location and the owner's contact address, and for which the recorded election type does not indicate business usage. These restrictions yield a final analytic sample size of about 37,000 manufactured housing units. Units titled as personal property constitute 75% of the sample; units titled as real property constitute the remaining 25%.

### *How Manufactured Units Titled as Personal Property Differ From Those Titled as Real Property*

As summarized in Tables 4A and 4B, units titled as personal property are more likely than units titled as real property to have been manufactured in 2010 or later (63% for personal property compared with 45% for real property) and more likely to have been purchased new (52% versus 32%), which is consistent with the fact that new manufactured housing units are titled as personal property and can later be converted to real property. Units titled as personal property also tend to be smaller on average: About 40% of units titled as personal property have two or more sections, compared with about 76% of units titled as real property. In addition, units titled as personal property are more likely to have been purchased from a retailer (69% versus 34%) and more likely to have a lien recorded for the date of purchase (52% versus 42%).

With respect to local area characteristics measured at the county level, units titled as personal property are slightly more likely to be located in large metro areas (50% versus 47%) and medium/small metro areas (28% versus 24%), and less likely to be located in nonmetro areas (23% versus 28%). In addition, about half (48%) of units titled as personal property are located in counties where there were fewer than 700 complete purchase loan applications for manufactured housing originated and reported in HMDA for the period 2018-19. The same is true for about 62% of units titled as real property. Put

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<sup>40</sup> [https://www.cdc.gov/nchs/data\\_access/urban\\_rural.htm](https://www.cdc.gov/nchs/data_access/urban_rural.htm).

<sup>41</sup> Riley, Sarah, Allison Freeman, and Jess Dorrance. 2021. "Is Manufactured Home Financing Hard to Get? An Exploratory Analysis of Home Purchase Loan Applications." UNC Center for Community Capital white paper prepared for The Pew Charitable Trusts.

differently, about 60% of units titled as personal property and 44% of units titled as real property are located in counties where there were fewer than five applications per 1,000 people. On average, there were about six applications per 1,000 people at the county level, so these units are located in areas where there was a below-average number of manufactured home purchase financing applications.

Units titled as personal property are also more likely than units titled as real property to be located in counties with high denial rates for complete manufactured housing purchase loan applications. As previously noted, we calculated the county-level denial rate for complete manufactured housing loan applications using data from HMDA. We find that about 68% of manufactured units titled as personal property are located in counties where the denial rate for manufactured housing loan applications is 55% or higher, whereas 47% of manufactured units titled as real property are located in such counties. The average county-level denial rate for the sample is about 58%, so this result indicates that units titled as personal property are more likely to be located in areas with above-average denial rates. This pattern partly reflects the fact that the denial rate for personal property loans generally tends to be higher than that for mortgages.<sup>42</sup>

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<sup>42</sup> For details and discussion, see our companion white paper on denial rates for manufactured housing: Riley, Sarah, Allison Freeman, and Jess Dorrance. 2021. "Is Manufactured Home Financing Hard to Get? An Exploratory Analysis of Home Purchase Loan Applications." UNC Center for Community Capital white paper prepared for The Pew Charitable Trusts.

<b>Table 4A</b> 2018-19 Texas Public Records: Characteristics of Owner-Occupied Manufactured Housing Units Sited in Texas (Column Percentages)	All		Property type			
			Personal property		Real property	
	N	Percentage	N	Percentage	N	Percentage
All	36,765	100.0	27,731	100.0	9,034	100.0
Property type						
Personal property	27,731	75.43	27,731	100.0	.	.
Real property	9,034	24.57	.	.	9,034	100.0
Year of sale/purchase						
2018	18,628	50.67	14,085	50.79	4,543	50.29
2019	18,137	49.33	13,646	49.21	4,491	49.71
Year of manufacture						
<1990	4,618	12.56	3,515	12.68	1,103	12.21
1990-1999	5,834	15.87	4,009	14.46	1,825	20.20
2000-2009	4,729	12.86	2,686	9.69	2,043	22.61
2010+	21,584	58.71	17,521	63.18	4,063	44.97
Title type						
Single	20,549	55.89	16,590	59.82	3,959	43.82
Joint	16,216	44.11	11,141	40.18	5,075	56.18
Unit age						
New	17,375	47.26	14,471	52.18	2,904	32.15
Used	19,390	52.74	13,260	47.82	6,130	67.85
Number of sections in unit						
1	18,716	50.91	16,535	59.63	2,181	24.14
2	17,853	48.56	11,100	40.03	6,753	74.75
3	188	0.51	91	0.33	97	1.07
4	8	0.02	5	0.02	3	0.03
Purchased from retailer						
No	14,609	39.74	8,629	31.12	5,980	66.19
Yes	22,156	60.26	19,102	68.88	3,054	33.81
Lien recorded for date of purchase						
No - likely cash purchase	18,446	50.17	13,238	47.74	5,208	57.65
Yes	18,319	49.83	14,493	52.26	3,826	42.35

<b>Table 4B</b> 2018-19 Texas Public Records: Characteristics of Owner-Occupied Manufactured Housing Units Sited in Texas (Column Percentages)	All		Property type			
			Personal property		Real property	
	N	Percentage	N	Percentage	N	Percentage
All	36,765	100.0	27,731	100.0	9,034	100.0
County metro classification						
Large metro	18,059	49.12	13,786	49.71	4,273	47.30
Medium/small metro	9,838	26.76	7,651	27.59	2,187	24.21
Nonmetro	8,868	24.12	6,294	22.70	2,574	28.49
County manufactured housing loan applications						
<350	9,810	26.68	6,927	24.98	2,883	31.91
350-699	9,080	24.70	6,396	23.06	2,684	29.71
700-1,399	7,535	20.50	5,434	19.60	2,101	23.26
1,400-2,099	4,987	13.56	4,510	16.26	477	5.28
2,100+	5,353	14.56	4,464	16.10	889	9.84
County manufactured housing loan applications per 1,000 people						
<2	12,927	35.16	11,245	40.55	1,682	18.62
2-4	7,892	21.47	5,601	20.20	2,291	25.36
5-8	7,673	20.87	4,951	17.85	2,722	30.13
9-12	4,981	13.55	3,302	11.91	1,679	18.59
13+	3,292	8.95	2,632	9.49	660	7.31
County denial rate for manufactured housing loan applications						
<45%	2,136	5.81	1,178	4.25	958	10.60
45-54%	10,964	29.82	7,246	26.13	3,718	41.16
55-64%	15,818	43.02	12,579	45.36	3,239	35.85
65%+	7,584	20.63	6,540	23.58	1,044	11.56
Sparse data (< 20 applications)	263	0.72	188	0.68	75	0.83

### *How Manufactured Housing Finance Applications and Denials Relate to Local Area Characteristics*

Because we have hypothesized that buyers of manufactured homes will be more likely to use cash in areas where the denial rate for manufactured home purchase financing is higher, we take a moment to consider the relationship between loan applications and the denial rate, on the one hand, and local area demographic and housing unit characteristics, on the other. The loan application frequency (i.e., the number of complete manufactured-home purchase loan applications made in the county) provides information about the demand for manufactured-home purchase financing and may also reflect the degree to which lenders are present in these counties; the corresponding denial rate (previously introduced) reflects lender credit supply as a function of underwriting standards and borrower credit characteristics.

In terms of total application counts, the representation of racial/ethnic minority groups increases with the number of manufactured housing purchase loan applications submitted in the county. Racial/ethnic minorities represent the majority (61%) of the county population, on average, in counties where 2,000 or more loan applications were made during 2018-19, but only about 40% of the population, on average, in counties where fewer than 350 applications were submitted. In addition, county-level measures of poverty and the prevalence of manufactured housing as a fraction of the housing stock are inversely related to the total number of applications submitted in the county, on average. The poverty rate for counties with at least 2,000 applications is about 14%, compared with 16% for counties with fewer than 350 applications. Moreover, manufactured/mobile homes represent about 8% of the housing stock in counties with at least 2,000 applications, on average, but about 17% of the housing stock in counties with fewer than 350 applications.

However, when we normalize the loan application frequency relative to the population, we see that racial/ethnic minority representation, immigrant representation, and the poverty rate, on average, tend to be highest in counties where there were fewer than two loan applications per 1,000 people, or where the number of manufactured housing finance applications was considerably below average. Moreover, manufactured and mobile housing units represent an increasing proportion of the housing stock as the number of applications per 1,000 people increases. In other words, as illustrated in Figures 10-12, areas with a higher concentration of loan applications relative to the population size tend to have lower rates of poverty, lower property values, somewhat lower representation of racial/ethnic minorities and immigrant populations, and a greater prevalence of manufactured/mobile homes in the housing stock.

Thus, while counties with *a greater total number* of complete manufactured housing purchase loan applications<sup>43</sup> have the highest minority representation, on average, those counties with the greatest *density* of such applications relative to the population size tend to be areas with mid-range minority representation, on average. For both measures of application frequency, more applications come from counties with lower poverty rates. In contrast, the county denial rate is positively correlated with both racial/ethnic minority representation and the poverty rate and is inversely correlated with the prevalence of manufactured or mobile housing as a proportion of the county housing stock. That is, the denial rate for manufactured housing finance is highest in high-poverty, high-minority areas and where manufactured housing is least common.

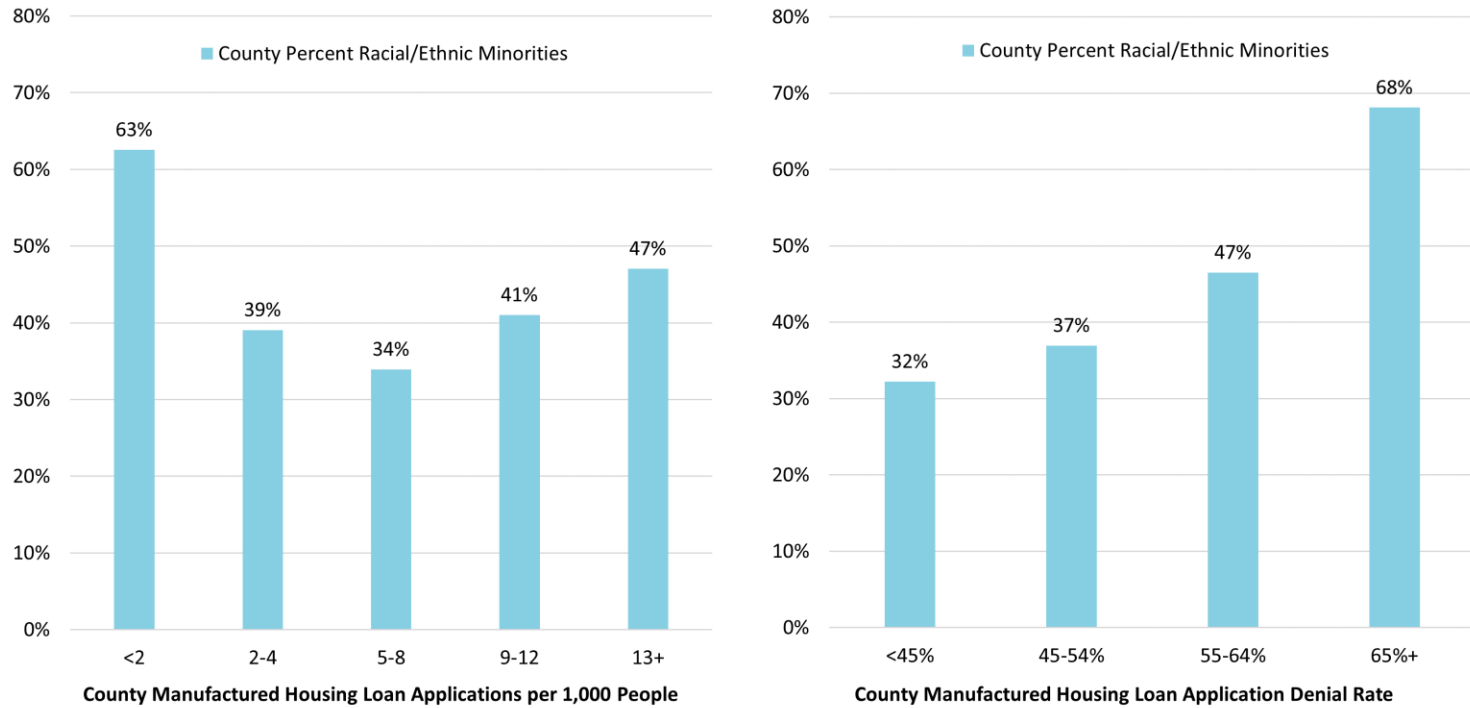
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<sup>43</sup> The top quintile for loan application frequency primarily reflects counties with a classification of "large metro."



Figure 10

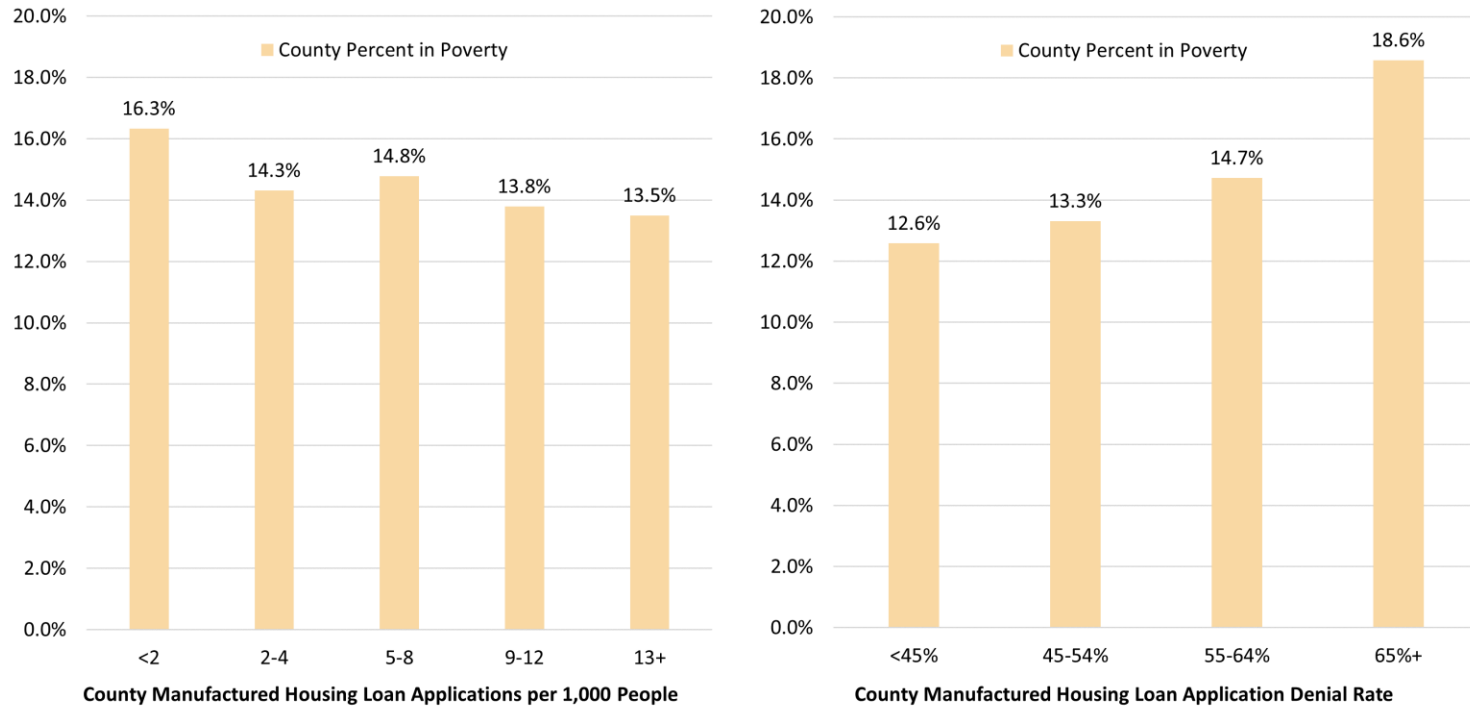
### County Racial/Ethnic Minority Representation by County Manufactured Housing Loan Applications and Denial Rates



Source: Authors' calculations: see 2018-19 Texas public records summary tables (Appendix D)

Figure 11

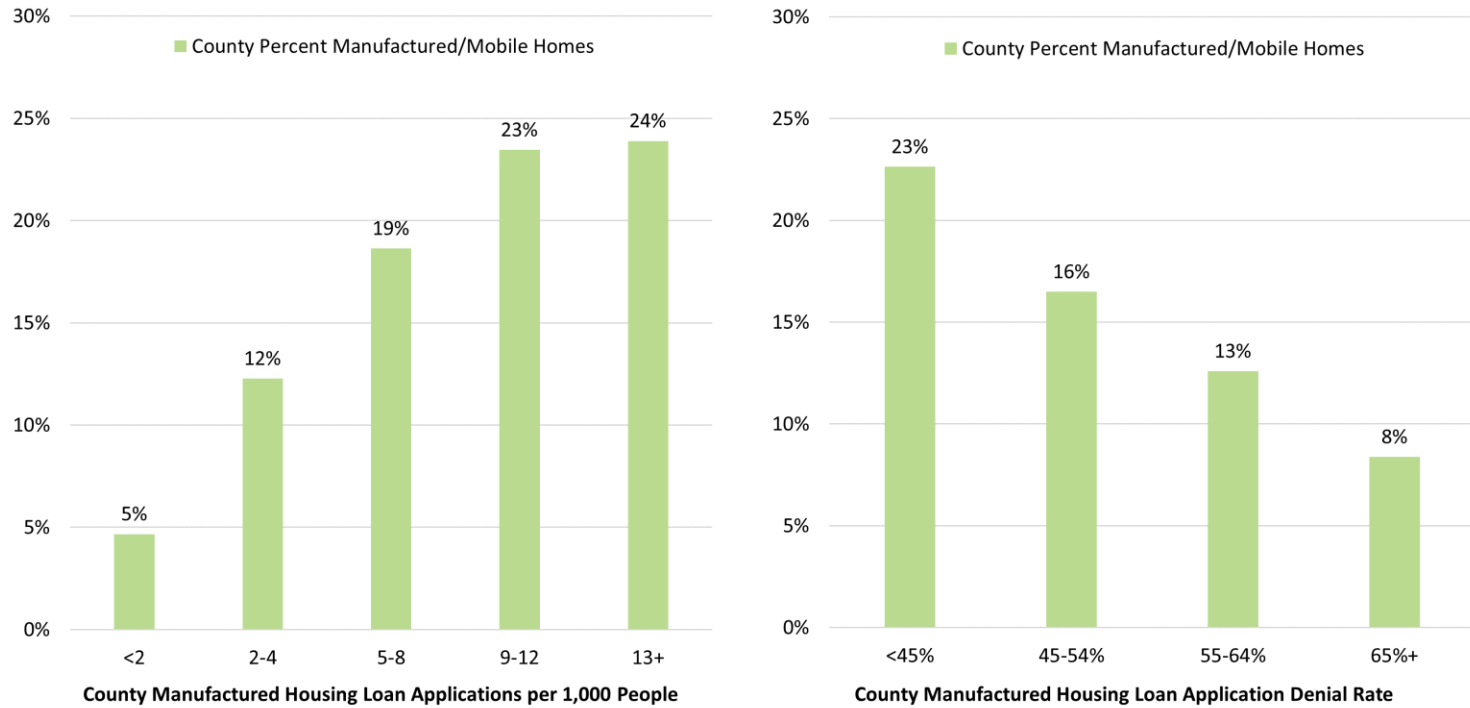
### County Percent in Poverty by County Manufactured Housing Loan Applications and Denial Rates



Source: Authors' calculations: see 2018-19 Texas public records summary tables (Appendix D)

Figure 12

### County Percent Manufactured/Mobile Homes by County Manufactured Housing Loan Applications and Denial Rates



Source: Authors' calculations: see 2018-19 Texas public records summary tables (Appendix D)

### *How We Analyze the Texas Public Records Data*

In the Results section, we present a descriptive analysis of how manufactured housing units purchased with cash differ from those purchased with financing, including physical unit characteristics and local area characteristics, both overall and by loan type. We then present results from multivariate probit models predicting cash purchase as a function of these characteristics, with special attention paid to the relationship of the county denial rate to the likelihood of cash purchase. These analyses complement our similar analysis of the AHS data by permitting an investigation of how cash purchase relates to local area characteristics that are not available for the national AHS sample.

## C. Manufactured Home Owners Survey

The MHOS is a proprietary survey conducted by Freddie Mac and the UNC Center for Community Capital in the state of Texas in 2018. The MHOS survey instrument was based largely on the survey instrument for the National Survey of Mortgage Originations (NSMO)<sup>44</sup> but was tailored to capture information relevant to manufactured housing. The survey data consists of responses from 1,356 manufactured home buyers; these responses are weighted to represent approximately 27,000 similar manufactured home buyers. After data collection, the survey data was linked with consumer credit profiles from a major credit bureau that were de-identified before being provided to us for analysis. The sampling frame for the MHOS was drawn from the same public title records database for manufactured housing described above but consisted of records for an earlier cohort of manufactured home buyers (those who purchased with financing between January 2015 and April 2018) compared with the records that we use for our analysis of cash purchases in this paper (purchases made in 2018 and 2019). The MHOS data was similarly linked with county-level measures from the NCHS (metro classification) and ACS (demographic and housing unit characteristics) prior to de-identification. For additional information about MHOS sampling, weighting, and survey design, see UNC Center for Community Capital and Freddie Mac (2020).

### *Sample Overview*

About 26% of the units in the sample were purchased in 2015, followed by 35% in 2016, 33% in 2017, and 6% during the first four months of 2018. Overall, about 53% of units have a joint title, 66% were purchased new, and about 57% have two or more sections. Nearly half (48%) of units are located in large metro areas, with an additional 26% each located in medium/small metro areas and in nonmetro areas. About 61% of the surveyed manufactured home buyers own the land on which their units are sited, and about half are first-time homeowners. About 29% of owners are ages 20 to 34, about 36% are 35 to 54, and 30% are older than 55.<sup>45</sup> Whites represent 61% of the sample, followed by Hispanics (30%) and Blacks (4%). About 36% of survey respondents completed at most a high school education, and about 24% completed at least a bachelor's degree. About 64% of respondents are married, 14% are divorced, and 12% have never been married. The remaining 10% comprises respondents who are widowed or separated, or who chose not to provide marital status information. As detailed in Table 5 below, this sample population is more likely than the general Texas population to be White and married, and to have a mid-range level of education. Borrowers who took out personal property loans represent 76% of the sample; mortgage borrowers represent the remaining 24%.<sup>46</sup>

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<sup>44</sup> <https://www.fhfa.gov/DataTools/Downloads/Pages/National-Survey-of-Mortgage-Originations-Public-Use-File.aspx>.

<sup>45</sup> About 4% of survey respondents chose not to provide their ages.

<sup>46</sup> Note that 28 MHOS respondents who said that they took out a mortgage (which the survey defines as including the home and the land) also said that they did not own the land on which their homes were sited. We classify these 28 cases as personal property borrowers for the current analysis, which increases the weighted percentage of borrowers with personal property loans to 76%, compared with the 73% figure reported by the UNC Center for Community Capital and Freddie Mac in 2020.

<b>Table 5</b> Demographic Overview of ACS Texas Population and MHOS Texas Owners	Survey population	
	ACS Texas population <sup>47</sup>	MHOS Texas owners
	Percentage	Percentage
Ages 20-34	31%	29%
Ages 35-54	37%	36%
Ages 55+	33%	30%
Non-Hispanic White	42%	61%
Non-Hispanic Black	12%	4%
Hispanic	39%	30%
High school diploma (at most)	41%	36%
Bachelor's degree (at least)	30%	24%
Married	49%	64%
Divorced	11%	14%
Never married	33%	12%

Sources for Texas population statistics: U.S. Census Bureau, Selected Social Characteristics, 2019 ACS 5-Year Estimates Data Profiles, Table DP02; U.S. Census Bureau, ACS Demographic and Housing Estimates, 2019 ACS 5-Year Estimates Data Profiles, Table DP05

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<sup>47</sup> MHOS and ACS data are not strictly comparable. The MHOS data does not include anyone younger than 20, while the ACS data for different variables sometimes includes those younger than 20. The ACS age distribution data is for those 20 and older, so it is comparable to the MHOS data. The ACS race/ethnicity data is not age-adjusted and covers the entire population of Texas. ACS education data considers those 25 and older. ACS marital status data considers those 15 and older.

### *Unit and Demographic Characteristics by Loan Type*

As summarized in Tables 6 and 7, units purchased with personal property loans are less likely than those purchased with mortgages to carry a joint title (49% versus 65%) and more likely to be purchased new (74% versus 43%). They also tend to be smaller: About half of the units purchased with personal property loans have two or more sections, compared with about 75% of units purchased with mortgages. Units purchased with personal property loans also are slightly more likely to be located in large metro areas (49% versus 44%) and slightly less likely to be located in nonmetro areas (25% versus 29%).

The fraction of borrowers ages 20 to 34 is similar across loan types, but borrowers purchasing with personal property loans are more likely to be 55 or older (33% versus 23%) and less likely to be between the ages of 35 and 54 (34% versus 44%). Whites represent a smaller proportion of personal property loan borrowers than of mortgage borrowers (58% versus 69%), while Hispanics and Blacks represent a greater share of personal property borrowers than mortgage borrowers (31% versus 25%, and 5% versus 2%, respectively). Personal property borrowers are also slightly more likely to be first-time homeowners (51% versus 47%) and more likely to have never been married (13% versus 8%).

### *How We Analyze the MHOS Data*

In the Results section, we provide further descriptive analysis of the MHOS data and linked credit data considering household income and income sources, asset holdings, changes in household income and expenses, changes in employment status, ways in which survey respondents would cope with a \$400 emergency expense, and pre- and post-purchase credit metrics. We compare the household financial circumstances of borrowers who took out personal property loans with those who took out mortgages to investigate the relationship of household financial stability to loan type choice.

<b>Table 6</b> MHOS: Unit Characteristics by Loan Type	N	Sum of weights	Weighted percentage	Loan type	
				Personal property	Mortgage
				Weighted percentage	Weighted percentage
All	1,356	27,017	100.00	100.00	100.00
<b>Title type</b>					
Joint	767	14,254	52.76	48.88	64.99
Single	589	12,763	47.24	51.12	35.01
<b>Unit age</b>					
New	960	17,862	66.12	73.55	42.70
Used	396	9,155	33.88	26.45	57.30
<b>Sections in unit</b>					
1	549	11,695	43.29	49.13	24.88
2	801	15,237	56.40	50.52	74.92
3	6	86	0.32	0.35	0.21
<b>Owns land</b>					
No	447	10,469	38.75	51.05	0.00
Yes	909	16,548	61.25	48.95	100.00
<b>Metro classification</b>					
Large metro	618	13,001	48.12	49.49	43.79
Medium/small metro	334	7,039	26.05	25.82	26.79
Nonmetro	404	6,978	25.83	24.69	29.41
<b>Loan origination year</b>					
2015	307	6,990	25.87	25.49	27.07
2016	470	9,353	34.62	34.14	36.13
2017	483	8,999	33.31	33.89	31.49
2018	96	1,675	6.20	6.48	5.31



Table 7 MHOS: Borrower Demographic Characteristics by Loan Type	N	Sum of weights	Weighted percentage	Loan type	
				Personal property	Mortgage
				Weighted percentage	Weighted percentage
All	1,356	27,017	100.00	100.00	100.00
<b>Age</b>					
No answer	55	1,191	4.41	4.51	4.10
20-34	280	7,866	29.12	29.09	29.19
35-44	272	5,435	20.12	18.96	23.76
45-54	242	4,307	15.94	14.65	20.00
55-64	269	4,435	16.42	17.47	13.10
65+	238	3,782	14.00	15.32	9.85
<b>Race/ethnicity</b>					
No answer	48	1,094	4.05	4.41	2.91
White	977	16,439	60.85	58.11	69.47
Black	57	1,173	4.34	5.18	1.71
Hispanic	256	8,004	29.62	31.18	24.72
Other	18	308	1.14	1.12	1.19
<b>Educational attainment</b>					
No answer	42	916	3.39	3.55	2.88
Some schooling	74	1,894	7.01	7.11	6.69
High school graduate	371	7,777	28.78	29.19	27.51
Technical school	121	2,497	9.24	9.57	8.20
Some college	413	7,499	27.76	28.16	26.49
College graduate	269	5,295	19.60	18.65	22.60
Postgraduate studies	66	1,139	4.22	3.76	5.65
<b>Marital status</b>					
No answer	44	885	3.28	3.24	3.39
Married	875	17,172	63.56	62.05	68.32
Separated	37	844	3.12	3.47	2.03
Never married	121	3,137	11.61	12.62	8.43
Divorced	209	3,758	13.91	13.78	14.32
Widowed	70	1,221	4.52	4.84	3.52
<b>First-time homeowner</b>					
No	806	13,448	49.78	48.73	53.06
Yes	550	13,569	50.22	51.27	46.94

## IV. Results

### A. National Single-Family Cash Purchase Results

As previously noted, our analytic sample taken from the American Housing Survey (AHS) provides a national perspective on differences between single-family units purchased with cash and those purchased with financing, along with demographic differences between the homeowners who choose each type of payment method. In this section, we summarize descriptive and multivariate results concerning the factors associated with cash purchase.

#### *How Site-Built Units Purchased With Cash Differ From Those Purchased With Financing*

As a point of comparison for our subsequent discussion of manufactured units, we begin by considering the factors associated with cash purchase for similarly valued single-family, site-built units, which represent approximately 88% of housing units in our analytic sample. About 11% of site-built units are purchased with cash. Key differences and similarities between these units and those purchased with financing are summarized in Table 8. Detailed summary tables presenting the characteristics of both types of units are provided in Appendix B.

On average, site-built units purchased with cash are slightly less expensive, and their owners spend slightly less on maintenance. The mean value of units purchased with cash is about \$138,000, compared with about \$159,000 for units purchased with financing. Annual maintenance expenses average about \$725 for units purchased with cash, compared with \$824 for units purchased with financing; monthly utilities costs are about \$234 for the former and \$254 for the latter. The square-footage distributions for the two groups are similar, but units purchased with cash have fewer bedrooms and bathrooms, on average. About 26% of units purchased with cash have at most two bedrooms, compared with 15% of units purchased with financing. Similarly, 27% of units purchased with cash have only one bathroom, compared with 20% of units purchased with financing. Units purchased with cash are also more likely to be on lots larger than an acre (29% versus 21%) and more likely to be located in nonmetro areas (33% versus 20%). Owners of both types of units rate them and their neighborhoods similarly as places to live (between eight and nine on a scale of one to 10); however, owners who purchased with cash are more likely to give their units or neighborhoods the maximum rating (45% versus 34% for units, and 43% versus 30% for neighborhoods).

Owners who purchased with cash are also slightly older, on average, and have lower incomes than those who used financing. The average age and household income for owners who purchased with cash are 62 years and \$55,000, compared with 54 years and \$82,000 for those who purchased with financing. Households below the poverty level represent 14% of cash purchases, compared with 6% of financed purchases. Owners who purchased with cash are also more likely to receive retirement income (55% versus 35%) and to have completed at most a high school diploma (60% versus 49%). Both groups report an average of two adults in the household, but owners who purchased with cash are more likely to report living alone (36% versus 24%), less likely to report three or more adults in the household (12% versus 19%), and less likely to be first-time homeowners (38% versus 52%).

In other demographic respects, units purchased with cash look similar overall to those purchased with financing. For example, females represent about 43% of each group, and the likelihood of cash purchase

is about 11% for each gender. Whites represent roughly three-quarters of each purchase group, followed by Hispanics at 11% and Blacks at slightly less than 10%; other racial/ethnic groups each represent 2% or less of home purchasers. Approximately 11% of Whites and Hispanics purchase with cash, compared with about 10% of Indigenous peoples, 8% of Blacks, and 6% of Asians.

However, the relationship of race/ethnicity to cash purchase differs by metro classification, with Whites more likely to use cash in nonmetro areas and racial/ethnic minorities more likely to use cash in metro areas. Whites represent 74% of cash purchasers in metro areas and 88% of cash purchasers in nonmetro areas. In comparison, Hispanics represent 14% of cash purchasers in metro areas and 4% of cash purchasers in nonmetro areas, and Blacks represent 9% of cash purchasers in metro areas and 3% of cash purchasers in nonmetro areas. Asians represent about 1% of cash purchasers in both metro and nonmetro areas. The likelihood of cash purchase is also higher for all racial/ethnic groups in nonmetro areas compared with metro areas. As we discuss in our multivariate analysis below, metro classification is a key predictor of cash purchase for site-built units but not manufactured units. Moreover, about 9% of Whites in metro areas purchase with cash, compared with 17% in nonmetro areas. Similarly, about 8% of Blacks in metro areas purchase with cash, compared with 10% in nonmetro areas. For Hispanics, the likelihood of cash purchase is 11% in metro areas and 12% in nonmetro areas. About 4% of Asians purchase with cash in metro areas, while about 36% do so in nonmetro areas. Cash purchases by Indigenous peoples occur entirely in nonmetro areas, and about 27% of home purchases by Indigenous peoples in nonmetro areas are in cash. However, it should be kept in mind that the sample sizes for Asians, Indigenous peoples, are extremely small in nonmetro areas, which may limit the precision and generalizability of these estimates.

Finally, although lower-income households represent similar shares of cash purchasers in metro and nonmetro areas (households with incomes below \$75,000 constitute 75% to 80% of cash purchasers, and households below the poverty level are about 14%), the likelihood of cash purchase for households with lower incomes is higher in nonmetro areas than in metro areas. About 22% of households with incomes below \$75,000 purchase with cash in nonmetro areas, compared with 13% in metro areas. Similarly, about 30% of households below the poverty level in nonmetro areas purchase with cash, compared with 19% in metro areas. Thus, a variety of economic, geographic, and life cycle factors<sup>48</sup> appear to be associated with cash purchase for site-built units.

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<sup>48</sup> The relationship of household income to the likelihood of cash purchase holds even when owners under the age of 55 are considered: Cash purchase is more common for households with lower incomes. Thus, this relationship is not driven solely by the reduction in household income that typically accompanies retirement.

<b>Table 8</b> AHS 2019: Analytic Sample, Continuous Measures for Site-Built Units by How Purchased	Site-built housing	
	Purchased with cash	Purchased with financing
	Weighted mean	Weighted mean
Property value (\$)	137,952.77	158,636.49
Annual maintenance cost (\$)	725.33	824.07
Monthly utilities cost (\$)	233.94	253.60
Respondent age (years)	61.80	54.02
Number of adults in household	1.76	1.94
Household income (\$)	55,116.35	81,945.44
Household income as % of poverty level	275.42	352.42
Unit rating (scale of 1 to 10)	8.69	8.54
Neighborhood rating (scale of 1 to 10)	8.57	8.35

### *How Manufactured Units Purchased With Cash Differ From Those Purchased With Financing*

With these differences between site-built units purchased with cash versus financing in mind, we now consider the differences between manufactured units purchased with cash and those purchased with financing. About 37% of manufactured units are purchased with cash; again, the comparable figure for site-built units is 11%. Overall, we find that cash purchasers of manufactured housing are similar to cash purchasers of site-built housing, in that they tend to be slightly older and have lower household incomes, on average, compared with purchasers who use financing. Cash purchasers for both property types are also less likely to be first-time homeowners and more likely to live alone, and they tend to purchase smaller, less expensive housing units. Key differences and similarities between manufactured units purchased with cash and those purchased with financing are summarized in Table 9. Detailed summary tables presenting the characteristics of both types of units are provided in Appendix B.

Manufactured units purchased with cash are slightly less expensive than those purchased with financing but carry roughly similar maintenance and utilities expenditures. The average value of manufactured units purchased with cash is about \$44,000, compared with \$55,000 for units purchased with financing. The annual maintenance expense averages about \$614 for units purchased with cash and about \$565 for units purchased with financing; similarly, monthly utilities run about \$183 for units purchased with cash and \$211 for units purchased with financing.

On average, manufactured units purchased with cash are smaller than those purchased with financing in terms of square footage and number of rooms. About 41% of units purchased with cash have less than 1,000 square feet, compared with 23% of units purchased with financing.<sup>49</sup> At the other end of the spectrum, 17% of units purchased with cash have 1,500 or more square feet, compared with 36% of units purchased with financing. About 54% of units purchased with cash have at most two bedrooms, compared with 28% of units purchased with financing, and about 34% of units purchased with cash have one bathroom, compared with 14% of units purchased with financing.

Manufactured units purchased with cash and those purchased with financing have a similar likelihood of being located in nonmetro areas (roughly 35%), but those purchased with cash are sited on smaller lots. About 21% of units purchased with cash and 16% of units purchased with financing are located on lots of less than one-eighth of an acre.<sup>50</sup> Lots of one acre or more represent about 49% of units purchased with cash and 54% of units purchased with financing. Owners who purchase with cash are also less likely to own the lots on which their homes are sited (52% versus 66%). Moreover, manufactured units purchased with cash are less likely to have a masonry foundation (15% versus 26%) and are more likely to be placed on blocks (63% versus 55%). This difference with respect to foundation type may partly

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<sup>49</sup> It bears mentioning that there are minimum size requirements for federal manufactured home loan programs, which might affect access to financing for smaller homes. For example, at the time of writing, eligibility for an FHA (Federal Housing Administration) loan required that a manufactured home's floor space be at least 400 square feet; Fannie Mae required that homes be at least 12 feet wide, with a living space of at least 400 square feet; and Freddie Mac required that manufactured homes be at least 12 feet wide, with a minimum of 600 square feet of living space.

<sup>50</sup> Among owners of manufactured housing units with lots smaller than one-eighth of an acre, about 22% own the land on which their units are sited. The 78% who do not own the land may reside in manufactured home communities or parks where land is commonly rented.

reflect the fact that mortgage lenders usually require that manufactured units be placed on a permanent foundation in order to qualify for financing.

On average, both groups of owners rate their units and neighborhoods similarly as places to live (about eight on a scale of one to 10). However, owners who purchased with cash are slightly more likely to give their units a rating of six or less (21% versus 12%) as well as their neighborhoods (22% versus 14%). At the other end of the spectrum, more than 30% of both groups give their units and neighborhoods the highest possible rating, and the portion doing so is more similar across these two groups than we observed for site-built housing, despite seemingly greater differences in housing quality (recall that cash purchasers of site-built housing were more likely than purchasers using financing to give their units and neighborhoods the highest possible rating). In short, a variety of quality differences are apparent between purchases made with cash and those that are financed, and the subjective experience of buyers appears to be more variable for manufactured units purchased with cash. Moreover, the structural differences between the two types of units—manufactured and site-built—appear greater for the former.

With respect to demographics, owners of manufactured homes who purchased with cash are slightly older, on average, compared with those who used financing. Cash purchasers are 59 years old, on average, compared with an average of 55 years for purchasers who used financing; moreover, about 65% of cash purchasers are 55 or older, compared with 53% of purchasers who used financing. Cash purchasers also report lower average household incomes (\$39,000 compared with \$53,000) and are more likely to receive retirement income (52% versus 42%). About 21% of cash purchasers and 17% of purchasers who used financing report household incomes below the poverty level. Receiving public assistance is also more common for owners who purchased with cash (13% versus 7%), as is receiving nutrition assistance (14% versus 9%). Owners of units purchased with cash look similar to those who used financing with respect to educational attainment and gender but are less likely to be first-time homeowners (40% versus 47%) and are more likely to live alone (46% versus 29%). Compared with purchasers who used financing, cash purchasers are also more likely to be White (82% versus 74%) and slightly less likely to be Hispanic (11% versus 14%) or Black (3% versus 7%).

Overall, about 40% of Whites and Asians purchase with cash, compared with 22% of Blacks, 25% of Indigenous peoples, and 31% of Hispanics. However, the sample size for Asians is extremely small, which may limit the precision and generalizability of the estimate for this group. We estimate that these percentages are slightly lower for Whites and slightly higher for most racial/ethnic minority groups in nonmetro areas; however, small cell sizes prevent us from drawing robust conclusions regarding differences in cash purchase propensity for these groups by metro classification.

More generally, these demographic patterns suggest that many of the same factors associated with cash purchase for site-built units are also associated with cash purchase for manufactured units, particularly those having to do with household finances and the life cycle. However, structural differences between cash purchases and financed purchases are more pronounced for manufactured units, whereas geographic differences appear more salient for site-built units. We explore differences between cash purchases and financed purchases further in our multivariate analysis below.

<b>Table 9</b> AHS 2019: Analytic Sample, Continuous Measures for Manufactured Units by How Purchased	Manufactured housing	
	Purchased with cash	Purchased with financing
	Weighted mean	Weighted mean
Property value (\$)	43,775.80	55,003.64
Annual maintenance cost (\$)	614.51	565.38
Monthly utilities cost (\$)	182.58	210.81
Respondent age (years)	59.31	55.40
Number of adults in household	1.65	1.89
Household income (\$)	38,471.22	53,148.25
Household income as % of poverty level	216.94	260.94
Unit rating (scale of 1 to 10)	7.90	8.37
Neighborhood rating (scale of 1 to 10)	8.05	8.38

## Predictors of Cash Purchase

To assess which factors significantly predict cash purchase, we estimate probit regressions incorporating structural unit characteristics and owner/household demographics. We model the likelihood of cash purchase separately for site-built units and for manufactured units. The estimated model parameters are provided in Appendix C.

### *Predictors of Cash Purchase for Site-Built Units*

For site-built units, the significant predictors of cash purchase are property value, which reflects unit size; first-time homeownership status; owner age, education, and race; the number of adults in the household; household income as a percentage of the poverty level; whether the household receives retirement income; metro classification; and the owner's rating of the neighborhood as a place to live. Cash purchase is less likely for more expensive units: A 10% increase in the property value reduces the likelihood of cash purchase by about 0.4 percentage points (recall that the overall likelihood of cash purchase for site-built units is approximately 11%). In addition, first-time homeowners are about 4 percentage points less likely to use cash than other homeowners are, and homeowners 55 or older are about 5 percentage points more likely to purchase with cash than those younger than 35. Receiving retirement income is also associated with an increase in the likelihood of cash purchase by about 2 percentage points.

The likelihood of cash purchase systematically decreases as the number of adults in the household and the distance from the poverty level increase. Compared with one-adult households, households with two adults are 3 percentage points less likely to use cash, and households with three or more adults are 5 percentage points less likely to use cash. Moreover, compared with households living below the poverty level, the likelihood of cash purchase decreases by 6 percentage points for households at 200-299% of the poverty level, by 8 percentage points for households at 300-399% of the poverty level, and by 10 percentage points for households living at 400% of the poverty level or above. Thus, all else equal, both higher incomes and more potential earners in the household make it more likely that the household will use financing.

However, compared with homeowners with less than a high school education, homeowners with an associate's or bachelor's degree are 3 and 4 percentage points less likely, respectively, to purchase with cash. Rather, cash purchase appears more common for owners with the lowest and the highest levels of education. Moreover, Blacks are about 2 percentage points less likely than Whites to purchase with cash; otherwise, race/ethnicity does not appear to significantly predict cash purchase. Finally, households located in nonmetro areas are about 4 percentage points more likely to purchase with cash, and a one-unit increase in the owner's subjective rating of the neighborhood as a place to live increases the likelihood of cash purchase by 0.6 percentage points; taken together, these results suggest that cash purchase is more common in highly rated rural neighborhoods.



### *Predictors of Cash Purchase for Manufactured Units*

Many of the same factors that predict cash purchase for site-built units are significant predictors of cash purchase for manufactured units. These factors include property value, first-time homeownership status, owner race/ethnicity, the number of adults in the household, and household income as a percentage of the poverty level.

Recall that the overall likelihood of cash purchase for manufactured units is about 37%. A 10% increase in the property value of these units reduces the likelihood of cash purchase by about 0.4 percentage points, which is similar to the property-value effect that we observed for site-built housing. However, because site-built units generally have higher property values and are much less likely to be purchased with cash, this result suggests that manufactured home buyers are more sensitive to property values with respect to the cash purchase decision than are buyers of site-built units, and they are more likely to use financing for a comparable dollar increase in unit cost.<sup>51</sup> This result is consistent with the average differences in household income that exist between owners of site-built and manufactured units.

Further evidence for the importance of household income in driving the cash purchase decision for buyers of manufactured units comes from the fact that the number of adults in the household and the household income as a percentage of the poverty level are more highly correlated among manufactured home owners than among site-built home owners (0.16 vs. 0.06). As a result of this higher correlation and the smaller sample size for manufactured units, the number of adults and income as a percentage of the poverty level do not jointly reach statistical significance when included in the same model specification. When both are included, the number of adults significantly predicts cash purchase, while income as a percentage of the poverty level does not. In this case, having two adults in the household reduces the likelihood of cash purchase by 11 percentage points relative to a one-adult household, and having three or more adults in the household reduces the likelihood of cash purchase by 18 percentage points. Conversely, the receipt of public assistance by anyone in the household is associated with an 11-percentage-point greater likelihood of cash purchase. When we retain income as a percentage of the poverty level in the model but exclude the number of adults, we see that the likelihood of cash purchase also significantly decreases with the distance from the poverty level. In particular, households with incomes of 400% of the poverty level or greater are 13 percentage points less likely to purchase with cash than households living below the poverty level. Overall, this pattern illustrates the importance that the number of adults in the household plays in determining the household's income in relation to the poverty level, and that the relationship between income level and the number of potential income earners is stronger for owners of manufactured units than for owners of site-built units. Moreover, this pattern is consistent with the idea that households at different income levels may have different preferences regarding the use of financing for home purchase, with lower-income households potentially more averse to debt. We discuss this hypothesis further in the Conclusion.

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<sup>51</sup> For example, suppose that we have two prospective homebuyers, one for a manufactured unit and one for a site-built unit. Suppose also that the manufactured housing unit costs \$50,000, while the site-built unit costs \$150,000. A 10% increase in the unit price, which causes both borrowers to have a 0.4-percentage-point higher likelihood of using financing, is then \$5,000 for the manufactured housing unit and \$15,000 for the site-built unit. In dollar terms, this means that the price change needed to induce the same change in financing behavior is three times larger for the site-built homebuyer than for the manufactured home buyer.

Among manufactured unit owners, we also observe that first-time homeownership reduces the likelihood of using cash by about 7 percentage points, and ownership of the land under the unit does so by about 12 percentage points. With respect to race/ethnicity, Blacks are about 17 percentage points less likely than Whites to purchase manufactured units with cash. As was the case with site-built housing, we do not observe other statistically significant effects for race/ethnicity. However, in contrast to the results for site-built units, we do not observe significant effects for homeowner education or age, receipt of retirement income, metro status, or subjective neighborhood quality, although it should be kept in mind that land ownership will be correlated with and reflect many of these factors. In particular, land ownership is correlated with the propensity of manufactured unit owners to title their units as real property, which is generally a prerequisite for mortgage financing. Thus, the decision to use cash for the purchase of manufactured housing appears overall to depend on household economic factors to a greater degree than for site-built housing and likely also reflects limitations on the availability of financing for manufactured homes not titled with their underlying lots as real property. Whereas manufactured units can be financed with either mortgages or personal property loans, the latter tend to carry higher interest rates and may involve more stringent credit history requirements,<sup>52</sup> both of which may deter lower-income households from seeking and/or obtaining home purchase credit, particularly if they do not own land. Below we leverage data for manufactured homes purchased in Texas, in combination with local area characteristics, to explore in more detail the relationship between local credit availability and the decision to purchase a manufactured home with cash.

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<sup>52</sup> We discuss these differences in our companion white paper on denial rates for manufactured housing finance: Riley, Sarah, Allison Freeman, and Jess Dorrance. 2021. "Is Manufactured Home Financing Hard to Get? An Exploratory Analysis of Home Purchase Loan Applications." UNC Center for Community Capital white paper prepared for The Pew Charitable Trusts.

## B. Texas Manufactured Housing Cash Purchase Results

Our analysis of the Texas public title records and retailer sales records provides a more local perspective, in contrast to our earlier national AHS analysis, into differences between manufactured units purchased with cash and those purchased with financing. As previously noted, the Texas public records data contains information about how manufactured units are titled (as personal or real property), which has an impact on the available financing options. These records are linked with county-level characteristics drawn from the ACS and the HMDA. In this section, we summarize descriptive and multivariate results concerning the factors associated with cash purchase, including a test of our hypothesis that cash purchase is more likely in counties where the denial rate for manufactured home purchase loan applications is higher. We provided detailed summary tables for the results discussed in this section in Appendices D and E.

### *How Manufactured Units Purchased With Cash Differ From Those Purchased With Financing*

Earlier, we explained that we infer likely cash purchases based on whether a lien is recorded for each unit on the date of purchase. As noted, there is likely some underreporting of mortgages in the Texas public records, which may lead to an overstatement of cash purchases for units titled as real property in this data. As was mentioned earlier, units titled as personal property, which are eligible only for personal property financing, represent about 75% of units in the sample. Units titled as real property are eligible for mortgage credit and represent the remaining 25%. Thus, we expect that the likelihood of cash purchase is overestimated for approximately 25% of the sample, and this should be kept in mind while interpreting the results we present here.

Overall, cash purchases represent about half of all units purchased. This figure is somewhat higher than the 37% estimate we obtained earlier from the national AHS data. However, we think that an estimated 50% cash purchase rate for Texas is reasonable in light of socioeconomic and demographic differences between Texas and the nation (in Texas, median household income is slightly lower and Hispanic representation is higher);<sup>53</sup> this difference in rates may also partly reflect underreporting of mortgages. For this reason, we limit our analysis of cash purchases to units titled as personal property, which represent the bulk of the sample. We estimate the rate of cash purchase for units titled as personal property at 48%.

In most respects, units purchased with cash look similar to those purchased with financing. Table 10 summarizes key differences between these two groups. Units purchased with cash are less likely to have been manufactured in 2010 or later (39% versus 85%) and less likely to have been purchased new (29% versus 73%). Units purchased with cash are also less likely to have a joint title (36% versus 44%), which is a proxy for marriage, suggesting that these units may reflect a smaller household size. Although we do not observe household demographic characteristics in the Texas public records data, this inference is consistent with our prior findings from the AHS. In addition, units purchased with cash tend to be

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<sup>53</sup> <https://www.census.gov/data/tables/time-series/demo/income-poverty/historical-income-households.html>  
<https://www.census.gov/quickfacts/TX>  
<https://www.census.gov/quickfacts/fact/table/US/PST045219>.

slightly smaller, on average, than those purchased with financing. Unit square footage averages about 1,234 for units purchased with cash, compared with 1,421 for units purchased with financing; also, about 69% of units purchased with cash have only one section, compared with 51% of units purchased with financing. Units purchased with cash are also less likely to have been purchased from a retailer: 43% of units purchased with cash were purchased from a retailer,<sup>54</sup> whereas 92% of financed units were purchased from a retailer. In this regard, it is not clear whether manufactured homebuyers who used financing were more likely to do so as a result of using a retailer, whether they chose to buy from a retailer in order to increase their chances of obtaining financing, or whether use of financing and use of a retailer were correlated for some other unobserved reason. Overall, about 30% of units purchased from retailers are purchased with cash.

With respect to county-level characteristics, about half of each purchase group (cash or financing) comes from large metro areas. Roughly an additional quarter of each group comes from medium/small metro areas and nonmetro areas. As summarized in Table 11, cash purchases and financed purchases also look very similar, on average, with respect to county-level demographic and economic characteristics. However, the average total county population for units purchased with cash is slightly higher than that for financed purchases (about 847,000 versus about 670,000). Given that the average number of complete manufactured housing loan applications made during the period of 2018-19 (as recorded in HMDA) is roughly similar for each group (approximately 1,000 applications), the county-level number of applications per 1,000 people is slightly lower for cash purchases, on average (about 4.5), than for financed purchases (about 6.4). Put differently, about 68% of cash purchases come from counties where there were at most four loan applications per 1,000 people, compared with about 54% of financed purchases. However, the average county denial rate for these two groups is roughly the same, about 59%. Thus, our descriptive analysis suggests that cash purchases are more common in areas where relatively fewer people apply for manufactured home purchase financing, but cash purchases are not associated with higher loan denial rates. Additional descriptive summary tables are provided in Appendix D.

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<sup>54</sup> Since units purchased with cash are also less likely to be new, we think that these are likely being purchased from the prior owners, which can be individuals or organizations.

<b>Table 10</b> 2018-19 Texas Public Records: Characteristics of Owner-Occupied Manufactured Housing Units Sited in Texas and Titled as Personal Property (Column Percentages)	All		Personal property			
			Lien recorded for date of purchase			
			No (likely cash purchase)		Yes	
	N	Percentage	N	Percentage	N	Percentage
All	27,731	100.0	13,238	100.0	14,493	100.0
Year of sale/purchase						
2018	14,085	50.79	6,771	51.15	7,314	50.47
2019	13,646	49.21	6,467	48.85	7,179	49.53
Year of manufacture						
<1990	3,515	12.68	3,116	23.54	399	2.75
1990-1999	4,009	14.46	3,135	23.68	874	6.03
2000-2009	2,686	9.69	1,810	13.67	876	6.04
2010+	17,521	63.18	5,177	39.11	12,344	85.17
Title type						
Single	16,590	59.82	8,426	63.65	8,164	56.33
Joint	11,141	40.18	4,812	36.35	6,329	43.67
Unit age						
New	14,471	52.18	3,896	29.43	10,575	72.97
Used	13,260	47.82	9,342	70.57	3,918	27.03
Number of sections in unit						
1	16,535	59.63	9,136	69.01	7,399	51.05
2	11,100	40.03	4,063	30.69	7,037	48.55
3	91	0.33	38	0.29	53	0.37
4	5	0.02	1	0.01	4	0.03
Purchased from retailer						
No	8,629	31.12	7,492	56.59	1,137	7.85
Yes	19,102	68.88	5,746	43.41	13,356	92.15

<b>Table 11</b> 2018-19 Texas Public Records: Characteristics of Owner-Occupied Manufactured Housing Units Sited in Texas and Titled as Personal Property	All			Personal property					
				Lien recorded for date of purchase					
				No (likely cash purchase)			Yes		
	N	Mean	Standard deviation	N	Mean	Standard deviation	N	Mean	Standard deviation
Unit square footage	27,731	1,332.13	412.91	13,238	1,234.42	390.48	14,493	1,421.37	412.66
County total population (in thousands)	27,731	754.49	1,178.14	13,238	846.81	1,252.01	14,493	670.15	1,099.64
County manufactured housing loan applications	27,731	1,066.38	870.09	13,238	1,052.92	858.63	14,493	1,078.66	880.27
County manufactured housing loan applications per 1,000 people	27,731	5.51	5.60	13,238	4.56	4.81	14,493	6.38	6.10
County denial rate for manufactured housing loan applications	27,543	58.82	7.75	13,135	59.20	8.08	14,408	58.47	7.42
County percentage racial/ethnic minority	27,731	49.43	20.29	13,238	50.91	21.20	14,493	48.07	19.32
County percentage Hispanic	27,731	35.18	21.85	13,238	36.44	23.14	14,493	34.03	20.53
County percentage non-Hispanic White	27,731	50.57	20.29	13,238	49.09	21.20	14,493	51.93	19.32
County percentage non-Hispanic Black	27,731	9.35	6.92	13,238	9.40	7.12	14,493	9.31	6.74
County percentage non-Hispanic Asian	27,731	2.88	3.21	13,238	3.08	3.34	14,493	2.70	3.08
County percentage foreign-born	27,731	12.80	7.49	13,238	13.58	7.86	14,493	12.08	7.05
County percentage speaking other language, English limited	27,731	10.25	7.17	13,238	10.93	7.81	14,493	9.62	6.46
County percentage in poverty	27,731	15.24	5.55	13,238	15.71	6.06	14,493	14.80	5.00
County percentage manufactured/mobile homes	27,731	12.64	8.98	13,238	11.78	8.50	14,493	13.42	9.32
County percentage owner-occupied housing units	27,731	66.77	9.24	13,238	66.17	9.13	14,493	67.32	9.30
County percentage owner-occupied housing units with mortgage	27,731	52.67	12.35	13,238	53.27	12.07	14,493	52.12	12.58
County median value of owner-occupied housing units	27,729	154,998.50	58,471.53	13,237	155,957.77	58,774.80	14,492	154,122.31	58,181.34
County percentage housing units built in 2010 or later	27,731	8.48	3.56	13,238	8.48	3.53	14,493	8.47	3.58

### *Predictors of Cash Purchase for Manufactured Units Titled as Personal Property*

We estimate probit models to identify the predictors of cash purchase for manufactured units titled as personal property. In this section, we summarize results from two specifications. The first specification is a standard probit regression that considers significant predictors of cash purchase other than the county denial rate that we calculated from HMDA. This first specification provides information about how property characteristics and local area demographic measures from the ACS predict cash purchase. As a second specification, we consider an instrumental variables probit model that attempts to correct for the endogeneity of the denial rate with respect to the cash purchase decision.<sup>55</sup> This specification includes all of the controls from the first specification and uses the percentage of population in poverty in the county and the percentage of the housing stock in the county represented by manufactured/mobile homes as instruments for the denial rate. We consider this second specification because we expect that homebuyers may be more likely to purchase with cash in areas where the denial rate for completed manufactured home purchase loan applications is higher. Parameter estimates for these specifications are provided in Appendix E.

We find that cash purchase is less likely for larger units, for those with a joint title, and for those that were manufactured in more recent years or were purchased from a retailer. Cash purchase is also slightly less likely in counties where Hispanic representation in the population is higher, where manufactured/mobile housing represents a greater fraction of the housing stock, and where the median property value is higher. Put differently, buyers of manufactured homes are more likely to use financing for larger, newer units in more affluent, Whiter areas; when more than one property owner is listed on the title, which may represent a potential loan co-signer or additional household wage earner; and in areas where manufactured housing is more prevalent, which may reflect greater lender familiarity with manufactured housing. The estimated magnitudes of the marginal effects for these predictors differ somewhat, depending on whether the denial rate is included in the model, but the sign and significance of these effects generally remain consistent across specifications.

In addition, we find from our first specification that units titled as personal property are about 3 percentage points more likely to be purchased with cash in medium/small metro areas compared with large metro areas. Similarly, units titled as personal property are about 2 percentage points more likely to be purchased with cash in nonmetro areas compared with large metro areas, although the latter effect is only statistically significant at the 10% level. When we add the denial rate to the model, these average marginal effects increase to 6 percentage points for medium/small metro areas and 5 percentage points for nonmetro areas, but both are statistically significant only at the 10% level. In other words, all else equal, personal property buyers appear somewhat more likely to use financing in large metro areas.

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<sup>55</sup> In a standard probit model, the denial rate is either insignificant or marginally so, and the coefficient takes on a negative sign, suggesting that it is correlated with omitted factors related to cash purchase. Denial rates are positively correlated with local poverty levels and inversely correlated with the manufactured housing share of the local housing stock as measured by the ACS. However, these two ACS measures are only weakly correlated with the likelihood of cash purchase for this sample. In the IV probit specification for personal property loans, the denial rate reaches statistical significance and takes on a positive sign, as expected. Thus, although perfect instruments are not available, these measures seem to do a reasonably good job of addressing the endogeneity present in the data. We encourage researchers to verify these results through robustness checks conducted on other samples or with other potential instruments.

Finally, in contrast with our earlier descriptive results, our second specification suggests that the denial rate does significantly predict cash purchase. Specifically, we estimate that a one-percentage-point increase in the denial rate increases the likelihood of cash purchase for units titled as personal property by 1.5 percentage points. This result suggests that personal property borrowers may be more inclined to purchase with cash if they anticipate difficulty in obtaining financing.



### C. Loan Choice and Financial Stability Among Manufactured Home Buyers in Texas

In this final section, we consider the financial stability of an earlier cohort of buyers of manufactured homes in Texas who participated in the MHOS in 2018 and purchased their homes between Jan. 1, 2015, and April 30, 2018. Because the survey data was linked with panel credit data from a major credit bureau, we can consider household financial information collected via the survey in conjunction with pre-purchase and post-purchase credit scores and measures of credit usage. We focus specifically on comparing the financial situations of manufactured home buyers who took out personal property loans with those who took out mortgages. We provided detailed summary tables of these results in Appendix E.

Overall, the data indicates that manufactured home buyers who use personal property financing differ very little from those who use mortgage financing. These two groups are very similar with respect to their household financial circumstances and use of credit, and this similarity is present both before home purchase and up to two years afterward, which represents the end of the period covered by the data. The small differences that we do observe appear to reflect income and life cycle effects, with personal property borrowers slightly more likely to be receiving retirement income (28% versus 21%). As previously noted, personal property loan borrowers tend to be slightly older than mortgage borrowers, on average, and are more likely to be retired (11% versus 8%).

#### *Income, Assets, Employment, and Expenses*

With respect to household income more generally, personal property borrowers have slightly lower incomes, on average. In particular, about 25% of personal property borrowers have incomes of \$65,000 or more, compared with 38% of mortgage borrowers. Roughly 80% of both groups receive wage income; roughly 14% receive business or self-employment income; about 5% receive income from interest or dividends; and about 8% receive alimony or child support. The similarities between these two groups of borrowers also extend to assets, as roughly 53% of personal property borrowers and mortgage borrowers have a retirement account or pension plan. Roughly 12% of each group also reports owning stocks, bonds, or mutual funds outside of a retirement account, and about 2% report having certificates of deposit (CDs). Roughly 4% also hold investments in real estate.

With respect to changes in employment status, income, and expenses within the two years prior to when the survey was administered, mortgage borrowers are slightly more likely than personal property borrowers to have started a new job (38% versus 30%). However, roughly one quarter of each group experienced a layoff, unemployment, or a reduction of work; roughly 20% were promoted at work; about 9% started a second job; about 1% experienced a business failure; and about 17% experienced a personal financial crisis. Approximately 15% of each group recently experienced a significant increase in income, and about 15% of each group recently experienced a significant decrease in income; the remaining roughly 70% said that they had experienced little or no change in income. Roughly one third of each group reported a significant increase in housing expenses, while 60% of each group reported roughly no change. With respect to nonhousing expenses, about one-fourth of survey respondents reported a significant increase, and about 65% reported roughly no change.

Borrowers were also asked how they would cope with an unexpected expense of \$400. Again, the responses of personal property borrowers and mortgage borrowers were quite similar. Respondents could select multiple ways of dealing with the expense, so percentages total to more than 100%.

Roughly 20% of both mortgage borrowers and personal property borrowers said that they would put the expense on a credit card and pay it when they received their next statement, while one fourth said they would put it on a credit card and pay it off over time. Half of the respondents would use money in their checking or savings account to pay for the expense; about 9% would use money from a bank loan or line of credit; about 6% would use a payday loan, deposit advance, or overdraft; and about 1% said that they would use some other sort of payment plan. About 16% of respondents would borrow money from a friend or family member, and about 13% would sell something to cover the expense.

#### *Pre-Purchase Credit Metrics*

Credit scores and other measures of credit usage were measured at six-month intervals from December 2014 through June 2018. For the purpose of assessing differences in the pre-purchase credit characteristics of borrowers who took out mortgages versus personal property loans, this data was linked with survey respondents with a lag based on the origination dates for their loans. For example, credit measures pulled in December 2014 were linked with loans originated during the six-month period of January to June 2015, and credit measures pulled in June 2015 were linked with loans that originated in July through December 2015.

As was the case with other household financial measures considered, the credit data generally indicated that borrowers who took out personal property loans were similar to those who took out mortgages before taking out their loans. Both groups had an average credit score of about 630, and a similar percentage of each group had a credit score above 700 (24% of personal property borrowers and 22% of mortgage borrowers). The two groups also averaged similar debt-to-income ratios (16% for personal property borrowers and 18% for mortgage borrowers). However, personal property borrowers were slightly more likely to have a missing debt-to-income ratio (11% versus 6%), suggesting that slightly more personal property borrowers than mortgage borrowers may have had a thin credit history.

With respect to credit usage, personal property borrowers and mortgage borrowers averaged a similar number of trade lines (15 for personal property borrowers, 16 for mortgage borrowers). More specifically, the credit reports for both groups reflect an average of three auto trade lines, five retail trade lines, one nondeferred student trade line, no first mortgage trade lines, and four personal installment trade lines. Moreover, the percentage of open trade lines that had been opened in the prior six months was the same for both groups (roughly 25%). Each group, on average, had one 30-day delinquency on a trade line in the prior six months. The overall average balance on open trade lines was about \$47,000 for personal property borrowers and \$51,000 for mortgage borrowers, and the average balance on medical collections was about \$1,000 for personal property borrowers and \$900 for mortgage borrowers. Thus, mortgage borrowers had slightly higher levels of debt, but overall these two groups of borrowers had similar credit histories before using financing to purchase their manufactured homes.

#### *Post-Purchase Credit Metrics*

For the purpose of assessing how the credit profiles of the surveyed households changed over time and whether these changes differed by loan type, post-purchase credit metrics measured one and two years after loan origination were linked with survey respondents based on their loan origination dates. Given that the latest available credit data for this study was from 2018Q2, one-year post-purchase credit metrics were linked with survey respondents having loan origination dates during the period of

2015Q1—2017Q2, and two-year post-purchase credit metrics were linked with survey respondents having loan origination dates during the period of 2015Q1-2016Q2.

Overall, the data suggests that personal property borrowers and mortgage borrowers on average experienced little change in their credit scores and other measures of credit usage in the two years following loan origination, except that total debt levels increased to a greater extent for mortgage borrowers. One year following loan origination, the average credit score for both groups was still roughly 630. The debt-to-income ratio increased by about 10 percentage points for personal property borrowers and 13 percentage points for mortgage borrowers, on average, during the first year following loan origination; this increase remained unchanged in the second year. By the end of the second year following loan origination, personal property borrowers had experienced an average credit score increase of about six points relative to their pre-purchase credit scores, while mortgage borrowers had experienced an average decrease of about seven points, causing the average credit score for personal property borrowers to be 16 points higher for personal property borrowers than for mortgage borrowers (637 versus 621). This small difference may reflect the higher average debt level associated with mortgages. Both groups of borrowers were reported to have added an average of two trade lines by the end of the second year following loan origination; we can infer that one of these reflects the manufactured home purchase loan about which the MHOS collected data. This change in trade line usage corresponded to an average increase in the balance on open trade lines of about \$40,000 for personal property borrowers and \$70,000 for mortgage borrowers. Total debt averaged about \$80,000 for personal property borrowers and \$120,000 for mortgage borrowers at the end of the second year following loan origination. Thus, mortgage borrowers took on and carried more debt but maintained debt-to-income ratios and credit scores similar to those of personal property borrowers. As noted earlier, mortgage borrowers have slightly higher incomes than personal property borrowers, on average, and this difference may have contributed to the similarity of their credit profiles despite higher average debt.

## V. Conclusion

Our analysis has yielded several insights that can inform ongoing public policy discussions with respect to manufactured housing finance. First, manufactured home buyers who use cash generally differ from those who use financing with respect to income and stage in the life cycle. Cash buyers are, on average, slightly older and more likely to be retired, they have lower average incomes, and are more likely to live in poverty. Second, we find that manufactured home buyers who title their homes as personal property are more likely to use cash in counties where the denial rate for manufactured home purchase loans is higher. As we note in our companion white paper on denial rates,<sup>56</sup> personal property loans tend to be denied at higher rates than mortgages and may involve more stringent lender credit standards. Our results support the idea that a perception that home purchase credit is difficult to obtain may discourage homebuyers from applying for credit. Third, we find that borrowers who use financing differ little in terms of financial circumstances and credit histories, before or after home purchase, regardless of which loan type they adopt, suggesting that factors other than credit history are likely driving the choice of loan.

Several limitations of our analysis should be kept in mind. First, much of it is limited to Texas, which may not fully represent manufactured home buyers nationally. Second, the instrumental variables approach that we adopted in modeling the relationship between loan denial rates and likelihood of cash purchase may not fully account for the endogeneity of denial rates with respect to borrower financing decisions. Third, the time period of 2015-19 may not be representative of housing market conditions in 2021 and beyond.

At this stage of our research, it is difficult to make strong policy recommendations. It is not clear that one approach to purchasing manufactured housing is superior, particularly if we consider that many borrowers care about factors other than the interest rate and that each approach has different costs and benefits that may appeal to different types of consumers. Given the apparently low levels of financial literacy that have been observed for lower-income households in the United States and discussed in the existing academic literature, consumer education may help borrowers make more informed home financing decisions. In addition, redesigning mortgages to increase the availability of smaller loans of shorter duration may help make them more attractive to consumers.

We envision at least a couple avenues for future research. First, evaluating the costs and benefits associated with cash purchase and the available financing options will require loan performance data for both mortgages and personal property loans. Second, given the average smaller loan size, smaller monthly payment size, and shorter duration of personal property loans compared with mortgages, we hypothesize that cash-flow considerations and debt aversion may be important drivers of a decision to purchase with cash or to select personal property loans instead of mortgages.<sup>57</sup> Survey or qualitative research capturing general attitudes toward debt usage in this population, in comparison with similar

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<sup>56</sup> Riley, Sarah, Allison Freeman, and Jess Dorrance. 2021. "Is Manufactured Home Financing Hard to Get? An Exploratory Analysis of Home Purchase Loan Applications." UNC Center for Community Capital White Paper prepared for The Pew Charitable Trusts.

<sup>57</sup> Given the lower cost of manufactured housing relative to site-built housing, there is also the related question of whether debt aversion influences the choice to buy manufactured housing instead of site-built housing. Some borrowers may be able to purchase the former with cash but would require a mortgage for the latter.

data for buyers of site-built units who take out mortgages, would provide an important test of this hypothesis. The potential for informing public policy rests in the observation that debt represents a substantial cognitive burden for poor households, and that the elimination of debt can improve cognitive functioning and financial decision-making (Ong, Theseira, and Ng, 2019; Martínez-Marquina and Shi, 2021). As such, lower-income households that use cash or personal property loans for home purchase rather than mortgages may be making these decisions in an effort to minimize their debt and repayment burdens, and the benefit that they perceive from these choices may be both financial and nonfinancial. If debt aversion proves an important determinant of how manufactured home owners make home purchase financing decisions, the salient policy questions will be less about how to make lower-cost mortgage financing more widely available and more about how to help homebuyers minimize or avoid debt entirely when that is their preference.

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## Appendix A: AHS 2019 Sample Overview Tables

AHS 2019: Single-Family Units: Occupancy, Usage, and How Obtained by Unit Type (Column Percentages)	N	Sum of weights	Weighted percentage	Manufactured housing	Site-built housing
				Weighted percentage	Weighted percentage
All	43,632	102,820,842	100.00	100.00	100.00
Occupancy					
Owner-occupied	31,098	75,803,825	73.72	61.26	74.81
Renter-occupied	6,717	15,185,015	14.77	17.35	14.54
Vacant: rented or for rent	832	1,435,943	1.40	2.62	1.29
Vacant: for rent or for sale	130	185,850	0.18	0.26	0.17
Vacant: sold or for sale	1,009	1,836,941	1.79	1.53	1.81
Vacant: occasional, seasonal, or other use	3,249	6,789,624	6.60	13.83	5.97
Other or unknown	597	1,583,643	1.54	3.15	1.40
Usage					
Owner-occupied	31,098	75,803,825	73.72	61.26	74.81
Investment: renter-occupied, for rent, or investment	7,800	17,081,720	16.61	20.40	16.28
Other	4,734	9,935,297	9.66	18.34	8.90
How Obtained					
Purchased with cash	2,203	5,608,614	5.45	13.33	4.77
Purchased with financing	18,342	42,877,724	41.70	20.98	43.51
Purchased, method unknown	8,439	21,649,192	21.06	19.26	21.21
Gift or inheritance	1,002	2,790,494	2.71	5.79	2.44
Unknown or not applicable	13,646	29,894,817	29.07	40.64	28.06

AHS 2019: Analytic Sample, Unit Characteristics by Property Type (Column Percentages)	N	Sum of weights	Weighted percentage	Manufactured housing	Site-built housing
				Weighted percentage	Weighted percentage
All	7,254	20,195,069	100.00	100.00	100.00
How obtained					
Purchased with cash	1,035	2,800,266	13.87	37.12	10.74
Purchased with financing	6,219	17,394,803	86.13	62.88	89.26
Property value					
Less than \$75,000	1,217	3,480,721	17.24	75.14	9.45
\$75,000 to \$149,999	2,171	6,510,750	32.24	19.72	33.92
\$150,000 to \$249,999	3,866	10,203,598	50.53	5.14	56.62
Lot size					
Less than 1/8 acre	1,090	2,583,924	12.79	17.54	12.16
1/8 up to 1/4 acre	2,532	6,198,836	30.69	8.93	33.62
1/4 up to 1/2 acre	1,374	4,158,104	20.59	9.27	22.11
1/2 up to 1 acre	696	2,138,757	10.59	11.95	10.41
1 or more acres	1,562	5,115,449	25.33	52.31	21.70
Owns lot					
Yes	6,832	19,198,119	95.06	60.69	99.68
No	422	996,950	4.94	39.31	0.32
Unit square feet					
Less than 1,000	735	2,009,979	9.95	29.50	7.33
1,000 to 1,499	2,356	6,482,442	32.10	42.04	30.76
1,500 to 1,999	2,176	6,079,552	30.10	18.34	31.68
2,000 to 2,499	1,143	3,231,038	16.00	7.54	17.14
2,500+	844	2,392,057	11.84	2.58	13.09
Number of bedrooms					
<2	126	379,678	1.88	5.80	1.35
2	1,249	3,479,071	17.23	31.90	15.26
3	4,291	11,916,131	59.01	53.93	59.69
4+	1,588	4,420,190	21.89	8.36	23.70
Number of bathrooms					
1	1,442	4,214,741	20.87	21.20	20.83
1.5	1,106	3,176,037	15.73	7.19	16.87
2	3,249	8,873,613	43.94	68.17	40.68
2.5	971	2,570,454	12.73	1.59	14.23
3+	486	1,360,225	6.74	1.86	7.39
Metro classification					
Metro	6,103	15,472,737	76.62	63.44	78.39
Nonmetro	1,151	4,722,333	23.38	36.56	21.61

AHS 2019: Analytic Sample, Unit Characteristics by Property Type (Column Percentages)	N	Sum of weights	Weighted percentage	Manufactured housing	Site-built housing
				Weighted percentage	Weighted percentage
All	7,254	20,195,069	100.00	100.00	100.00
Foundation type					
Basement or crawl space	3,938	11,992,934	59.39	.	67.36
Masonry	185	517,535	2.56	21.64	.
Concrete slab or pad	2,611	6,298,312	31.19	20.41	32.64
Blocks	520	1,386,288	6.86	57.95	.
Year built					
1949 or earlier	1,068	3,229,256	15.99	0.14	18.12
1950 to 1959	932	2,509,546	12.43	0.39	14.04
1960 to 1969	770	2,160,709	10.70	6.49	11.26
1970 to 1979	1,165	3,200,097	15.85	15.51	15.89
1980 to 1989	991	2,706,076	13.40	19.64	12.56
1990 to 1999	1,019	2,862,475	14.17	31.17	11.89
2000 to 2009	1,018	2,653,021	13.14	18.67	12.39
2010 or later	291	873,889	4.33	7.99	3.84
Annual maintenance cost					
Less than \$250	2,535	7,267,635	35.99	48.20	34.35
\$250-\$499	1,422	3,954,171	19.58	19.12	19.64
\$500-\$999	1,497	4,095,224	20.28	14.53	21.05
\$1,000-\$1,999	1,068	2,883,135	14.28	11.97	14.59
\$2,000+	732	1,994,905	9.88	6.18	10.38
Monthly utilities cost					
Less than \$150	861	2,501,552	12.39	30.18	10.00
\$150 to \$249	3,241	9,129,903	45.21	44.26	45.34
\$250 to \$349	2,110	5,686,086	28.16	18.08	29.51
\$350+	1,042	2,877,529	14.25	7.48	15.16
Unit rating (scale of 1 to 10)					
<=6	610	1,641,772	8.13	15.47	7.14
7	947	2,556,096	12.66	14.36	12.43
8	2,018	5,613,904	27.80	23.90	28.32
9	1,162	3,231,400	16.00	11.68	16.58
10	2,517	7,151,899	35.41	34.60	35.52
Neighborhood rating (scale of 1 to 10)					
<=6	812	2,209,168	10.94	16.58	10.18
7	1,032	2,669,812	13.22	11.30	13.48
8	1,990	5,426,905	26.87	21.45	27.60
9	1,205	3,361,999	16.65	12.89	17.15
10	2,215	6,527,185	32.32	37.78	31.59

AHS 2019: Analytic Sample, Unit Characteristics by Property Type (Row Percentages)	N	Sum of weights	Weighted percentage	Manufactured housing	Site-built housing
				Weighted percentage	Weighted percentage
All	7,254	20,195,069	100.00	11.84	88.16
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Purchased with financing	6,219	17,394,803	100.00	8.65	91.35
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\$150,000 to \$249,999	3,866	10,203,598	100.00	1.20	98.80
Lot size					
Less than 1/8 acre	1,090	2,583,924	100.00	16.24	83.76
1/8 up to 1/4 acre	2,532	6,198,836	100.00	3.45	96.55
1/4 up to 1/2 acre	1,374	4,158,104	100.00	5.33	94.67
1/2 up to 1 acre	696	2,138,757	100.00	13.37	86.63
1 or more acres	1,562	5,115,449	100.00	24.46	75.54
Owns lot					
Yes	6,832	19,198,119	100.00	7.56	92.44
No	422	996,950	100.00	94.33	5.67
Unit square feet					
Less than 1,000	735	2,009,979	100.00	35.11	64.89
1,000 to 1,499	2,356	6,482,442	100.00	15.51	84.49
1,500 to 1,999	2,176	6,079,552	100.00	7.22	92.78
2,000 to 2,499	1,143	3,231,038	100.00	5.58	94.42
2,500+	844	2,392,057	100.00	2.58	97.42
Number of bedrooms					
<2	126	379,678	100.00	36.56	63.44
2	1,249	3,479,071	100.00	21.93	78.07
3	4,291	11,916,131	100.00	10.83	89.17
4+	1,588	4,420,190	100.00	4.53	95.47
Number of bathrooms					
1	1,442	4,214,741	100.00	12.03	87.97
1.5	1,106	3,176,037	100.00	5.42	94.58
2	3,249	8,873,613	100.00	18.38	81.62
2.5	971	2,570,454	100.00	1.48	98.52
3+	486	1,360,225	100.00	3.27	96.73
Metro classification					
Metro	6,103	15,472,737	100.00	9.81	90.19
Nonmetro	1,151	4,722,333	100.00	18.52	81.48

AHS 2019: Analytic Sample, Unit Characteristics by Property Type (Row Percentages)	N	Sum of weights	Weighted percentage	Manufactured housing	Site-built housing
				Weighted percentage	Weighted percentage
All	7,254	20,195,069	100.00	11.84	88.16
Foundation type					
Basement or crawl space	3,938	11,992,934	100.00	.	100.00
Masonry	185	517,535	100.00	100.00	.
Concrete slab or pad	2,611	6,298,312	100.00	7.75	92.25
Blocks	520	1,386,288	100.00	100.00	.
Year built					
1949 or earlier	1,068	3,229,256	100.00	0.10	99.90
1950 to 1959	932	2,509,546	100.00	0.38	99.62
1960 to 1969	770	2,160,709	100.00	7.19	92.81
1970 to 1979	1,165	3,200,097	100.00	11.59	88.41
1980 to 1989	991	2,706,076	100.00	17.36	82.64
1990 to 1999	1,019	2,862,475	100.00	26.05	73.95
2000 to 2009	1,018	2,653,021	100.00	16.84	83.16
2010 or later	291	873,889	100.00	21.86	78.14
Annual maintenance cost					
Less than \$250	2,535	7,267,635	100.00	15.86	84.14
\$250-\$499	1,422	3,954,171	100.00	11.56	88.44
\$500-\$999	1,497	4,095,224	100.00	8.49	91.51
\$1,000-\$1,999	1,068	2,883,135	100.00	9.93	90.07
\$2,000+	732	1,994,905	100.00	7.41	92.59
Monthly utilities cost					
Less than \$150	861	2,501,552	100.00	28.86	71.14
\$150 to \$249	3,241	9,129,903	100.00	11.60	88.40
\$250 to \$349	2,110	5,686,086	100.00	7.61	92.39
\$350+	1,042	2,877,529	100.00	6.22	93.78
Unit rating (scale of 1 to 10)					
<=6	610	1,641,772	100.00	22.54	77.46
7	947	2,556,096	100.00	13.44	86.56
8	2,018	5,613,904	100.00	10.18	89.82
9	1,162	3,231,400	100.00	8.65	91.35
10	2,517	7,151,899	100.00	11.57	88.43
Neighborhood rating (scale of 1 to 10)					
<=6	812	2,209,168	100.00	17.96	82.04
7	1,032	2,669,812	100.00	10.12	89.88
8	1,990	5,426,905	100.00	9.45	90.55
9	1,205	3,361,999	100.00	9.17	90.83
10	2,215	6,527,185	100.00	13.85	86.15

AHS 2019: Analytic Sample, Demographic Characteristics by Property Type (Column Percentages)	N	Sum of weights	Weighted percentage	Manufactured housing	Site-built housing
				Weighted percentage	Weighted percentage
All	7,254	20,195,069	100.00	100.00	100.00
Age					
<25	83	250,107	1.24	2.65	1.05
25 to 34	780	2,312,033	11.45	9.26	11.74
35 to 54	2,408	6,727,189	33.31	30.90	33.64
55+	3,983	10,905,741	54.00	57.19	53.57
Educational attainment					
Less than high school diploma	779	1,936,099	9.59	20.35	8.14
High school diploma	3,177	8,788,194	43.52	52.11	42.36
Associate's degree or trade school diploma	1,156	3,411,453	16.89	17.10	16.86
Bachelor's degree	1,410	4,047,780	20.04	8.20	21.63
Graduate degree	732	2,011,543	9.96	2.23	11.00
Gender					
Male	4,080	11,396,275	56.43	55.04	56.62
Female	3,174	8,798,795	43.57	44.96	43.38
Race/ethnicity					
White	5,229	15,353,098	76.02	77.37	75.84
Black	751	1,836,203	9.09	5.73	9.54
Hispanic or Latino	983	2,233,057	11.06	12.62	10.85
Asian	167	368,699	1.83	0.54	2.00
Indigenous peoples	48	165,052	0.82	2.00	0.66
Other or unknown	76	238,960	1.18	1.73	1.11
Born in the U.S.					
Yes	6,247	18,027,098	89.26	88.82	89.32
No	1,007	2,167,972	10.74	11.18	10.68
Language of interview					
English	6,927	19,550,936	96.81	95.43	97.00
Spanish	226	351,537	1.74	3.05	1.56
Other or unknown	101	292,596	1.45	1.52	1.44
First-time homeowner					
Yes	3,687	10,116,328	50.09	44.58	50.83
No	3,567	10,078,742	49.91	55.42	49.17
Adults in household					
1	1,970	5,413,633	26.81	35.61	25.62
2	3,881	11,177,001	55.35	48.37	56.28
3+	1,403	3,604,436	17.85	16.02	18.09



AHS 2019: Analytic Sample, Demographic Characteristics by Property Type (Row Percentages)	N	Sum of weights	Weighted percentage	Manufactured housing	Site-built housing
				Weighted percentage	Weighted percentage
All	7,254	20,195,069	100.00	11.84	88.16
Age					
<25	83	250,107	100.00	25.36	74.64
25 to 34	780	2,312,033	100.00	9.58	90.42
35 to 54	2,408	6,727,189	100.00	10.99	89.01
55+	3,983	10,905,741	100.00	12.54	87.46
Educational attainment					
Less than high school diploma	779	1,936,099	100.00	25.14	74.86
High school diploma	3,177	8,788,194	100.00	14.18	85.82
Associate's degree or trade school diploma	1,156	3,411,453	100.00	11.99	88.01
Bachelor's degree	1,410	4,047,780	100.00	4.85	95.15
Graduate degree	732	2,011,543	100.00	2.66	97.34
Gender					
Male	4,080	11,396,275	100.00	11.55	88.45
Female	3,174	8,798,795	100.00	12.22	87.78
Race/ethnicity					
White	5,229	15,353,098	100.00	12.05	87.95
Black	751	1,836,203	100.00	7.46	92.54
Hispanic or Latino	983	2,233,057	100.00	13.52	86.48
Asian	167	368,699	100.00	3.52	96.48
Indigenous peoples	48	165,052	100.00	29.06	70.94
Other or unknown	76	238,960	100.00	17.33	82.67
Born in the U.S.					
Yes	6,247	18,027,098	100.00	11.79	88.21
No	1,007	2,167,972	100.00	12.34	87.66
Language of interview					
English	6,927	19,550,936	100.00	11.68	88.32
Spanish	226	351,537	100.00	20.77	79.23
Other or unknown	101	292,596	100.00	12.39	87.61
First-time homeowner					
Yes	3,687	10,116,328	100.00	10.54	89.46
No	3,567	10,078,742	100.00	13.15	86.85
Adults in household					
1	1,970	5,413,633	100.00	15.74	84.26
2	3,881	11,177,001	100.00	10.35	89.65
3+	1,403	3,604,436	100.00	10.63	89.37

AHS 2019: Analytic Sample, Household Income Profile by Property Type (Column Percentages)	N	Sum of weights	Weighted percentage	Manufactured housing	Site-built housing
				Weighted percentage	Weighted percentage
All	7,254	20,195,069	100.00	100.00	100.00
Household income					
Less than \$75,000	4,282	11,855,487	58.70	80.32	55.80
\$75,000 to \$149,999	2,390	6,707,350	33.21	17.00	35.39
\$150,000+	582	1,632,232	8.08	2.68	8.81
Household income as % of poverty level					
Less than 100%	650	1,716,165	8.50	18.40	7.17
100-199%	1,128	3,005,762	14.88	25.83	13.41
200-299%	1,279	3,624,964	17.95	21.38	17.49
300-399%	1,225	3,549,983	17.58	16.12	17.77
400%+	2,972	8,298,196	41.09	18.27	44.16
Household receives wage income					
Yes	5,255	14,765,025	73.11	61.87	74.62
No	1,999	5,430,044	26.89	38.13	25.38
Household receives self-employment income					
Yes	728	2,112,304	10.46	8.86	10.67
No	6,526	18,082,766	89.54	91.14	89.33
Household receives retirement income					
Yes	2,860	7,737,261	38.31	45.79	37.31
No	4,394	12,457,809	61.69	54.21	62.69
Household receives interest/dividend/rental income					
Yes	1,430	4,118,693	20.39	13.52	21.32
No	5,824	16,076,376	79.61	86.48	78.68
Household receives public assistance					
Yes	351	920,269	4.56	9.18	3.94
No	6,903	19,274,801	95.44	90.82	96.06
Household receives nutrition assistance					
Yes	366	994,471	4.92	11.11	4.09
No	6,888	19,200,598	95.08	88.89	95.91

AHS 2019: Analytic Sample, Household Income Profile by Property Type (Row Percentages)	N	Sum of weights	Weighted percentage	Manufactured housing	Site-built housing
				Weighted percentage	Weighted percentage
All	7,254	20,195,069	100.00	11.84	88.16
Household income					
Less than \$75,000	4,282	11,855,487	100.00	16.21	83.79
\$75,000 to \$149,999	2,390	6,707,350	100.00	6.06	93.94
\$150,000+	582	1,632,232	100.00	3.92	96.08
Household income as % of poverty level					
Less than 100%	650	1,716,165	100.00	25.64	74.36
100-199%	1,128	3,005,762	100.00	20.56	79.44
200-299%	1,279	3,624,964	100.00	14.11	85.89
300-399%	1,225	3,549,983	100.00	10.86	89.14
400%+	2,972	8,298,196	100.00	5.27	94.73
Household receives wage income					
Yes	5,255	14,765,025	100.00	10.02	89.98
No	1,999	5,430,044	100.00	16.80	83.20
Household receives self-employment income					
Yes	728	2,112,304	100.00	10.03	89.97
No	6,526	18,082,766	100.00	12.06	87.94
Household receives retirement income					
Yes	2,860	7,737,261	100.00	14.16	85.84
No	4,394	12,457,809	100.00	10.41	89.59
Household receives interest/dividend/rental income					
Yes	1,430	4,118,693	100.00	7.85	92.15
No	5,824	16,076,376	100.00	12.87	87.13
Household receives public assistance					
Yes	351	920,269	100.00	23.87	76.13
No	6,903	19,274,801	100.00	11.27	88.73
Household receives nutrition assistance					
Yes	366	994,471	100.00	26.73	73.27
No	6,888	19,200,598	100.00	11.07	88.93

AHS 2019: Analytic Sample, Respondent Race/Ethnicity by Property Type and Metro Classification (Column Percentages)	N	Sum of weights	Weighted percentage	Manufactured housing		Site-built housing	
				Metro	Nonmetro	Metro	Nonmetro
				Weighted percentage	Weighted percentage	Weighted percentage	Weighted percentage
All	7,254	20,195,069	100.00	100.00	100.00	100.00	100.00
Race/ethnicity							
White	5,229	15,353,098	76.02	75.12	81.27	72.70	87.26
Black	751	1,836,203	9.09	4.50	7.86	11.01	4.23
Hispanic or Latino	983	2,233,057	11.06	17.26	4.57	12.28	5.64
Asian	167	368,699	1.83	0.86	.	2.41	0.51
Indigenous peoples	48	165,052	0.82	0.70	4.27	0.51	1.19
Other or unknown	76	238,960	1.18	1.56	2.04	1.09	1.18

AHS 2019: Analytic Sample, Demographic Characteristics by Property Type and Metro Classification (Row Percentages)		N	Sum of weights	Weighted percentage	Manufactured housing	Site-built housing
					Weighted percentage	Weighted percentage
All		7,254	20,195,069	100.00	11.84	88.16
	Race/ethnicity					
Metro	White	4,214	11,284,803	100.00	10.10	89.90
	Black	700	1,604,587	100.00	4.26	95.74
	Hispanic or Latino	934	1,976,277	100.00	13.25	86.75
	Asian	162	349,164	100.00	3.72	96.28
	Indigenous peoples	29	82,102	100.00	12.96	87.04
	Other or unknown	64	175,804	100.00	13.43	86.57
Nonmetro	White	1,015	4,068,295	100.00	17.47	82.53
	Black	51	231,617	100.00	29.67	70.33
	Hispanic or Latino	49	256,780	100.00	15.55	84.45
	Asian	5	19,535	100.00	.	100.00
	Indigenous peoples	19	82,950	100.00	44.99	55.01
	Other or unknown	12	63,156	100.00	28.18	71.82

AHS 2019: Analytic Sample, Poverty and Public Assistance by Property Type and Metro Classification (Column Percentages)	N	Sum of weights	Weighted percentage	Manufactured housing		Site-built housing	
				Metro	Nonmetro	Metro	Nonmetro
				Weighted percentage	Weighted percentage	Weighted percentage	Weighted percentage
All	7,254	20,195,069	100.00	100.00	100.00	100.00	100.00
Household income							
Less than \$75,000	4,282	11,855,487	58.70	81.01	79.13	54.08	62.05
\$75,000 to \$149,999	2,390	6,707,350	33.21	17.06	16.88	36.87	30.02
\$150,000+	582	1,632,232	8.08	1.92	3.99	9.05	7.93
Household income as % of poverty level							
Less than 100%	650	1,716,165	8.50	17.75	19.51	7.06	7.57
100-199%	1,128	3,005,762	14.88	26.55	24.59	12.91	15.24
200-299%	1,279	3,624,964	17.95	21.16	21.77	17.10	18.91
300-399%	1,225	3,549,983	17.58	16.00	16.31	17.34	19.35
400%+	2,972	8,298,196	41.09	18.54	17.81	45.60	38.94
Household receives public assistance							
Yes	351	920,269	4.56	9.65	8.37	4.04	3.55
No	6,903	19,274,801	95.44	90.35	91.63	95.96	96.45
Household receives nutrition assistance							
Yes	366	994,471	4.92	11.64	10.19	3.70	5.51
No	6,888	19,200,598	95.08	88.36	89.81	96.30	94.49

AHS 2019: Analytic Sample, Poverty and Public Assistance by Property Type and Metro Classification (Row Percentages)		N	Sum of weights	Weighted percentage	Manufactured housing	Site-built housing
					Weighted percentage	Weighted percentage
All		7,254	20,195,069	100.00	11.84	88.16
	Household income					
Metro	Less than \$75,000	3,520	8,776,061	100.00	14.01	85.99
	\$75,000 to \$149,999	2,075	5,404,403	100.00	4.79	95.21
	\$150,000+	508	1,292,272	100.00	2.26	97.74
	Household income as % of poverty level					
	Less than 100%	540	1,254,357	100.00	21.48	78.52
	100-199%	924	2,204,498	100.00	18.27	81.73
	200-299%	1,049	2,706,969	100.00	11.86	88.14
	300-399%	1,011	2,662,632	100.00	9.12	90.88
	400%+	2,579	6,644,281	100.00	4.23	95.77
	Household receives public assistance					
	Yes	300	710,460	100.00	20.61	79.39
	No	5,803	14,762,277	100.00	9.29	90.71
	Household receives nutrition assistance					
	Yes	298	693,415	100.00	25.48	74.52
	No	5,805	14,779,321	100.00	9.07	90.93
Nonmetro	Household income					
	Less than \$75,000	762	3,079,426	100.00	22.47	77.53
	\$75,000 to \$149,999	315	1,302,947	100.00	11.33	88.67
	\$150,000+	74	339,960	100.00	10.26	89.74
	Household income as % of poverty level					
	Less than 100%	110	461,808	100.00	36.95	63.05
	100-199%	204	801,265	100.00	26.84	73.16
	200-299%	230	917,995	100.00	20.74	79.26
	300-399%	214	887,351	100.00	16.08	83.92
	400%+	393	1,653,915	100.00	9.42	90.58
	Household receives public assistance					
	Yes	51	209,809	100.00	34.90	65.10
	No	1,100	4,512,524	100.00	17.76	82.24
	Household receives nutrition assistance					
	Yes	68	301,056	100.00	29.59	70.41
No	1,083	4,421,277	100.00	17.76	82.24	





AHS 2019: Analytic Sample, Property Value by Property Type and Square Footage	Manufactured housing		Site-built housing	
	Property value (\$)		Property value (\$)	
	N	Weighted mean	N	Weighted mean
Unit size (square feet)				
Less than 1,000	264	31,638.20	471	117,984.74
1,000 to 1,499	368	49,504.00	1,988	141,563.95
1,500 to 1,999	170	75,471.75	2,006	161,670.23
2,000 to 2,499	68	63,090.02	1,075	177,209.27
2,500+	21	81,118.21	823	172,882.48

## Appendix B: AHS 2019 Cash Purchase Results, Descriptive Tables

AHS 2019: Analytic Sample, Characteristics of Site-Built Units by How Purchased (Column Percentages)	N	Sum of weights	Weighted percentage	Site-built housing	
				Purchased with cash	Purchased with financing
				Weighted percentage	Weighted percentage
All	6,363	17,803,046	100.00	100.00	100.00
Property value					
Less than \$75,000	558	1,683,239	9.45	17.81	8.45
\$75,000 to \$149,999	1,988	6,039,054	33.92	36.73	33.58
\$150,000 to \$249,999	3,817	10,080,752	56.62	45.46	57.97
Lot size					
Less than 1/8 acre	894	2,164,414	12.16	11.00	12.30
1/8 up to 1/4 acre	2,434	5,985,218	33.62	28.13	34.28
1/4 up to 1/2 acre	1,295	3,936,449	22.11	21.36	22.20
1/2 up to 1 acre	609	1,852,826	10.41	10.70	10.37
1 or more acres	1,131	3,864,139	21.70	28.81	20.85
Owns lot					
Yes	6,342	17,746,470	99.68	99.76	99.67
No	21	56,575	0.32	0.24	0.33
Unit square feet					
Less than 1,000	471	1,304,364	7.33	9.41	7.08
1,000 to 1,499	1,988	5,476,734	30.76	32.63	30.54
1,500 to 1,999	2,006	5,640,867	31.68	28.21	32.10
2,000 to 2,499	1,075	3,050,741	17.14	16.57	17.20
2,500+	823	2,330,338	13.09	13.17	13.08
Number of bedrooms					
<2	72	240,863	1.35	3.24	1.13
2	941	2,715,964	15.26	23.18	14.30
3	3,840	10,626,106	59.69	53.61	60.42
4+	1,510	4,220,112	23.70	19.97	24.15
Number of bathrooms					
1	1,244	3,707,719	20.83	27.21	20.06
1.5	1,044	3,003,972	16.87	13.48	17.28
2	2,652	7,243,080	40.68	42.83	40.43
2.5	956	2,532,523	14.23	10.56	14.67
3+	467	1,315,751	7.39	5.92	7.57
Metro classification					
Metro	5,427	13,955,238	78.39	66.74	79.79
Nonmetro	936	3,847,808	21.61	33.26	20.21

AHS 2019: Analytic Sample, Characteristics of Site-Built Units by How Purchased (Column Percentages)	N	Sum of weights	Weighted percentage	Site-built housing	
				Purchased with cash	Purchased with financing
				Weighted percentage	Weighted percentage
All	6,363	17,803,046	100.00	100.00	100.00
Foundation type					
Basement or crawl space	3,938	11,992,934	67.36	66.27	67.50
Concrete slab or pad	2,425	5,810,112	32.64	33.73	32.50
Year built					
1949 or earlier	1,067	3,226,012	18.12	25.51	17.23
1950 to 1959	927	2,500,134	14.04	12.97	14.17
1960 to 1969	712	2,005,452	11.26	11.05	11.29
1970 to 1979	1,003	2,829,063	15.89	12.11	16.35
1980 to 1989	812	2,236,328	12.56	10.20	12.85
1990 to 1999	756	2,116,861	11.89	14.41	11.59
2000 to 2009	859	2,206,360	12.39	11.31	12.52
2010 or later	227	682,836	3.84	2.43	4.00
Annual maintenance cost					
Less than \$250	2,126	6,114,682	34.35	40.80	33.57
\$250-\$499	1,235	3,496,908	19.64	17.76	19.87
\$500-\$999	1,358	3,747,593	21.05	21.46	21.00
\$1,000-\$1,999	964	2,596,732	14.59	11.81	14.92
\$2,000+	680	1,847,131	10.38	8.18	10.64
Monthly utilities cost					
Less than \$150	588	1,779,603	10.00	15.87	9.29
\$150 to \$249	2,855	8,071,187	45.34	45.56	45.31
\$250 to \$349	1,953	5,253,599	29.51	26.47	29.87
\$350+	967	2,698,656	15.16	12.10	15.53
Unit rating (scale of 1 to 10)					
<=6	463	1,271,698	7.14	8.71	6.95
7	819	2,212,660	12.43	9.89	12.73
8	1,809	5,042,326	28.32	22.02	29.08
9	1,057	2,952,004	16.58	14.23	16.86
10	2,215	6,324,357	35.52	45.15	34.37
Neighborhood rating (scale of 1 to 10)					
<=6	662	1,812,455	10.18	10.43	10.15
7	916	2,399,614	13.48	9.59	13.95
8	1,797	4,913,859	27.60	22.61	28.20
9	1,090	3,053,703	17.15	14.82	17.43
10	1,898	5,623,415	31.59	42.56	30.27

AHS 2019: Analytic Sample, Characteristics of Site-Built Units by How Purchased (Row Percentages)	N	Sum of weights	Weighted percentage	Site-built housing	
				Purchased with cash	Purchased with financing
				Weighted percentage	Weighted percentage
All	6,363	17,803,046	100.00	10.74	89.26
Property value					
Less than \$75,000	558	1,683,239	100.00	20.24	79.76
\$75,000 to \$149,999	1,988	6,039,054	100.00	11.63	88.37
\$150,000 to \$249,999	3,817	10,080,752	100.00	8.62	91.38
Lot size					
Less than 1/8 acre	894	2,164,414	100.00	9.72	90.28
1/8 up to 1/4 acre	2,434	5,985,218	100.00	8.99	91.01
1/4 up to 1/2 acre	1,295	3,936,449	100.00	10.38	89.62
1/2 up to 1 acre	609	1,852,826	100.00	11.04	88.96
1 or more acres	1,131	3,864,139	100.00	14.26	85.74
Owns lot					
Yes	6,342	17,746,470	100.00	10.75	89.25
No	21	56,575	100.00	8.02	91.98
Unit square feet					
Less than 1,000	471	1,304,364	100.00	13.80	86.20
1,000 to 1,499	1,988	5,476,734	100.00	11.39	88.61
1,500 to 1,999	2,006	5,640,867	100.00	9.56	90.44
2,000 to 2,499	1,075	3,050,741	100.00	10.39	89.61
2,500+	823	2,330,338	100.00	10.81	89.19
Number of bedrooms					
<2	72	240,863	100.00	25.75	74.25
2	941	2,715,964	100.00	16.32	83.68
3	3,840	10,626,106	100.00	9.65	90.35
4+	1,510	4,220,112	100.00	9.05	90.95
Number of bathrooms					
1	1,244	3,707,719	100.00	14.03	85.97
1.5	1,044	3,003,972	100.00	8.58	91.42
2	2,652	7,243,080	100.00	11.31	88.69
2.5	956	2,532,523	100.00	7.98	92.02
3+	467	1,315,751	100.00	8.60	91.40
Metro classification					
Metro	5,427	13,955,238	100.00	9.15	90.85
Nonmetro	936	3,847,808	100.00	16.53	83.47

AHS 2019: Analytic Sample, Characteristics of Site-Built Units by How Purchased (Row Percentages)	N	Sum of weights	Weighted percentage	Site-built housing	
				Purchased with cash	Purchased with financing
				Weighted percentage	Weighted percentage
All	6,363	17,803,046	100.00	10.74	89.26
Foundation type					
Basement or crawl space	3,938	11,992,934	100.00	10.57	89.43
Concrete slab or pad	2,425	5,810,112	100.00	11.10	88.90
Year built					
1949 or earlier	1,067	3,226,012	100.00	15.12	84.88
1950 to 1959	927	2,500,134	100.00	9.92	90.08
1960 to 1969	712	2,005,452	100.00	10.54	89.46
1970 to 1979	1,003	2,829,063	100.00	8.19	91.81
1980 to 1989	812	2,236,328	100.00	8.73	91.27
1990 to 1999	756	2,116,861	100.00	13.02	86.98
2000 to 2009	859	2,206,360	100.00	9.80	90.20
2010 or later	227	682,836	100.00	6.80	93.20
Annual maintenance cost					
Less than \$250	2,126	6,114,682	100.00	12.76	87.24
\$250-\$499	1,235	3,496,908	100.00	9.71	90.29
\$500-\$999	1,358	3,747,593	100.00	10.95	89.05
\$1,000-\$1,999	964	2,596,732	100.00	8.70	91.30
\$2,000+	680	1,847,131	100.00	8.47	91.53
Monthly utilities cost					
Less than \$150	588	1,779,603	100.00	17.06	82.94
\$150 to \$249	2,855	8,071,187	100.00	10.79	89.21
\$250 to \$349	1,953	5,253,599	100.00	9.64	90.36
\$350+	967	2,698,656	100.00	8.57	91.43
Unit rating (scale of 1 to 10)					
<=6	463	1,271,698	100.00	13.10	86.90
7	819	2,212,660	100.00	8.55	91.45
8	1,809	5,042,326	100.00	8.35	91.65
9	1,057	2,952,004	100.00	9.22	90.78
10	2,215	6,324,357	100.00	13.65	86.35
Neighborhood rating (scale of 1 to 10)					
<=6	662	1,812,455	100.00	11.00	89.00
7	916	2,399,614	100.00	7.64	92.36
8	1,797	4,913,859	100.00	8.80	91.20
9	1,090	3,053,703	100.00	9.28	90.72
10	1,898	5,623,415	100.00	14.47	85.53

AHS 2019: Analytic Sample, Demographic Characteristics for Site-Built Units by How Purchased (Column Percentages)	N	Sum of weights	Weighted percentage	Site-built housing	
				Purchased with cash	Purchased with financing
				Weighted percentage	Weighted percentage
All	6,363	17,803,046	100.00	100.00	100.00
<b>Age</b>					
<25	60	186,679	1.05	0.86	1.07
25 to 34	708	2,090,460	11.74	5.66	12.47
35 to 54	2,145	5,988,170	33.64	19.75	35.31
55+	3,450	9,537,737	53.57	73.73	51.15
<b>Educational attainment</b>					
Less than high school diploma	585	1,449,376	8.14	12.07	7.67
High school diploma	2,703	7,541,671	42.36	48.38	41.64
Associate's degree or trade school diploma	1,019	3,002,323	16.86	15.88	16.98
Bachelor's degree	1,344	3,851,551	21.63	14.48	22.49
Graduate degree	712	1,958,124	11.00	9.20	11.22
<b>Gender</b>					
Male	3,602	10,079,774	56.62	56.60	56.62
Female	2,761	7,723,272	43.38	43.40	43.38
<b>Race/ethnicity</b>					
White	4,572	13,502,332	75.84	78.76	75.49
Black	710	1,699,139	9.54	7.01	9.85
Hispanic or Latino	822	1,931,215	10.85	10.71	10.86
Asian	162	355,724	2.00	1.16	2.10
Indigenous peoples	33	117,092	0.66	0.64	0.66
Other or unknown	64	197,543	1.11	1.71	1.04
<b>Born in the U.S.</b>					
Yes	5,498	15,902,528	89.32	90.03	89.24
No	865	1,900,517	10.68	9.97	10.76
<b>Language of interview</b>					
English	6,100	17,268,165	97.00	96.07	97.11
Spanish	174	278,530	1.56	2.21	1.49
Other or unknown	89	256,351	1.44	1.73	1.41
<b>First-Time homeowner</b>					
Yes	3,300	9,050,024	50.83	38.11	52.37
No	3,063	8,753,021	49.17	61.89	47.63
<b>Adults in household</b>					
1	1,654	4,561,772	25.62	36.12	24.36
2	3,462	10,019,922	56.28	51.97	56.80
3+	1,247	3,221,352	18.09	11.91	18.84

AHS 2019: Analytic Sample, Demographic Characteristics for Site-Built Units by How Purchased (Row Percentages)	N	Sum of weights	Weighted percentage	Site-built housing	
				Purchased with cash	Purchased with financing
				Weighted percentage	Weighted percentage
All	6,363	17,803,046	100.00	10.74	89.26
<b>Age</b>					
<25	60	186,679	100.00	8.81	91.19
25 to 34	708	2,090,460	100.00	5.18	94.82
35 to 54	2,145	5,988,170	100.00	6.31	93.69
55+	3,450	9,537,737	100.00	14.78	85.22
<b>Educational attainment</b>					
Less than high school diploma	585	1,449,376	100.00	15.92	84.08
High school diploma	2,703	7,541,671	100.00	12.27	87.73
Associate's degree or trade school diploma	1,019	3,002,323	100.00	10.11	89.89
Bachelor's degree	1,344	3,851,551	100.00	7.19	92.81
Graduate degree	712	1,958,124	100.00	8.98	91.02
<b>Gender</b>					
Male	3,602	10,079,774	100.00	10.74	89.26
Female	2,761	7,723,272	100.00	10.75	89.25
<b>Race/ethnicity</b>					
White	4,572	13,502,332	100.00	11.15	88.85
Black	710	1,699,139	100.00	7.90	92.10
Hispanic or Latino	822	1,931,215	100.00	10.61	89.39
Asian	162	355,724	100.00	6.22	93.78
Indigenous peoples	33	117,092	100.00	10.44	89.56
Other or unknown	64	197,543	100.00	16.59	83.41
<b>Born in the U.S.</b>					
Yes	5,498	15,902,528	100.00	10.83	89.17
No	865	1,900,517	100.00	10.03	89.97
<b>Language of interview</b>					
English	6,100	17,268,165	100.00	10.64	89.36
Spanish	174	278,530	100.00	15.16	84.84
Other or unknown	89	256,351	100.00	12.89	87.11
<b>First-Time homeowner</b>					
Yes	3,300	9,050,024	100.00	8.05	91.95
No	3,063	8,753,021	100.00	13.52	86.48
<b>Adults in household</b>					
1	1,654	4,561,772	100.00	15.14	84.86
2	3,462	10,019,922	100.00	9.92	90.08
3+	1,247	3,221,352	100.00	7.07	92.93

AHS 2019: Analytic Sample, Household Income Profile for Site-Built Units by How Purchased (Column Percentages)	N	Sum of weights	Weighted percentage	Site-built housing	
				Purchased with cash	Purchased with financing
				Weighted percentage	Weighted percentage
All	6,363	17,803,046	100.00	100.00	100.00
Household income					
Less than \$75,000	3,561	9,934,111	55.80	77.03	53.24
\$75,000 to \$149,999	2,241	6,300,744	35.39	18.15	37.47
\$150,000+	561	1,568,191	8.81	4.81	9.29
Household income as % of poverty level					
Less than 100%	488	1,276,118	7.17	14.26	6.31
100-199%	882	2,387,845	13.41	22.64	12.30
200-299%	1,093	3,113,475	17.49	22.76	16.85
300-399%	1,094	3,164,462	17.77	13.90	18.24
400%+	2,806	7,861,146	44.16	26.44	46.29
Household receives wage income					
Yes	4,719	13,285,139	74.62	51.26	77.43
No	1,644	4,517,907	25.38	48.74	22.57
Household receives self-employment income					
Yes	649	1,900,405	10.67	7.90	11.01
No	5,714	15,902,641	89.33	92.10	88.99
Household receives retirement income					
Yes	2,428	6,641,996	37.31	55.27	35.15
No	3,935	11,161,049	62.69	44.73	64.85
Household receives interest/dividend/rental income					
Yes	1,324	3,795,354	21.32	23.23	21.09
No	5,039	14,007,692	78.68	76.77	78.91
Household receives public assistance					
Yes	266	700,611	3.94	5.92	3.70
No	6,097	17,102,435	96.06	94.08	96.30
Household receives nutrition assistance					
Yes	266	728,679	4.09	4.43	4.05
No	6,097	17,074,367	95.91	95.57	95.95



AHS 2019: Analytic Sample, Household Income Profile for Site-Built Units by How Purchased (Row Percentages)	N	Sum of weights	Weighted percentage	Site-built housing	
				Purchased with cash	Purchased with financing
				Weighted percentage	Weighted percentage
All	6,363	17,803,046	100.00	10.74	89.26
Household income					
Less than \$75,000	3,561	9,934,111	100.00	14.83	85.17
\$75,000 to \$149,999	2,241	6,300,744	100.00	5.51	94.49
\$150,000+	561	1,568,191	100.00	5.87	94.13
Household income as % of poverty level					
Less than 100%	488	1,276,118	100.00	21.37	78.63
100-199%	882	2,387,845	100.00	18.13	81.87
200-299%	1,093	3,113,475	100.00	13.98	86.02
300-399%	1,094	3,164,462	100.00	8.40	91.60
400%+	2,806	7,861,146	100.00	6.43	93.57
Household receives wage income					
Yes	4,719	13,285,139	100.00	7.38	92.62
No	1,644	4,517,907	100.00	20.63	79.37
Household receives self-employment income					
Yes	649	1,900,405	100.00	7.95	92.05
No	5,714	15,902,641	100.00	11.08	88.92
Household receives retirement income					
Yes	2,428	6,641,996	100.00	15.91	84.09
No	3,935	11,161,049	100.00	7.66	92.34
Household receives interest/dividend/rental income					
Yes	1,324	3,795,354	100.00	11.70	88.30
No	5,039	14,007,692	100.00	10.48	89.52
Household receives public assistance					
Yes	266	700,611	100.00	16.17	83.83
No	6,097	17,102,435	100.00	10.52	89.48
Household receives nutrition assistance					
Yes	266	728,679	100.00	11.63	88.37
No	6,097	17,074,367	100.00	10.70	89.30

AHS 2019: Analytic Sample, Respondent Race/Ethnicity for Site-Built Units by How Purchased and Metro Classification (Column Percentages)	N	Sum of weights	Weighted percentage	Site-built housing			
				Metro		Nonmetro	
				Purchased with cash	Purchased with financing	Purchased with cash	Purchased with financing
				Weighted percentage	Weighted percentage	Weighted percentage	Weighted percentage
All	6,363	17,803,046	100.00	100.00	100.00	100.00	100.00
Race/ethnicity							
White	4,572	13,502,332	75.84	74.24	72.54	87.84	87.14
Black	710	1,699,139	9.54	9.21	11.19	2.62	4.55
Hispanic or Latino	822	1,931,215	10.85	14.12	12.10	3.89	5.98
Asian	162	355,724	2.00	1.18	2.53	1.11	0.39
Indigenous peoples	33	117,092	0.66	.	0.56	1.92	1.04
Other or unknown	64	197,543	1.11	1.26	1.07	2.62	0.89

AHS 2019: Analytic Sample, Demographic Characteristics for Site-Built Units by How Purchased and Metro Classification (Row Percentages)		N	Sum of weights	Weighted percentage	Site-built housing	
					Purchased with cash	Purchased with financing
					Weighted percentage	Weighted percentage
All		6,363	17,803,046	100.00	10.74	89.26
	Race/ethnicity					
Metro	White	3,733	10,144,797	100.00	9.34	90.66
	Black	676	1,536,241	100.00	7.65	92.35
	Hispanic or Latino	783	1,714,364	100.00	10.51	89.49
	Asian	157	336,189	100.00	4.48	95.52
	Indigenous peoples	23	71,460	100.00	.	100.00
	Other or unknown	55	152,186	100.00	10.57	89.43
Nonmetro	White	839	3,357,535	100.00	16.64	83.36
	Black	34	162,897	100.00	10.22	89.78
	Hispanic or Latino	39	216,851	100.00	11.40	88.60
	Asian	5	19,535	100.00	36.26	63.74
	Indigenous peoples	10	45,632	100.00	26.78	73.22
	Other or unknown	9	45,358	100.00	36.79	63.21

AHS 2019: Analytic Sample, Poverty and Public Assistance for Site-Built Units by How Purchased and Metro Classification (Column Percentages)	N	Sum of weights	Weighted percentage	Site-built housing			
				Metro		Nonmetro	
				Purchased with cash	Purchased with financing	Purchased with cash	Purchased with financing
				Weighted percentage	Weighted percentage	Weighted percentage	Weighted percentage
All	6,363	17,803,046	100.00	100.00	100.00	100.00	100.00
Household income							
Less than \$75,000	3,561	9,934,111	55.80	75.08	51.96	80.96	58.30
\$75,000 to \$149,999	2,241	6,300,744	35.39	19.79	38.59	14.86	33.03
\$150,000+	561	1,568,191	8.81	5.13	9.45	4.18	8.67
Household income as % of poverty level							
Less than 100%	488	1,276,118	7.17	14.46	6.31	13.84	6.32
100-199%	882	2,387,845	13.41	21.29	12.07	25.35	13.23
200-299%	1,093	3,113,475	17.49	22.82	16.52	22.64	18.17
300-399%	1,094	3,164,462	17.77	13.54	17.72	14.63	20.29
400%+	2,806	7,861,146	44.16	27.88	47.38	23.54	41.98
Household receives public assistance							
Yes	266	700,611	3.94	7.37	3.71	3.01	3.66
No	6,097	17,102,435	96.06	92.63	96.29	96.99	96.34
Household receives nutrition assistance							
Yes	266	728,679	4.09	4.54	3.62	4.22	5.76
No	6,097	17,074,367	95.91	95.46	96.38	95.78	94.24

AHS 2019: Analytic Sample, Poverty and Public Assistance for Site-Built Units by How Purchased and Metro Classification (Row Percentages)		N	Sum of weights	Weighted percentage	Site-built housing		
					Purchased with cash	Purchased with financing	
					Weighted percentage	Weighted percentage	
All		6,363	17,803,046	100.00	10.74	89.26	
	Household income						
Metro	Less than \$75,000	2,970	7,546,659	100.00	12.70	87.30	
	\$75,000 to \$149,999	1,963	5,145,455	100.00	4.91	95.09	
	\$150,000+	494	1,263,124	100.00	5.18	94.82	
	Household income as % of poverty level						
	Less than 100%	420	984,969	100.00	18.74	81.26	
	100-199%	731	1,801,627	100.00	15.08	84.92	
	200-299%	909	2,385,854	100.00	12.21	87.79	
	300-399%	914	2,419,790	100.00	7.14	92.86	
	400%+	2,453	6,362,998	100.00	5.59	94.41	
	Household receives public assistance						
	Yes	234	564,028	100.00	16.69	83.31	
	No	5,193	13,391,210	100.00	8.83	91.17	
	Household receives nutrition assistance						
	Yes	221	516,716	100.00	11.21	88.79	
	No	5,206	13,438,522	100.00	9.07	90.93	
Nonmetro	Household income						
	Less than \$75,000	591	2,387,452	100.00	21.57	78.43	
	\$75,000 to \$149,999	278	1,155,289	100.00	8.18	91.82	
	\$150,000+	67	305,067	100.00	8.72	91.28	
	Household income as % of poverty level						
	Less than 100%	68	291,149	100.00	30.24	69.76	
	100-199%	151	586,218	100.00	27.50	72.50	
	200-299%	184	727,621	100.00	19.79	80.21	
	300-399%	180	744,673	100.00	12.49	87.51	
	400%+	353	1,498,148	100.00	9.99	90.01	
	Household receives public assistance						
	Yes	32	136,583	100.00	14.03	85.97	
	No	904	3,711,225	100.00	16.62	83.38	
	Household receives nutrition assistance						
	Yes	45	211,963	100.00	12.66	87.34	
No	891	3,635,845	100.00	16.75	83.25		

AHS 2019: Analytic Sample, Characteristics of Manufactured Units by How Purchased (Column Percentages)	N	Sum of weights	Weighted percentage	Manufactured housing	
				Purchased with cash	Purchased with financing
				Weighted percentage	Weighted percentage
All	891	2,392,024	100.00	100.00	100.00
Property value					
Less than \$75,000	659	1,797,482	75.14	79.07	72.83
\$75,000 to \$149,999	183	471,696	19.72	16.74	21.48
\$150,000 to \$249,999	49	122,846	5.14	4.19	5.69
Lot size					
Less than 1/8 acre	196	419,510	17.54	20.95	15.53
1/8 up to 1/4 acre	98	213,617	8.93	9.35	8.68
1/4 up to 1/2 acre	79	221,655	9.27	10.98	8.26
1/2 up to 1 acre	87	285,931	11.95	9.92	13.15
1 or more acres	431	1,251,310	52.31	48.80	54.38
Owns lot					
Yes	490	1,451,649	60.69	51.62	66.04
No	401	940,375	39.31	48.38	33.96
Unit square feet					
Less than 1,000	264	705,615	29.50	41.20	22.59
1,000 to 1,499	368	1,005,708	42.04	42.26	41.92
1,500 to 1,999	170	438,685	18.34	12.04	22.06
2,000 to 2,499	68	180,297	7.54	3.52	9.91
2,500+	21	61,719	2.58	0.97	3.53
Number of bedrooms					
<2	54	138,815	5.80	9.69	3.51
2	308	763,107	31.90	44.49	24.47
3	451	1,290,025	53.93	41.41	61.32
4+	78	200,078	8.36	4.41	10.70
Number of bathrooms					
1	198	507,022	21.20	33.56	13.90
1.5	62	172,064	7.19	5.98	7.91
2	597	1,630,533	68.17	59.53	73.26
2.5	15	37,931	1.59	0.30	2.35
3+	19	44,474	1.86	0.63	2.58
Metro classification					
Metro	676	1,517,499	63.44	65.53	62.21
Nonmetro	215	874,525	36.56	34.47	37.79

AHS 2019: Analytic Sample, Characteristics of Manufactured Units by How Purchased (Column Percentages)	N	Sum of weights	Weighted percentage	Manufactured housing	
				Purchased with cash	Purchased with financing
				Weighted percentage	Weighted percentage
All	891	2,392,024	100.00	100.00	100.00
Foundation type					
Masonry	185	517,535	21.64	14.66	25.75
Concrete slab or pad	186	488,201	20.41	22.02	19.46
Blocks	520	1,386,288	57.95	63.32	54.78
Year built					
1949 or earlier	1	3,245	0.14	.	0.22
1950 to 1959	5	9,412	0.39	0.89	0.10
1960 to 1969	58	155,258	6.49	10.40	4.18
1970 to 1979	162	371,034	15.51	23.78	10.63
1980 to 1989	179	469,748	19.64	23.74	17.22
1990 to 1999	263	745,614	31.17	23.38	35.77
2000 to 2009	159	446,661	18.67	15.10	20.78
2010 or later	64	191,053	7.99	2.71	11.10
Annual maintenance cost					
Less than \$250	409	1,152,952	48.20	48.33	48.12
\$250-\$499	187	457,262	19.12	21.60	17.65
\$500-\$999	139	347,631	14.53	11.27	16.46
\$1,000-\$1,999	104	286,404	11.97	10.20	13.02
\$2,000+	52	147,774	6.18	8.61	4.74
Monthly utilities cost					
Less than \$150	273	721,949	30.18	38.23	25.43
\$150 to \$249	386	1,058,716	44.26	44.10	44.35
\$250 to \$349	157	432,487	18.08	11.96	21.69
\$350+	75	178,872	7.48	5.71	8.52
Unit rating (scale of 1 to 10)					
<=6	147	370,073	15.47	21.27	12.05
7	128	343,436	14.36	16.05	13.36
8	209	571,577	23.90	19.31	26.60
9	105	279,396	11.68	11.95	11.52
10	302	827,542	34.60	31.43	36.47
Neighborhood rating (scale of 1 to 10)					
<=6	150	396,714	16.58	21.64	13.60
7	116	270,199	11.30	11.42	11.22
8	193	513,046	21.45	17.82	23.59
9	115	308,296	12.89	11.46	13.73
10	317	903,769	37.78	37.65	37.86

AHS 2019: Analytic Sample, Characteristics of Manufactured Units by How Purchased (Row Percentages)	N	Sum of weights	Weighted percentage	Manufactured housing	
				Purchased with cash	Purchased with financing
				Weighted percentage	Weighted percentage
All	891	2,392,024	100.00	37.12	62.88
Property value					
Less than \$75,000	659	1,797,482	100.00	39.06	60.94
\$75,000 to \$149,999	183	471,696	100.00	31.51	68.49
\$150,000 to \$249,999	49	122,846	100.00	30.28	69.72
Lot size					
Less than 1/8 acre	196	419,510	100.00	44.33	55.67
1/8 up to 1/4 acre	98	213,617	100.00	38.88	61.12
1/4 up to 1/2 acre	79	221,655	100.00	43.97	56.03
1/2 up to 1 acre	87	285,931	100.00	30.82	69.18
1 or more acres	431	1,251,310	100.00	34.63	65.37
Owns lot					
Yes	490	1,451,649	100.00	31.57	68.43
No	401	940,375	100.00	45.68	54.32
Unit square feet					
Less than 1,000	264	705,615	100.00	51.85	48.15
1,000 to 1,499	368	1,005,708	100.00	37.31	62.69
1,500 to 1,999	170	438,685	100.00	24.38	75.62
2,000 to 2,499	68	180,297	100.00	17.35	82.65
2,500+	21	61,719	100.00	13.94	86.06
Number of bedrooms					
<2	54	138,815	100.00	61.96	38.04
2	308	763,107	100.00	51.77	48.23
3	451	1,290,025	100.00	28.50	71.50
4+	78	200,078	100.00	19.57	80.43
Number of bathrooms					
1	198	507,022	100.00	58.78	41.22
1.5	62	172,064	100.00	30.84	69.16
2	597	1,630,533	100.00	32.42	67.58
2.5	15	37,931	100.00	6.95	93.05
3+	19	44,474	100.00	12.67	87.33
Metro classification					
Metro	676	1,517,499	100.00	38.34	61.66
Nonmetro	215	874,525	100.00	35.00	65.00



AHS 2019: Analytic Sample, Characteristics of Manufactured Units by How Purchased (Row Percentages)	N	Sum of weights	Weighted percentage	Manufactured housing	
				Purchased with cash	Purchased with financing
				Weighted percentage	Weighted percentage
All	891	2,392,024	100.00	37.12	62.88
Foundation type					
Masonry	185	517,535	100.00	25.15	74.85
Concrete slab or pad	186	488,201	100.00	40.04	59.96
Blocks	520	1,386,288	100.00	40.56	59.44
Year built					
1949 or earlier	1	3,245	100.00	.	100.00
1950 to 1959	5	9,412	100.00	83.72	16.28
1960 to 1969	58	155,258	100.00	59.46	40.54
1970 to 1979	162	371,034	100.00	56.92	43.08
1980 to 1989	179	469,748	100.00	44.88	55.12
1990 to 1999	263	745,614	100.00	27.85	72.15
2000 to 2009	159	446,661	100.00	30.01	69.99
2010 or later	64	191,053	100.00	12.59	87.41
Annual maintenance cost					
Less than \$250	409	1,152,952	100.00	37.22	62.78
\$250-\$499	187	457,262	100.00	41.94	58.06
\$500-\$999	139	347,631	100.00	28.78	71.22
\$1,000-\$1,999	104	286,404	100.00	31.61	68.39
\$2,000+	52	147,774	100.00	51.71	48.29
Monthly utilities cost					
Less than \$150	273	721,949	100.00	47.02	52.98
\$150 to \$249	386	1,058,716	100.00	36.99	63.01
\$250 to \$349	157	432,487	100.00	24.55	75.45
\$350+	75	178,872	100.00	28.34	71.66
Unit rating (scale of 1 to 10)					
<=6	147	370,073	100.00	51.03	48.97
7	128	343,436	100.00	41.49	58.51
8	209	571,577	100.00	30.00	70.00
9	105	279,396	100.00	37.96	62.04
10	302	827,542	100.00	33.72	66.28
Neighborhood rating (scale of 1 to 10)					
<=6	150	396,714	100.00	48.44	51.56
7	116	270,199	100.00	37.53	62.47
8	193	513,046	100.00	30.85	69.15
9	115	308,296	100.00	33.01	66.99
10	317	903,769	100.00	36.99	63.01

AHS 2019: Analytic Sample, Demographic Characteristics for Manufactured Units by How Purchased (Column Percentages)	N	Sum of weights	Weighted percentage	Manufactured housing	
				Purchased with cash	Purchased with financing
				Weighted percentage	Weighted percentage
All	891	2,392,024	100.00	100.00	100.00
<b>Age</b>					
<25	23	63,428	2.65	2.40	2.80
25 to 34	72	221,572	9.26	9.03	9.40
35 to 54	263	739,019	30.90	23.92	35.02
55+	533	1,368,004	57.19	64.66	52.78
<b>Educational attainment</b>					
Less than high school diploma	194	486,723	20.35	21.91	19.43
High school diploma	474	1,246,523	52.11	49.37	53.73
Associate's degree or trade school diploma	137	409,130	17.10	17.23	17.03
Bachelor's degree	66	196,229	8.20	9.14	7.65
Graduate degree	20	53,419	2.23	2.35	2.17
<b>Gender</b>					
Male	478	1,316,501	55.04	53.89	55.71
Female	413	1,075,523	44.96	46.11	44.29
<b>Race/ethnicity</b>					
White	657	1,850,766	77.37	82.36	74.43
Black	41	137,065	5.73	3.40	7.10
Hispanic or Latino	161	301,842	12.62	10.66	13.78
Asian	5	12,975	0.54	0.59	0.51
Indigenous peoples	15	47,960	2.00	1.34	2.40
Other or unknown	12	41,417	1.73	1.65	1.78
<b>Born in the U.S.</b>					
Yes	749	2,124,570	88.82	89.84	88.21
No	142	267,454	11.18	10.16	11.79
<b>Language of interview</b>					
English	827	2,282,772	95.43	95.18	95.58
Spanish	52	73,008	3.05	3.58	2.74
Other or unknown	12	36,245	1.52	1.24	1.68
<b>First-Time homeowner</b>					
Yes	387	1,066,303	44.58	40.15	47.19
No	504	1,325,721	55.42	59.85	52.81
<b>Adults in household</b>					
1	316	851,861	35.61	46.13	29.40
2	419	1,157,078	48.37	42.61	51.77
3+	156	383,085	16.02	11.26	18.82

AHS 2019: Analytic Sample, Demographic Characteristics for Manufactured Units by How Purchased (Row Percentages)	N	Sum of weights	Weighted percentage	Manufactured housing	
				Purchased with cash	Purchased with financing
				Weighted percentage	Weighted percentage
All	891	2,392,024	100.00	37.12	62.88
<b>Age</b>					
<25	23	63,428	100.00	33.60	66.40
25 to 34	72	221,572	100.00	36.17	63.83
35 to 54	263	739,019	100.00	28.73	71.27
55+	533	1,368,004	100.00	41.97	58.03
<b>Educational attainment</b>					
Less than high school diploma	194	486,723	100.00	39.97	60.03
High school diploma	474	1,246,523	100.00	35.17	64.83
Associate's degree or trade school diploma	137	409,130	100.00	37.39	62.61
Bachelor's degree	66	196,229	100.00	41.37	58.63
Graduate degree	20	53,419	100.00	39.01	60.99
<b>Gender</b>					
Male	478	1,316,501	100.00	36.35	63.65
Female	413	1,075,523	100.00	38.06	61.94
<b>Race/ethnicity</b>					
White	657	1,850,766	100.00	39.51	60.49
Black	41	137,065	100.00	22.04	77.96
Hispanic or Latino	161	301,842	100.00	31.36	68.64
Asian	5	12,975	100.00	40.52	59.48
Indigenous peoples	15	47,960	100.00	24.85	75.15
Other or unknown	12	41,417	100.00	35.32	64.68
<b>Born in the U.S.</b>					
Yes	749	2,124,570	100.00	37.55	62.45
No	142	267,454	100.00	33.72	66.28
<b>Language of interview</b>					
English	827	2,282,772	100.00	37.02	62.98
Spanish	52	73,008	100.00	43.59	56.41
Other or unknown	12	36,245	100.00	30.36	69.64
<b>First-Time homeowner</b>					
Yes	387	1,066,303	100.00	33.43	66.57
No	504	1,325,721	100.00	40.09	59.91
<b>Adults in household</b>					
1	316	851,861	100.00	48.08	51.92
2	419	1,157,078	100.00	32.70	67.30
3+	156	383,085	100.00	26.10	73.90

AHS 2019: Analytic Sample, Household Income Profile for Manufactured Units by How Purchased (Column Percentages)	N	Sum of weights	Weighted percentage	Manufactured housing	
				Purchased with cash	Purchased with financing
				Weighted percentage	Weighted percentage
All	891	2,392,024	100.00	100.00	100.00
Household income					
Less than \$75,000	721	1,921,376	80.32	88.00	75.79
\$75,000 to \$149,999	149	406,606	17.00	10.77	20.67
\$150,000+	21	64,042	2.68	1.23	3.53
Household income as % of poverty level					
Less than 100%	162	440,047	18.40	21.38	16.63
100-199%	246	617,917	25.83	27.86	24.63
200-299%	186	511,489	21.38	26.05	18.63
300-399%	131	385,521	16.12	11.97	18.56
400%+	166	437,050	18.27	12.73	21.54
Household receives wage income					
Yes	536	1,479,887	61.87	51.10	68.23
No	355	912,137	38.13	48.90	31.77
Household receives self-employment income					
Yes	79	211,899	8.86	6.53	10.23
No	812	2,180,125	91.14	93.47	89.77
Household receives retirement income					
Yes	432	1,095,264	45.79	52.13	42.05
No	459	1,296,760	54.21	47.87	57.95
Household receives interest/dividend/rental income					
Yes	106	323,340	13.52	12.99	13.83
No	785	2,068,684	86.48	87.01	86.17
Household Receives public assistance					
Yes	85	219,658	9.18	12.61	7.16
No	806	2,172,366	90.82	87.39	92.84
Household receives nutrition assistance					
Yes	100	265,792	11.11	14.25	9.26
No	791	2,126,231	88.89	85.75	90.74

AHS 2019: Analytic Sample, Household Income Profile for Manufactured Units by How Purchased (Row Percentages)	N	Sum of weights	Weighted percentage	Manufactured housing	
				Purchased with cash	Purchased with financing
				Weighted percentage	Weighted percentage
All	891	2,392,024	100.00	37.12	62.88
Household income					
Less than \$75,000	721	1,921,376	100.00	40.67	59.33
\$75,000 to \$149,999	149	406,606	100.00	23.52	76.48
\$150,000+	21	64,042	100.00	17.07	82.93
Household income as % of poverty level					
Less than 100%	162	440,047	100.00	43.14	56.86
100-199%	246	617,917	100.00	40.03	59.97
200-299%	186	511,489	100.00	45.22	54.78
300-399%	131	385,521	100.00	27.58	72.42
400%+	166	437,050	100.00	25.87	74.13
Household receives wage income					
Yes	536	1,479,887	100.00	30.66	69.34
No	355	912,137	100.00	47.61	52.39
Household receives self-employment income					
Yes	79	211,899	100.00	27.38	72.62
No	812	2,180,125	100.00	38.07	61.93
Household receives retirement income					
Yes	432	1,095,264	100.00	42.26	57.74
No	459	1,296,760	100.00	32.78	67.22
Household receives interest/dividend/rental income					
Yes	106	323,340	100.00	35.66	64.34
No	785	2,068,684	100.00	37.35	62.65
Household receives public assistance					
Yes	85	219,658	100.00	50.98	49.02
No	806	2,172,366	100.00	35.72	64.28
Household receives nutrition assistance					
Yes	100	265,792	100.00	47.62	52.38
No	791	2,126,231	100.00	35.81	64.19

AHS 2019: Analytic Sample, Respondent Race/Ethnicity for Manufactured Units by How Purchased and Metro Classification (Column Percentages)	N	Sum of weights	Weighted percentage	Manufactured housing			
				Metro		Nonmetro	
				Purchased with cash	Purchased with financing	Purchased with cash	Purchased with financing
				Weighted percentage	Weighted percentage	Weighted percentage	Weighted percentage
All	891	2,392,024	100.00	100.00	100.00	100.00	100.00
Race/ethnicity							
White	657	1,850,766	77.37	80.52	71.77	85.84	78.82
Black	41	137,065	5.73	2.46	5.77	5.19	9.29
Hispanic or Latino	161	301,842	12.62	15.18	18.55	2.06	5.92
Asian	5	12,975	0.54	0.90	0.82	.	.
Indigenous peoples	15	47,960	2.00	0.07	1.09	3.75	4.54
Other or unknown	12	41,417	1.73	0.85	1.99	3.16	1.43

AHS 2019: Analytic Sample, Demographic Characteristics for Manufactured Units by How Purchased and Metro Classification (Row Percentages)		N	Sum of weights	Weighted percentage	Manufactured housing	
					Purchased with cash	Purchased with financing
					Weighted percentage	Weighted percentage
All		891	2,392,024	100.00	37.12	62.88
	Race/ethnicity					
Metro	White	481	1,140,005	100.00	41.10	58.90
	Black	24	68,345	100.00	20.95	79.05
	Hispanic or Latino	151	261,913	100.00	33.73	66.27
	Asian	5	12,975	100.00	40.52	59.48
	Indigenous peoples	6	10,642	100.00	4.08	95.92
	Other or unknown	9	23,618	100.00	20.98	79.02
Nonmetro	White	176	710,761	100.00	36.96	63.04
	Black	17	68,719	100.00	23.13	76.87
	Hispanic or Latino	10	39,929	100.00	15.78	84.22
	Indigenous peoples	9	37,318	100.00	30.77	69.23
	Other or unknown	3	17,799	100.00	54.35	45.65

AHS 2019: Analytic Sample, Poverty and Public Assistance for Manufactured Units by How Purchased and Metro Classification (Column Percentages)	N	Sum of weights	Weighted percentage	Manufactured housing			
				Metro		Nonmetro	
				Purchased with cash	Purchased with financing	Purchased with cash	Purchased with financing
				Weighted percentage	Weighted percentage	Weighted percentage	Weighted percentage
All	891	2,392,024	100.00	100.00	100.00	100.00	100.00
Household income							
Less than \$75,000	721	1,921,376	80.32	88.15	76.58	87.72	74.50
\$75,000 to \$149,999	149	406,606	17.00	9.98	21.47	12.28	19.36
\$150,000+	21	64,042	2.68	1.88	1.95	.	6.14
Household income as % of poverty level							
Less than 100%	162	440,047	18.40	21.17	15.63	21.78	18.29
100-199%	246	617,917	25.83	29.31	24.83	25.10	24.32
200-299%	186	511,489	21.38	24.39	19.15	29.19	17.77
300-399%	131	385,521	16.12	11.01	19.11	13.80	17.67
400%+	166	437,050	18.27	14.11	21.29	10.12	21.95
Household receives public assistance							
Yes	85	219,658	9.18	12.51	7.87	12.81	5.99
No	806	2,172,366	90.82	87.49	92.13	87.19	94.01
Household receives nutrition assistance							
Yes	100	265,792	11.11	13.72	10.35	15.27	7.45
No	791	2,126,231	88.89	86.28	89.65	84.73	92.55



AHS 2019: Analytic Sample, Poverty and Public Assistance for Manufactured Units by How Purchased and Metro Classification (Row Percentages)		N	Sum of weights	Weighted percentage	Manufactured housing	
					Purchased with cash	Purchased with financing
					Weighted percentage	Weighted percentage
All		891	2,392,024	100.00	37.12	62.88
	Household income					
Metro	Less than \$75,000	550	1,229,402	100.00	41.72	58.28
	\$75,000 to \$149,999	112	258,948	100.00	22.41	77.59
	\$150,000+	14	29,149	100.00	37.50	62.50
	Household income as % of poverty level					
	Less than 100%	120	269,388	100.00	45.73	54.27
	100-199%	193	402,871	100.00	42.34	57.66
	200-299%	140	321,115	100.00	44.20	55.80
	300-399%	97	242,843	100.00	26.39	73.61
	400%+	126	281,282	100.00	29.18	70.82
	Household receives public assistance					
	Yes	66	146,432	100.00	49.70	50.30
	No	610	1,371,067	100.00	37.13	62.87
	Household receives nutrition assistance					
	Yes	77	176,699	100.00	45.17	54.83
No	599	1,340,800	100.00	37.44	62.56	
Nonmetro	Household income					
	Less than \$75,000	171	691,974	100.00	38.80	61.20
	\$75,000 to \$149,999	37	147,658	100.00	25.46	74.54
	\$150,000+	7	34,893	100.00	.	100.00
	Household income as % of poverty level					
	Less than 100%	42	170,659	100.00	39.06	60.94
	100-199%	53	215,046	100.00	35.73	64.27
	200-299%	46	190,374	100.00	46.94	53.06
	300-399%	34	142,678	100.00	29.61	70.39
	400%+	40	155,767	100.00	19.89	80.11
	Household receives public assistance					
	Yes	19	73,226	100.00	53.53	46.47
	No	196	801,299	100.00	33.31	66.69
	Household receives nutrition assistance					
Yes	23	89,093	100.00	52.47	47.53	
No	192	785,432	100.00	33.02	66.98	

## Appendix C: AHS 2019 Cash Purchase Results, Multivariate Tables

**2019 AHS: Probit Estimation Results Predicting Cash Purchase for Site-Built Units - Specification SB1**

cash	Coef.	St.Err.	t-value	p-value	95% Conf	Interval	Sig
logpropval	-.218	.038	-5.75	0	-.293	-.144	***
firsthome	-.207	.048	-4.26	0	-.302	-.112	***
age: base <35	0	.	.	.	.	.	
35 to 54	.084	.092	0.91	.364	-.097	.264	
55+	.302	.096	3.15	.002	.114	.489	***
education : base	0	.	.	.	.	.	
Less than high school diploma							
High school diploma	-.119	.077	-1.55	.121	-.269	.031	
Associate's degree or trade school diploma	-.187	.09	-2.08	.038	-.364	-.011	**
Bachelor's degree	-.227	.09	-2.52	.012	-.405	-.05	**
Graduate degree	-.122	.102	-1.20	.23	-.321	.077	
race : base White	0	.	.	.	.	.	
Black	-.139	.077	-1.79	.073	-.291	.013	*
Hispanic or Latino	.001	.075	0.01	.988	-.146	.149	
Asian	-.056	.153	-0.36	.716	-.356	.245	
Indigenous peoples	-.173	.332	-0.52	.602	-.823	.477	
Other or unknown	.206	.202	1.02	.309	-.19	.602	
gender: base Male	0	.	.	.	.	.	
Female	-.025	.046	-0.55	.58	-.115	.064	
adults : base 1	0	.	.	.	.	.	
2	-.157	.052	-3.03	.002	-.259	-.056	***
3+	-.316	.071	-4.47	0	-.455	-.178	***
incpctpov : base	0	.	.	.	.	.	
Less than 100%							
100-199%	-.087	.085	-1.03	.303	-.254	.079	
200-299%	-.259	.086	-3.02	.003	-.428	-.091	***
300-399%	-.416	.09	-4.65	0	-.592	-.241	***
400%+	-.515	.083	-6.22	0	-.677	-.352	***
selfemployinc	-.005	.077	-0.06	.953	-.156	.146	
retirementinc	.122	.058	2.10	.036	.008	.237	**
investmentinc	.005	.057	0.08	.934	-.106	.116	
pubassistanceinc	.163	.102	1.60	.109	-.037	.363	
foodstamps	-.174	.113	-1.53	.125	-.396	.048	
metroclass : base	0	.	.	.	.	.	
Metro							
Nonmetro	.213	.059	3.62	0	.097	.328	***
1949 or earlier	0	.	.	.	.	.	
1950 to 1959	-.17	.078	-2.20	.028	-.322	-.018	**
1960 to 1969	-.124	.083	-1.49	.136	-.287	.039	
1970 to 1979	-.205	.078	-2.63	.009	-.357	-.052	***
1980 to 1989	-.167	.083	-2.01	.044	-.33	-.004	**
1990 to 1999	-.026	.083	-0.31	.754	-.189	.137	
2000 to 2009	-.067	.082	-0.81	.417	-.228	.095	
2010 or later	-.103	.139	-0.75	.455	-.375	.168	
rateunit	.006	.02	0.30	.761	-.033	.046	
rateneigh	.038	.018	2.07	.039	.002	.073	**
Constant	1.496	.458	3.27	.001	.599	2.393	***
Mean dependent var		0.107	SD dependent var			0.309	
Pseudo r-squared		0.088	Number of obs			6363.000	
Chi-square		380.666	Prob > chi2			0.000	
Akaike crit. (AIC)		4017.108	Bayesian crit. (BIC)			4260.405	

\*\*\* $p < .01$ , \*\* $p < .05$ , \* $p < .1$

**2019 AHS: Average Marginal Effects for Probit Predicting Cash Purchase for Site-Built Units – Specification SB1**

Average marginal effects

Number of obs = 6,363

Model VCE : OIM

Expression : Pr(cash), predict()

dy/dx w.r.t. : logpropval firsthome 2.age 3.age 2.education 3.education 4.education 5.education 2.race 3.race 4.race 5.race

6.race 2.gender 2.adults 3.adults 2.incpctpov 3.incpctpov 4.incpctpov

5.incpctpov selfemployinc retirementinc investmentinc pubassistanceinc foodstamps 2.metroclass

1950.yearbuilt 1960.yearbuilt 1970.yearbuilt 1980.yearbuilt 1990.yearbuilt

2000.yearbuilt 2010.yearbuilt rateunit rateneigh

	Delta-method					
	dy/dx	Std.Err.	z	P>z	95%Conf.	Interval
logpropval	-0.037	0.006	-5.760	0.000	-0.049	-0.024
firsthome	-0.035	0.008	-4.260	0.000	-0.051	-0.019
age						
35 to 54	0.012	0.012	0.940	0.349	-0.013	0.036
55+	0.048	0.014	3.530	0.000	0.021	0.074
education						
High school diploma	-0.022	0.015	-1.480	0.138	-0.051	0.007
Associate's degree or trade school diploma	-0.033	0.016	-2.020	0.043	-0.066	-0.001
Bachelor's degree	-0.040	0.016	-2.420	0.016	-0.072	-0.007
Graduate degree	-0.022	0.019	-1.200	0.232	-0.059	0.014
race						
Black	-0.022	0.012	-1.910	0.057	-0.045	0.001
Hispanic or Latino	0.000	0.013	0.010	0.988	-0.025	0.025
Asian	-0.009	0.025	-0.370	0.708	-0.058	0.039
Indigenous peoples	-0.027	0.046	-0.580	0.562	-0.117	0.064
Other or unknown	0.039	0.043	0.920	0.357	-0.044	0.123
gender						
Female	-0.004	0.008	-0.550	0.579	-0.019	0.011
adults						
2	-0.029	0.010	-2.950	0.003	-0.048	-0.010
3+	-0.053	0.011	-4.630	0.000	-0.075	-0.030
incpctpov						
100-199%	-0.020	0.020	-1.020	0.309	-0.059	0.019
200-299%	-0.055	0.019	-2.880	0.004	-0.093	-0.018
300-399%	-0.082	0.019	-4.310	0.000	-0.120	-0.045
400%+	-0.096	0.018	-5.300	0.000	-0.132	-0.061
selfemployinc						
retirementinc	-0.001	0.013	-0.060	0.953	-0.026	0.025
investmentinc	0.021	0.010	2.100	0.036	0.001	0.040
pubassistanceinc	0.001	0.010	0.080	0.934	-0.018	0.020
foodstamps	0.027	0.017	1.600	0.109	-0.006	0.061
	-0.029	0.019	-1.530	0.125	-0.067	0.008
metroclass						
Nonmetro	0.039	0.012	3.350	0.001	0.016	0.062
yearbuilt						

1950 to 1959	-0.029	0.013	-2.210	0.027	-0.056	-0.003
1960 to 1969	-0.022	0.015	-1.510	0.131	-0.050	0.007
1970 to 1979	-0.035	0.013	-2.640	0.008	-0.060	-0.009
1980 to 1989	-0.029	0.014	-2.040	0.041	-0.057	-0.001
1990 to 1999	-0.005	0.016	-0.310	0.753	-0.035	0.026
2000 to 2009	-0.012	0.015	-0.820	0.415	-0.042	0.017
2010 or later	-0.019	0.024	-0.780	0.437	-0.065	0.028
rateunit	0.001	0.003	0.300	0.761	-0.006	0.008
rateneigh	0.006	0.003	2.070	0.039	0.000	0.012

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Note:  $dy/dx$  for factor levels is the discrete change from the base level.

**2019 AHS: Probit Estimation Results Predicting Cash Purchase for Manufactured Units - Specification MH1**

cash	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
logpropval	-.129	.04	-3.25	.001	-.206	-.051	***
firsthome	-.188	.1	-1.88	.06	-.384	.008	*
ownland	-.332	.09	-3.68	.0	-.509	-.155	***
race : base White	0	.	.	.	.	.	
Black	-.52	.23	-2.26	.024	-.971	-.07	**
Hispanic or Latino	-.001	.129	-0.01	.994	-.253	.251	
Asian	.374	.571	0.65	.513	-.745	1.492	
Indigenous peoples	-.344	.388	-0.89	.375	-1.104	.416	
Other or unknown adults : base 1	-.162	.379	-0.43	.668	-.906	.581	
2	0	.	.	.	.	.	
3+	-.292	.1	-2.91	.004	-.488	-.095	***
incpctpov : base Less than 100%	-.49	.141	-3.48	.001	-.767	-.214	***
100-199%	0	.	.	.	.	.	
200-299%	-.033	.132	-0.25	.801	-.293	.226	
300-399%	.118	.146	0.81	.418	-.168	.405	
400%+	-.198	.165	-1.20	.23	-.521	.125	
selfemployinc	-.234	.16	-1.46	.144	-.549	.08	
retirementinc	-.171	.165	-1.03	.302	-.495	.153	
investmentinc	.113	.102	1.11	.266	-.086	.312	
pubassistanceinc	-.025	.145	-0.17	.861	-.31	.259	
foodstamps	.314	.154	2.04	.041	.012	.617	**
Constant	-.103	.148	-0.70	.485	-.393	.186	
	1.565	.417	3.76	.0	.748	2.381	***
Mean dependent var		0.398	SD dependent var			0.490	
Pseudo r-squared		0.071	Number of obs			891.000	
Chi-square		85.327	Prob > chi2			0.000	
Akaike crit. (AIC)		1152.835	Bayesian crit. (BIC)			1248.682	

\*\*\*  $p < .01$ , \*\*  $p < .05$ , \*  $p < .1$

**2019 AHS: Average Marginal Effects for Probit Predicting Cash Purchase for Manufactured Units - Specification MH1**

Average marginal effects                      Number of obs   =     891

Model VCE   : OIM

Expression   : Pr(cash), predict()

dy/ dx w.r.t. : logpropval firsthome ownland 2.race 3.race 4.race 5.race 6.race 2.adults 3.adults 2.incpctpov 3.incpctpov  
4.incpctpov 5.incpctpov selfemployinc retirementinc investmentinc  
pubassistanceinc foodstamps

	Delta-method					
	dy/dx	Std.Err.	z	P>z	[95%Conf.	Interval]
logpropval	-0.046	0.014	-3.310	0.001	-0.073	-0.019
firsthome	-0.067	0.035	-1.890	0.058	-0.136	0.002
ownland	-0.118	0.031	-3.770	0.000	-0.180	-0.057
race						
Black	-0.171	0.067	-2.550	0.011	-0.302	-0.040
Hispanic or Latino	-0.000	0.046	-0.010	0.994	-0.091	0.091
Asian	0.137	0.210	0.660	0.512	-0.274	0.548
Indigenous peoples	-0.118	0.124	-0.950	0.342	-0.360	0.125
Other or unknown	-0.057	0.131	-0.440	0.661	-0.313	0.199
adults						
2	-0.108	0.037	-2.900	0.004	-0.180	-0.035
3+	-0.176	0.049	-3.600	0.000	-0.272	-0.080
incpctpov						
100-199%	-0.012	0.048	-0.250	0.801	-0.107	0.082
200-299%	0.044	0.054	0.810	0.416	-0.062	0.149
300-399%	-0.071	0.059	-1.200	0.229	-0.185	0.044
400%+	-0.083	0.057	-1.460	0.145	-0.195	0.029
selfemployinc	-0.061	0.059	-1.030	0.301	-0.176	0.054
retirementinc	0.040	0.036	1.110	0.265	-0.031	0.111
investmentinc	-0.009	0.052	-0.170	0.861	-0.110	0.092
pubassistanceinc	0.112	0.055	2.050	0.040	0.005	0.219
foodstamps	-0.037	0.053	-0.700	0.484	-0.140	0.066

Note: dy/ dx for factor levels is the discrete change from the base level.

**2019 AHS: Probit Estimation Results Predicting Cash Purchase for Manufactured Units - Specification MH2**

cash	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
logpropval	-.139	.039	-3.53	0	-.216	-.062	***
firsthome	-.196	.099	-1.98	.048	-.391	-.002	**
ownland	-.343	.09	-3.83	0	-.519	-.168	***
race : base White	0	.	.	.	.	.	
Black	-.523	.227	-2.30	.021	-.969	-.077	**
Hispanic or Latino	-.124	.123	-1.01	.312	-.366	.117	
Asian	.147	.574	0.26	.798	-.977	1.271	
Indigenous peoples	-.456	.382	-1.19	.232	-1.205	.292	
Other or unknown	-.274	.378	-0.73	.468	-1.016	.467	
incpctpov : base	0	.	.	.	.	.	
Less than 100%							
100-199%	-.079	.131	-0.60	.546	-.336	.178	
200-299%	.023	.143	0.16	.874	-.258	.303	
300-399%	-.289	.162	-1.78	.074	-.606	.028	*
400%+	-.359	.156	-2.30	.022	-.665	-.053	**
selfemployinc	-.215	.164	-1.31	.189	-.537	.106	
retirementinc	.123	.101	1.22	.222	-.074	.321	
investmentinc	-.005	.145	-0.03	.975	-.288	.279	
pubassistanceinc	.264	.152	1.73	.084	-.035	.563	*
foodstamps	-.113	.147	-0.77	.443	-.4	.175	
Constant	1.56	.414	3.76	0	.747	2.372	***
Mean dependent var		0.398	SD dependent var			0.490	
Pseudo r-squared		0.059	Number of obs			891.000	
Chi-square		70.794	Prob > chi2			0.000	
Akaike crit. (AIC)		1163.368	Bayesian crit. (BIC)			1249.630	

\*\*\* $p < .01$ , \*\* $p < .05$ , \* $p < .1$

**2019 AHS: Average Marginal Effects for Probit Predicting Cash Purchase for Manufactured Units - Specification MH2**

Average marginal effects                      Number of obs   =     891

Model VCE   : OIM

Expression   : Pr(cash), predict()

dy/dx w.r.t. : logpropval firsthome ownland 2.race 3.race 4.race 5.race 6.race 2.incpctpov 3.incpctpov 4.incpctpov 5.incpctpov selfemployinc retirementinc investmentinc pubassistanceinc foodstamps

	Delta-method					
	dy/dx	Std.Err.	z	P>z	[95%Conf.	Interval]
logpropval	-0.050	0.014	-3.600	0.000	-0.077	-0.023
firsthome	-0.071	0.036	-1.990	0.046	-0.141	-0.001
ownland	-0.124	0.032	-3.930	0.000	-0.186	-0.062
race						
Black	-0.176	0.068	-2.590	0.010	-0.310	-0.043
Hispanic or Latino	-0.045	0.044	-1.020	0.307	-0.132	0.042
Asian	0.055	0.215	0.250	0.799	-0.367	0.476
Indigenous peoples	-0.156	0.118	-1.320	0.185	-0.387	0.075
Other or unknown	-0.097	0.128	-0.760	0.447	-0.348	0.154
incpctpov						
100-199%	-0.030	0.049	-0.600	0.546	-0.126	0.066
200-299%	0.008	0.054	0.160	0.874	-0.097	0.114
300-399%	-0.105	0.058	-1.800	0.072	-0.220	0.010
400%+	-0.129	0.056	-2.310	0.021	-0.239	-0.020
selfemployinc	-0.078	0.059	-1.320	0.188	-0.194	0.038
retirementinc	0.045	0.036	1.230	0.220	-0.027	0.116
investmentinc	-0.002	0.052	-0.030	0.975	-0.104	0.101
pubassistanceinc	0.095	0.055	1.740	0.082	-0.012	0.203
foodstamps	-0.041	0.053	-0.770	0.443	-0.145	0.063

Note: dy/dx for factor levels is the discrete change from the base level.



## Appendix D: Texas Public Records 2018-19 Cash Purchase Results, Descriptive Tables

2018-19 Texas Public Records: County Characteristics for Owner-Occupied Manufactured Housing Units Sited in Texas by County Loan Application Frequency and Denial Rate	N	Mean						
		County percentage racial/ethnic minority	County percentage Hispanic	County percentage non-Hispanic White	County percentage non-Hispanic Black	County percentage non-Hispanic Asian	County percentage foreign-born	County percentage speaking other language, English limited
All	36,765	47.23	33.67	52.77	8.92	2.61	11.90	9.53
County manufactured housing loan applications								
<350	9,810	39.97	28.78	60.03	8.43	0.94	8.22	7.18
350-699	9,080	44.80	30.85	55.20	8.82	2.88	10.74	8.42
700-1,399	7,535	45.28	34.63	54.72	6.44	2.25	10.89	9.53
1,400-2,099	4,987	54.03	33.99	45.97	13.03	4.65	16.86	12.40
2,100+	5,353	61.10	45.77	38.90	9.65	3.77	17.39	13.07
County manufactured housing loan applications per 1,000 people								
<2	12,927	62.56	43.98	37.44	11.26	5.13	18.64	14.70
2-4	7,892	39.07	28.22	60.93	6.73	2.06	9.49	6.79
5-8	7,673	33.93	21.18	66.07	9.83	0.86	6.44	5.40
9-12	4,981	41.02	31.49	58.98	6.78	0.89	8.37	7.20
13+	3,292	47.05	38.71	52.95	6.06	0.67	9.25	9.01
County denial rate for manufactured housing loan applications								
< 45%	2,136	32.22	25.96	67.78	3.49	0.86	7.70	6.28
45-54%	10,964	36.94	25.88	63.06	6.93	1.84	7.63	5.88
55-64%	15,818	46.50	30.03	53.50	11.16	3.24	12.64	9.43
65%+	7,584	68.11	54.62	31.89	8.89	2.94	17.78	15.94
Sparse data (< 20 applications)	263	40.45	36.04	59.55	2.11	0.40	9.72	9.72

2018-19 Texas Public Records: County Characteristics for Owner-Occupied Manufactured Housing Units Sited in Texas by County Loan Application Frequency and Denial Rate	N	Mean					
		County percentage in poverty	County percentage manufactured/mobile homes	County percentage owner-occupied housing units	County percentage owner-occupied housing units with mortgage	County median value of owner-occupied housing units	County percentage housing units built in 2010 or later
All	36,765	14.98	13.48	67.78	52.23	\$153,455	8.43
County manufactured housing loan applications							
<350	9,810	16.14	17.04	72.16	40.94	\$119,022	5.70
350-699	9,080	15.49	13.94	68.17	53.75	\$155,979	8.82
700-1,399	7,535	14.52	16.55	71.85	54.55	\$155,975	10.53
1,400-2,099	4,987	13.60	7.40	58.77	60.61	\$195,072	8.26
2,100+	5,353	13.90	7.54	61.73	59.25	\$169,942	10.01
County manufactured housing loan applications per 1,000 people							
<2	12,927	16.33	4.67	59.69	60.88	\$176,215	8.94
2-4	7,892	14.31	12.27	68.38	52.12	\$165,412	9.27
5-8	7,673	14.78	18.63	73.41	47.04	\$131,467	7.40
9-12	4,981	13.78	23.45	75.29	45.17	\$135,256	7.64
13+	3,292	13.50	23.89	73.60	41.25	\$114,172	8.06
County denial rate for manufactured housing loan applications							
< 45%	2,136	12.58	22.63	76.63	50.71	\$164,577	8.33
45-54%	10,964	13.31	16.49	72.16	51.35	\$153,823	8.98
55-64%	15,818	14.72	12.59	66.61	52.79	\$160,703	8.27
65%+	7,584	18.58	8.38	61.22	53.52	\$136,952	8.19
Sparse data (< 20 applications)	263	15.37	13.94	72.06	30.05	\$87,184	3.25

2018-19 Texas Public Records: Characteristics of Owner-Occupied Manufactured Housing Units Sited in Texas and Titled as Personal Property (Column Percentages)	All		Personal property			
			Lien recorded for date of purchase			
			No (likely cash purchase)		Yes	
	N	Percentage	N	Percentage	N	Percentage
All	27,731	100.0	13,238	100.0	14,493	100.0
Year of sale/purchase						
2018	14,085	50.79	6,771	51.15	7,314	50.47
2019	13,646	49.21	6,467	48.85	7,179	49.53
Year of manufacture						
<1990	3,515	12.68	3,116	23.54	399	2.75
1990-1999	4,009	14.46	3,135	23.68	874	6.03
2000-2009	2,686	9.69	1,810	13.67	876	6.04
2010+	17,521	63.18	5,177	39.11	12,344	85.17
Title type						
Single	16,590	59.82	8,426	63.65	8,164	56.33
Joint	11,141	40.18	4,812	36.35	6,329	43.67
Unit age						
New	14,471	52.18	3,896	29.43	10,575	72.97
Used	13,260	47.82	9,342	70.57	3,918	27.03
Number of sections in unit						
1	16,535	59.63	9,136	69.01	7,399	51.05
2	11,100	40.03	4,063	30.69	7,037	48.55
3	91	0.33	38	0.29	53	0.37
4	5	0.02	1	0.01	4	0.03
Purchased from retailer						
No	8,629	31.12	7,492	56.59	1,137	7.85
Yes	19,102	68.88	5,746	43.41	13,356	92.15

2018-19 Texas Public Records: Characteristics of Owner-Occupied Manufactured Housing Units Sited in Texas and Titled as Personal Property (Column Percentages)	All		Personal property			
			Lien recorded for date of purchase			
			No (likely cash purchase)		Yes	
	N	Percentage	N	Percentage	N	Percentage
All	27,731	100.0	13,238	100.0	14,493	100.0
County metro classification						
Large metro	13,786	49.71	6,551	49.49	7,235	49.92
Medium/small metro	7,651	27.59	3,907	29.51	3,744	25.83
Nonmetro	6,294	22.70	2,780	21.00	3,514	24.25
County manufactured housing loan applications						
<350	6,927	24.98	3,252	24.57	3,675	25.36
350-699	6,396	23.06	3,131	23.65	3,265	22.53
700-1,399	5,434	19.60	2,773	20.95	2,661	18.36
1,400-2,099	4,510	16.26	1,953	14.75	2,557	17.64
2,100+	4,464	16.10	2,129	16.08	2,335	16.11
County manufactured housing loan applications per 1,000 people						
<2	11,245	40.55	6,121	46.24	5,124	35.35
2-4	5,601	20.20	2,869	21.67	2,732	18.85
5-8	4,951	17.85	2,214	16.72	2,737	18.88
9-12	3,302	11.91	1,264	9.55	2,038	14.06
13+	2,632	9.49	770	5.82	1,862	12.85
County denial rate for manufactured housing loan applications						
< 45%	1,178	4.25	579	4.37	599	4.13
45-54%	7,246	26.13	3,291	24.86	3,955	27.29
55-64%	12,579	45.36	5,754	43.47	6,825	47.09
65%+	6,540	23.58	3,511	26.52	3,029	20.90
Sparse data (< 20 applications)	188	0.68	103	0.78	85	0.59

2018-19 Texas Public Records: Characteristics of Owner-Occupied Manufactured Housing Units Sited in Texas and Titled as Personal Property (Row Percentages)	All		Personal property			
			Lien recorded for date of purchase			
			No (likely cash purchase)		Yes	
	N	Percentage	N	Percentage	N	Percentage
All	27,731	100.0	13,238	47.74	14,493	52.26
Year of sale/purchase						
2018	14,085	100.0	6,771	48.07	7,314	51.93
2019	13,646	100.0	6,467	47.39	7,179	52.61
Year of manufacture						
<1990	3,515	100.0	3,116	88.65	399	11.35
1990-1999	4,009	100.0	3,135	78.20	874	21.80
2000-2009	2,686	100.0	1,810	67.39	876	32.61
2010+	17,521	100.0	5,177	29.55	12,344	70.45
Title type						
Single	16,590	100.0	8,426	50.79	8,164	49.21
Joint	11,141	100.0	4,812	43.19	6,329	56.81
Unit age						
New	14,471	100.0	3,896	26.92	10,575	73.08
Used	13,260	100.0	9,342	70.45	3,918	29.55
Number of sections in unit						
1	16,535	100.0	9,136	55.25	7,399	44.75
2	11,100	100.0	4,063	36.60	7,037	63.40
3	91	100.0	38	41.76	53	58.24
4	5	100.0	1	20.00	4	80.00
Purchased from retailer						
No	8,629	100.0	7,492	86.82	1,137	13.18
Yes	19,102	100.0	5,746	30.08	13,356	69.92

2018-19 Texas Public Records: Characteristics of Owner-Occupied Manufactured Housing Units Sited in Texas and Titled as Personal Property (Row Percentages)	All		Personal property			
			Lien recorded for date of purchase			
			No (likely cash purchase)		Yes	
	N	Percentage	N	Percentage	N	Percentage
All	27,731	100.0	13,238	47.74	14,493	52.26
County metro classification						
Large metro	13,786	100.0	6,551	47.52	7,235	52.48
Medium/small metro	7,651	100.0	3,907	51.07	3,744	48.93
Nonmetro	6,294	100.0	2,780	44.17	3,514	55.83
County manufactured housing loan applications						
<350	6,927	100.0	3,252	46.95	3,675	53.05
350-699	6,396	100.0	3,131	48.95	3,265	51.05
700-1,399	5,434	100.0	2,773	51.03	2,661	48.97
1,400-2,099	4,510	100.0	1,953	43.30	2,557	56.70
2,100+	4,464	100.0	2,129	47.69	2,335	52.31
County manufactured housing loan applications per 1,000 people						
<2	11,245	100.0	6,121	54.43	5,124	45.57
2-4	5,601	100.0	2,869	51.22	2,732	48.78
5-8	4,951	100.0	2,214	44.72	2,737	55.28
9-12	3,302	100.0	1,264	38.28	2,038	61.72
13+	2,632	100.0	770	29.26	1,862	70.74
County denial rate for manufactured housing loan applications						
< 45%	1,178	100.0	579	49.15	599	50.85
45-54%	7,246	100.0	3,291	45.42	3,955	54.58
55-64%	12,579	100.0	5,754	45.74	6,825	54.26
65%+	6,540	100.0	3,511	53.69	3,029	46.31
Sparse data (< 20 applications)	188	100.0	103	54.79	85	45.21

2018-19 Texas Public Records: Characteristics of Owner-Occupied Manufactured Housing Units Sited in Texas and Titled as Personal Property	All			Personal property					
				Lien recorded for date of purchase					
				No (likely cash purchase)			Yes		
	N	Mean	Standard deviation	N	Mean	Standard deviation	N	Mean	Standard deviation
Unit square footage	27,731	1,332.13	412.91	13,238	1,234.42	390.48	14,493	1,421.37	412.66
County total population (in thousands)	27,731	754.49	1,178.14	13,238	846.81	1,252.01	14,493	670.15	1,099.64
County manufactured housing loan applications	27,731	1,066.38	870.09	13,238	1,052.92	858.63	14,493	1,078.66	880.27
County manufactured housing loan applications per 1,000 people	27,731	5.51	5.60	13,238	4.56	4.81	14,493	6.38	6.10
County denial rate for manufactured housing loan applications	27,543	58.82	7.75	13,135	59.20	8.08	14,408	58.47	7.42
County percentage racial/ethnic minority	27,731	49.43	20.29	13,238	50.91	21.20	14,493	48.07	19.32
County percentage Hispanic	27,731	35.18	21.85	13,238	36.44	23.14	14,493	34.03	20.53
County percentage non-Hispanic White	27,731	50.57	20.29	13,238	49.09	21.20	14,493	51.93	19.32
County percentage non-Hispanic Black	27,731	9.35	6.92	13,238	9.40	7.12	14,493	9.31	6.74
County percentage non-Hispanic Asian	27,731	2.88	3.21	13,238	3.08	3.34	14,493	2.70	3.08
County percentage foreign-born	27,731	12.80	7.49	13,238	13.58	7.86	14,493	12.08	7.05
County percentage speaking other language, English limited	27,731	10.25	7.17	13,238	10.93	7.81	14,493	9.62	6.46
County percentage in poverty	27,731	15.24	5.55	13,238	15.71	6.06	14,493	14.80	5.00
County percentage manufactured/mobile homes	27,731	12.64	8.98	13,238	11.78	8.50	14,493	13.42	9.32
County percentage owner-occupied housing units	27,731	66.77	9.24	13,238	66.17	9.13	14,493	67.32	9.30
County percentage owner-occupied housing units with mortgage	27,731	52.67	12.35	13,238	53.27	12.07	14,493	52.12	12.58
County median value of owner-occupied housing units	27,729	154,998.50	58,471.53	13,237	155,957.77	58,774.80	14,492	154,122.31	58,181.34
County percentage housing units built in 2010 or later	27,731	8.48	3.56	13,238	8.48	3.53	14,493	8.47	3.58

## Appendix E: Texas Public Records 2018-19 Cash Purchase Results, Multivariate Tables

**2018-19 Texas Public Records: Probit Estimation Results Predicting Cash Purchase for Manufactured Housing Units Titled as Personal Property - Specification PP1**

cash	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
logsquarefeet	-.598	.031	-19.38	0	-.658	-.537	***
jointtitle: base Single	0	.	.	.	.	.	
Joint	-.114	.018	-6.43	0	-.148	-.079	***
yearofmanufacture : base <1990	0	.	.	.	.	.	
1990-1999	-.126	.04	-3.18	.001	-.204	-.048	***
2000-2009	-.375	.042	-8.94	0	-.457	-.293	***
2010+	-.883	.036	-24.31	0	-.954	-.812	***
2018b	0	.	.	.	.	.	
2019	.014	.017	0.80	.424	-.02	.047	
retailpurchase: base No	0	.	.	.	.	.	
Yes	-1.166	.024	-48.35	0	-1.213	-1.118	***
metroclass: base Large	0	.	.	.	.	.	
Medium/small	.09	.026	3.49	0	.04	.141	***
Nonmetro	.055	.03	1.80	.072	-.005	.115	*
pcthispanic	-.005	.001	-8.19	0	-.006	-.004	***
pctblack	-.011	.002	-6.59	0	-.014	-.008	***
pctasian	-.003	.004	-0.68	.495	-.012	.006	
pctinpoverty	.001	.002	0.48	.631	-.004	.006	
pctmobilehomes	-.006	.002	-3.85	0	-.009	-.003	***
logmedhval	-.159	.044	-3.59	0	-.245	-.072	***
Constant	7.928	.602	13.17	0	6.748	9.108	***
Mean dependent var		0.477	SD dependent var			0.499	
Pseudo r-squared		0.265	Number of obs			27729.000	
Chi-square		10163.352	Prob > chi2			0.000	
Akaike crit. (AIC)		28252.384	Bayesian crit. (BIC)			28384.068	

\*\*\* $p < .01$ , \*\* $p < .05$ , \* $p < .1$



**2018-19 Texas Public Records: Average Marginal Effects for Probit Predicting Cash Purchase for Manufactured Housing Units Titled as Personal Property - Specification PP1**

Average marginal effects

Number of obs = 27,729

Model VCE : OIM

Expression : Pr(cash), predict()

dy/dx w.r.t. : logsquarefeet 1.jointtitle 2.yearofmanufacture 3.yearofmanufacture 4.yearofmanufacture 2019.yearofsale

1.retailpurchase 2.metroclass 3.metroclass pcthispanic pctblack pctasian

pctinpoverty pctmobilehomes logmedhval

	Delta-method					
	dy/dx	Std.Err.	z	P>z	[95%Conf.	Interval]
logsquarefeet	-0.171	0.009	-19.700	0.000	-0.188	-0.154
jointtitle						
Joint	-0.032	0.005	-6.430	0.000	-0.042	-0.023
yearofmanufacture						
1990-1999	-0.039	0.012	-3.190	0.001	-0.064	-0.015
2000-2009	-0.121	0.013	-9.020	0.000	-0.147	-0.095
2010+	-0.290	0.012	-24.410	0.000	-0.314	-0.267
yearofsale						
2019	0.004	0.005	0.800	0.424	-0.006	0.014
retailpurchase						
Yes	-0.397	0.008	-50.060	0.000	-0.413	-0.382
metroclass						
Medium/small	0.026	0.007	3.490	0.000	0.011	0.040
Nonmetro	0.016	0.009	1.800	0.072	-0.001	0.033
pcthispanic	-0.001	0.000	-8.210	0.000	-0.002	-0.001
pctblack	-0.003	0.000	-6.600	0.000	-0.004	-0.002
pctasian	-0.001	0.001	-0.680	0.495	-0.003	0.002
pctinpoverty	0.000	0.001	0.480	0.631	-0.001	0.002
pctmobilehomes	-0.002	0.000	-3.850	0.000	-0.003	-0.001
logmedhval	-0.045	0.013	-3.590	0.000	-0.070	-0.021

Note: dy/dx for factor levels is the discrete change from the base level.

**2018-19 Texas Public Records: Probit Estimation Results Predicting Cash Purchase  
for Manufactured Housing Units Titled as Personal Property - Specification PP2 (Instrumental Variables)**

cash denialrate	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
denialrate	.015	.005	3.16	.002	.006	.024	***
logsquarefeet	-.591	.031	-19.09	0	-.652	-.53	***
jointtitle: base	0	.	.	.	.	.	
Single							
Joint	-.112	.018	-6.37	0	-.147	-.078	***
yearofmanufacture	0	.	.	.	.	.	
: base <1990							
1990-1999	-.13	.04	-3.27	.001	-.207	-.052	***
2000-2009	-.38	.042	-9.07	0	-.462	-.298	***
2010+	-.882	.036	-24.27	0	-.954	-.811	***
2018b	0	.	.	.	.	.	
2019	.014	.017	0.83	.409	-.019	.048	
retailpurchase:	0	.	.	.	.	.	
base No							
Yes	-1.159	.024	-47.98	0	-1.206	-1.112	***
metroclass: base	0	.	.	.	.	.	
Large							
Medium/small	.059	.032	1.85	.064	-.003	.121	*
Nonmetro	.052	.03	1.72	.086	-.007	.112	*
pcthispanic	-.007	.001	-6.50	0	-.009	-.005	***
pctblack	-.014	.003	-5.77	0	-.019	-.01	***
pctasian	-.004	.004	-0.97	.332	-.013	.004	
logmedhval	-.06	.04	-1.50	.134	-.138	.018	
Constant	5.886	.602	9.78	0	4.707	7.066	***
logsquarefeet	-.097	.122	-0.79	.429	-.336	.142	
jointtitle: base	0	.	.	.	.	.	
Single							
Joint	-.075	.069	-1.08	.281	-.211	.061	
yearofmanufacture	0	.	.	.	.	.	
: base <1990							
1990-1999	.256	.134	1.91	.056	-.006	.518	*
2000-2009	.536	.149	3.60	0	.244	.828	***
2010+	.191	.133	1.43	.153	-.071	.452	
2018b	0	.	.	.	.	.	
2019	-.02	.067	-0.29	.77	-.152	.112	
retailpurchase:	0	.	.	.	.	.	
base No							
Yes	-.03	.098	-0.31	.758	-.223	.162	
metroclass: base	0	.	.	.	.	.	
Large							
Medium/small	2.86	.102	27.91	0	2.659	3.06	***
Nonmetro	.565	.12	4.71	0	.33	.8	***
pcthispanic	.137	.002	55.25	0	.133	.142	***
pctblack	.318	.007	47.11	0	.304	.331	***
pctasian	.059	.017	3.51	0	.026	.092	***
logmedhval	-4.742	.181	-26.25	0	-5.096	-4.387	***
pctmobilehomes	-.335	.006	-54.60	0	-.347	-.323	***
pctinpoverty	.007	.009	0.77	.442	-.011	.026	
Constant	110.939	2.446	45.35	0	106.145	115.733	***
athrho2_1	-.121	.027	-4.48	0	-.175	-.068	***
lnsigma2	1.719	.004	403.55	0	1.711	1.728	***
Mean dependent var		58.816	SD dependent var			7.751	
Number of obs		27543.000	Chi-square			7863.951	
Prob > chi2		0.000	Akaike crit. (AIC)			200926.127	

\*\*\* p<.01, \*\* p<.05, \* p<.1

**2018-19 Texas Public Records: Average Marginal Effects for Probit Predicting Cash Purchase for Manufactured Housing Units Titled as Personal Property - Specification PP2 (Instrumental Variables)**

Average marginal effects                      Number of obs = 27,543

Model VCE : OIM

Expression : Fitted values, predict()

dy/dx w.r.t. : denialrate logsquarefeet 1.jointtitle 2.yearofmanufacture 3.yearofmanufacture 4.yearofmanufacture

2019.yearofsale 1.retailpurchase 2.metroclass 3.metroclass pcthispanic pctblack

pctasian logmedhval

	Delta-method					
	dy/dx	Std.Err.	z	P>z	[95%Conf.	Interval]
denialrate	0.015	0.005	3.160	0.002	0.006	0.024
logsquarefeet	-0.591	0.031	-19.090	0.000	-0.652	-0.530
jointtitle						
Joint	-0.112	0.018	-6.370	0.000	-0.147	-0.078
yearofmanufacture						
1990-1999	-0.130	0.040	-3.270	0.001	-0.207	-0.052
2000-2009	-0.380	0.042	-9.070	0.000	-0.462	-0.298
2010+	-0.882	0.036	-24.270	0.000	-0.954	-0.811
yearofsale						
2019	0.014	0.017	0.830	0.409	-0.019	0.048
retailpurchase <sup>58</sup>						
Yes	-1.159	0.024	-47.980	0.000	-1.206	-1.112
metroclass						
Medium/small	0.059	0.032	1.850	0.064	-0.003	0.121
Nonmetro	0.052	0.030	1.720	0.086	-0.007	0.112
pcthispanic	-0.007	0.001	-6.500	0.000	-0.009	-0.005
pctblack	-0.014	0.003	-5.770	0.000	-0.019	-0.010
pctasian	-0.004	0.004	-0.970	0.332	-0.013	0.004
logmedhval	-0.060	0.040	-1.500	0.134	-0.138	0.018

Note: dy/dx for factor levels is the discrete change from the base level.

<sup>58</sup> For an explanation of estimated marginal effects greater than 1 in absolute value, see the following STATA blog post: <https://www.stata.com/support/faqs/statistics/marginal-effect-greater-than-1/>.

## Appendix F: MHOS Financial Stability Results, Descriptive Tables

MHOS: Household Income and Income Sources by Loan Type	N	Sum of weights	Weighted percentage	Loan type	
				Personal property	Mortgage
				Weighted percentage	Weighted percent
All	1,356	27,017	100.00	100.00	100.00
Household income					
No answer	37	727	2.69	2.33	3.84
Less than \$20,000	71	1,516	5.61	6.44	3.01
\$20,000 to \$34,999	235	5,135	19.01	19.96	16.02
\$35,000 to \$49,999	314	6,452	23.88	24.51	21.89
\$50,000 to \$64,999	270	5,606	20.75	21.98	16.88
\$65,000 or more	429	7,581	28.06	24.79	38.37
Wages or salary					
No answer	130	2,435	9.01	9.81	6.49
Yes	1,048	21,278	78.76	78.07	80.93
No	178	3,304	12.23	12.12	12.59
Business or self-employment income					
No answer	293	5,642	20.88	22.44	15.98
Yes	180	3,628	13.43	12.98	14.85
No	883	17,747	65.69	64.58	69.17
Interest or dividends					
No answer	307	5,985	22.15	23.61	17.58
Yes	97	1,440	5.33	5.41	5.08
No	952	19,592	72.52	70.98	77.34
Alimony or child support					
No answer	310	5,918	21.90	23.55	16.70
Yes	92	2,250	8.33	8.52	7.71
No	954	18,850	69.77	67.92	75.58
Social Security, pension, or other retirement benefits					
No answer	168	3,625	13.42	13.46	13.29
Yes	431	7,103	26.29	28.06	20.70
No	757	16,290	60.29	58.48	66.02

MHOS: Household Asset Holdings by Loan Type	N	Sum of weights	Weighted percentage	Loan type	
				Personal property	Mortgage
				Weighted percentage	Weighted percentage
All	1,356	27,017	100.00	100.00	100.00
401(k), 403(b), IRA, or pension plan					
No answer	43	877	3.25	3.05	3.87
Yes	758	14,339	53.07	52.82	53.87
No	555	11,801	43.68	44.13	42.26
Other stocks, bonds, or mutual funds					
No answer	125	2,342	8.67	8.66	8.69
Yes	183	3,183	11.78	12.05	10.92
No	1,048	21,492	79.55	79.29	80.38
Certificates of deposit					
No answer	133	2,575	9.53	9.68	9.07
Yes	44	687	2.54	2.66	2.18
No	1,179	23,754	87.92	87.66	88.76
Investment real estate					
No answer	130	2,506	9.28	9.23	9.41
Yes	57	932	3.45	3.12	4.47
No	1,169	23,580	87.28	87.64	86.12

MHOS: Household Employment Changes in Last Couple of Years by Loan Type	N	Sum of weights	Weighted percentage	Loan type	
				Personal property	Mortgage
				Weighted percentage	Weighted percentage
All	1,356	27,017	100.00	100.00	100.00
Laid off, unemployed, or reduced hours of work					
No answer	77	1,437	5.32	5.62	4.38
Yes	352	7,244	26.81	26.07	29.14
No	927	18,336	67.87	68.31	66.48
Retired					
No answer	96	1,938	7.17	7.55	6.00
Yes	172	2,787	10.32	11.09	7.88
No	1,088	22,291	82.51	81.36	86.12
Promoted					
No answer	116	2,195	8.12	8.71	6.26
Yes	243	5,145	19.04	18.15	21.85
No	997	19,677	72.83	73.13	71.89
Started new job					
No answer	97	1,784	6.60	7.01	5.34
Yes	419	8,723	32.29	30.21	38.85
No	840	16,509	61.11	62.79	55.81
Started second job					
No answer	128	2,408	8.91	9.03	8.53
Yes	103	2,304	8.53	8.52	8.57
No	1,125	22,305	82.56	82.45	82.91
Business failed					
No answer	136	2,622	9.70	9.95	8.93
Yes	23	408	1.51	1.58	1.30
No	1,197	23,987	88.78	88.47	89.77
Had personal financial crisis					
No answer	122	2,437	9.02	9.02	9.02
Yes	233	4,574	16.93	16.97	16.80
No	1,001	20,006	74.05	74.01	74.18

MHOS: Household Changes in Income and Expenses in Last Couple of Years by Loan Type	N	Sum of weights	Weighted percentage	Loan type	
				Personal property	Mortgage
				Weighted percentage	Weighted percentage
All	1,356	27,017	100.00	100.00	100.00
Change in income					
No answer	39	923	3.42	3.21	4.08
Significant increase	184	4,031	14.92	15.29	13.75
Little/no change	914	18,087	66.95	66.41	68.64
Significant decrease	219	3,975	14.71	15.09	13.54
Change in housing expenses					
No answer	61	1,304	4.83	4.50	5.85
Significant increase	429	8,495	31.45	30.88	33.23
Little/no change	813	16,137	59.73	60.84	56.24
Significant decrease	53	1,080	4.00	3.78	4.68
Change in nonhousing expenses					
No answer	84	1,775	6.57	6.47	6.87
Significant increase	357	7,080	26.21	26.30	25.91
Little/no change	873	17,254	63.86	64.01	63.41
Significant decrease	42	908	3.36	3.22	3.81

MHOS: How Borrower Would Pay for Emergency Expense of \$400 by Loan Type	N	Sum of weights	Weighted percentage	Loan type	
				Personal property	Mortgage
				Weighted percentage	Weighted percentage
All	1,356	27,017	100.00	100.00	100.00
Put it on my credit card and pay it off in full on the next statement					
No answer	25	598	2.21	2.13	2.48
Selected	275	5,259	19.46	19.65	18.87
Not selected	1,056	21,161	78.32	78.22	78.65
Put it on my credit card and pay it off over time					
No answer	25	598	2.21	2.13	2.48
Selected	365	7,064	26.15	25.41	28.46
Not selected	966	19,355	71.64	72.46	69.06
With the money currently in my checking/savings account or with cash					
No answer	25	598	2.21	2.13	2.48
Selected	710	13,476	49.88	49.82	50.07
Not selected	621	12,943	47.91	48.05	47.45
Using money from a bank loan or line of credit					
No answer	25	598	2.21	2.13	2.48
Selected	103	2,439	9.03	9.14	8.67
Not selected	1,228	23,980	88.76	88.73	88.85
By borrowing from a friend or family member					
No answer	25	598	2.21	2.13	2.48
Selected	194	4,267	15.79	15.86	15.58
Not selected	1,137	22,153	82.00	82.01	81.94
Using a payday loan, deposit advance, or overdraft					
No answer	25	598	2.21	2.13	2.48
Selected	69	1,603	5.94	5.59	7.03
Not selected	1,262	24,816	91.85	92.28	90.49
By selling something					
No answer	25	598	2.21	2.13	2.48
Selected	151	3,330	12.33	11.69	14.33
Not selected	1,180	23,089	85.46	86.18	83.19
I wouldn't be able to pay for the expense right now					
No answer	25	598	2.21	2.13	2.48
Selected	236	5,118	18.94	19.57	16.96
Not selected	1,095	21,301	78.84	78.30	80.56



MHOS: How Borrower Would Pay for Emergency Expense of \$400 by Loan Type	N	Sum of weights	Weighted percentage	Loan type	
				Personal property	Mortgage
				Weighted percentage	Weighted percentage
Payment plan or series of payments (volunteered)					
No answer	25	598	2.21	2.13	2.48
Selected	9	230	0.85	0.78	1.06
Not selected	1,322	26,190	96.94	97.09	96.45

MHOS: Pre-Purchase Credit Score and Debt-to-Income Ratio by Loan Type (Column Percentages)	N	Sum of weights	Weighted percentage	Loan type	
				Personal property	Mortgage
				Weighted percentage	Weighted percentage
All	1,356	27,017	100.00	100.00	100.00
Credit score					
Missing	67	1,982	7.34	7.62	6.45
300-524	154	3,318	12.28	12.23	12.43
525-579	214	4,814	17.82	18.46	15.78
580-619	185	3,593	13.30	11.99	17.41
620-659	176	3,592	13.29	13.30	13.27
660-699	173	3,420	12.66	12.79	12.25
700 or higher	387	6,300	23.32	23.60	22.42
Debt-to-income ratio					
Missing	98	2,644	9.79	11.10	5.64
Less than 10%	358	7,027	26.01	26.14	25.59
10-24%	591	11,735	43.43	43.78	42.36
25-34%	214	3,980	14.73	13.52	18.54
35-43%	69	1,132	4.19	3.84	5.29
>43%	26	499	1.85	1.61	2.57

MHOS: Pre-Purchase Credit Score and Debt-to-Income Ratio by Loan Type (Row Percentages)	N	Sum of weights	Weighted percentage	Loan type	
				Personal property	Mortgage
				Weighted percentage	Weighted percentage
All	1,356	27,017	100.00	75.91	24.09
Credit score					
Missing	67	1,982	100.00	78.84	21.16
300-524	154	3,318	100.00	75.62	24.38
525-579	214	4,814	100.00	78.66	21.34
580-619	185	3,593	100.00	68.47	31.53
620-659	176	3,592	100.00	75.96	24.04
660-699	173	3,420	100.00	76.69	23.31
700 or higher	387	6,300	100.00	76.84	23.16
Debt-to-income ratio					
Missing	98	2,644	100.00	86.11	13.89
Less than 10%	358	7,027	100.00	76.30	23.70
10-24%	591	11,735	100.00	76.51	23.49
25-34%	214	3,980	100.00	69.68	30.32
35-43%	69	1,132	100.00	69.58	30.42
>43%	26	499	100.00	66.43	33.57

MHOS: Pre-Purchase Credit Profile by Loan Type	N	Sum of weights	Loan type			
			Personal property		Mortgage	
			Mean	Standard deviation	Mean	Standard deviation
Credit score	1,289	25,035	631	421	630	383
Debt-to-income ratio (%)	1,258	24,373	16	50	18	50
All trade lines	1,293	25,003	15	47	16	47
Auto trade lines	1,134	21,543	3	12	3	12
Retail trade lines	1,172	22,469	5	20	5	19
Nondeferred student trade lines	1,271	24,777	1	12	1	14
First mortgage trade lines	1,168	23,339	0	4	0	4
Personal installment trade lines	1,121	22,108	4	23	4	25
Trade lines with worse performance in past six months than in prior six months	1,246	24,111	0	3	0	4
Occurrences of 30-day delinquency in past 12 months	1,306	25,584	1	7	1	7
Percentage of open trade lines opened in past six months	1,268	24,557	23	130	24	126
Balance on open trade lines reported in past six months (\$)	1,257	24,360	46,638	329,428	50,698	247,864
Balance on medical collections (\$)	1,341	26,436	1,019	13,848	868	9,119

MHOS: One-Year Post-Purchase Credit Score and Debt-to-Income Ratio by Loan Type for Units Purchased 2015Q1-2017Q2 (Column Percentages)	N	Sum of weights	Weighted percentage	Loan type	
				Personal property	Mortgage
				Weighted percentage	Weighted percentage
All	1,036	21,321	100.00	100.00	100.00
Credit score					
Missing	13	475	2.23	2.47	1.51
300-524	145	3,155	14.80	14.27	16.38
525-579	156	3,533	16.57	17.05	15.11
580-619	157	3,376	15.83	15.37	17.23
620-659	129	2,629	12.33	13.55	8.66
660-699	154	3,214	15.08	14.71	16.19
700 or higher	282	4,939	23.17	22.59	24.92
Debt-to-income ratio					
Missing	22	690	3.24	3.18	3.40
Less than 10%	98	1,976	9.27	10.79	4.68
10-24%	391	7,864	36.88	40.68	25.42
25-34%	280	5,622	26.37	24.71	31.38
35-43%	168	3,529	16.55	15.14	20.81
>43%	77	1,640	7.69	5.50	14.32

MHOS: One-Year Post-Purchase Credit Score and Debt-to-Income Ratio by Loan Type for Units Purchased 2015Q1-2017Q2 (Row Percentages)	N	Sum of weights	Weighted percentage	Loan type	
				Personal property	Mortgage
				Weighted percentage	Weighted percentage
All	1,036	21,321	100.00	75.11	24.89
Credit score					
Missing	13	475	100.00	83.19	16.81
300-524	145	3,155	100.00	72.44	27.56
525-579	156	3,533	100.00	77.29	22.71
580-619	157	3,376	100.00	72.91	27.09
620-659	129	2,629	100.00	82.52	17.48
660-699	154	3,214	100.00	73.27	26.73
700 or higher	282	4,939	100.00	73.23	26.77
Debt-to-income ratio					
Missing	22	690	100.00	73.84	26.16
Less than 10%	98	1,976	100.00	87.44	12.56
10-24%	391	7,864	100.00	82.85	17.15
25-34%	280	5,622	100.00	70.38	29.62
35-43%	168	3,529	100.00	68.71	31.29
>43%	77	1,640	100.00	53.66	46.34

MHOS: One-Year Post-Purchase Credit Profile by Loan Type for Units Purchased 2015Q1-2017Q2	N	Sum of weights	Loan type			
			Personal property		Mortgage	
			Mean	Standard deviation	Mean	Standard deviation
Credit score	1,023	20,846	628	440	629	419
Debt-to-income ratio (%)	1,014	20,631	24	57	31	57
All trade lines	1,014	20,523	16	49	17	46
Auto trade lines	874	17,287	3	12	3	12
Retail trade lines	915	18,349	5	21	5	20
Nondeferred student trade lines	994	20,297	1	11	1	14
First mortgage trade lines	863	17,925	0	4	1	5
Personal installment trade lines	805	16,529	5	24	5	25
Trade lines with worse performance in past six months than in prior six months	963	19,510	0	4	0	6
Occurrences of 30-day delinquency in past 12 months	1,028	20,996	1	9	1	12
Percentage of open trade lines opened in past six months	1,014	20,631	18	109	17	87
Balance on open trade lines reported in past six months (\$)	1,014	20,631	81,388	404,984	120,551	293,284
Balance on medical collections (\$)	1,033	21,201	914	13,550	902	8,956

MHOS: One-Year Post-Purchase Credit Profile Change by Loan Type for Units Purchased 2015Q1-2017Q2	N	Sum of weights	Loan type			
			Personal property		Mortgage	
			Mean	Standard deviation	Mean	Standard deviation
Credit score change	978	19,606	-2	325	-2	325
Debt-to-income ratio (%) change	944	18,836	10	55	13	56
All trade lines change	985	19,661	1	18	2	18
Auto trade lines change	794	15,282	0	5	0	5
Retail trade lines change	835	16,303	0	9	1	11
Nondeferred student trade lines change	965	19,367	-0	8	-0	7
First mortgage trade lines change	805	16,670	-0	2	0	3
Personal installment trade lines change	687	14,228	1	9	0	9
Trade lines with worse performance in past six months than in prior six months change	897	17,787	0	5	0	7
Occurrences of 30-day delinquency in past 12 months change	993	20,069	0	10	1	13
Percentage of open trade lines opened in past six months change	953	18,998	-7	159	-8	139
Balance on open trade lines reported in past six months (\$) change	943	18,823	41,688	295,797	71,904	274,148
Balance on medical collections (\$) change	1,024	20,863	-123	14,587	1	6,606

MHOS: Two-Year Post-Purchase Credit Score and Debt-to-Income Ratio by Loan Type for Units Purchased 2015Q1-2016Q2 (Column Percentages)	N	Sum of weights	Weighted percentage	Loan type	
				Personal property	Mortgage
				Weighted percentage	Weighted percentage
All	518	11,306	100.00	100.00	100.00
Credit score					
Missing	6	187	1.65	1.71	1.48
300-524	76	1,913	16.92	15.69	20.68
525-579	72	1,716	15.18	15.73	13.49
580-619	66	1,524	13.48	13.59	13.16
620-659	63	1,229	10.87	9.52	14.99
660-699	71	1,604	14.19	14.74	12.49
700 or higher	164	3,133	27.71	29.02	23.72
Debt-to-income ratio					
Missing	10	283	2.50	1.94	4.22
Less than 10%	55	1,184	10.47	12.07	5.59
10-24%	194	4,178	36.96	39.48	29.22
25-34%	131	2,910	25.74	25.12	27.62
35-43%	83	1,839	16.27	16.12	16.71
>43%	45	912	8.06	5.27	16.64

MHOS: Two-Year Post-Purchase Credit Score and Debt-to-Income Ratio by Loan Type for Units Purchased 2015Q1-2016Q2 (Row Percentages)	N	Sum of weights	Weighted percentage	Loan type	
				Personal property	Mortgage
				Weighted percentage	Weighted percentage
All	518	11,306	100.00	75.40	24.60
Credit score					
Missing	6	187	100.00	78.01	21.99
300-524	76	1,913	100.00	69.93	30.07
525-579	72	1,716	100.00	78.14	21.86
580-619	66	1,524	100.00	75.99	24.01
620-659	63	1,229	100.00	66.08	33.92
660-699	71	1,604	100.00	78.34	21.66
700 or higher	164	3,133	100.00	78.95	21.05
Debt-to-income ratio					
Missing	10	283	100.00	58.52	41.48
Less than 10%	55	1,184	100.00	86.87	13.13
10-24%	194	4,178	100.00	80.55	19.45
25-34%	131	2,910	100.00	73.60	26.40
35-43%	83	1,839	100.00	74.73	25.27
>43%	45	912	100.00	49.24	50.76

MHOS: Two-Year Post-Purchase Credit Profile by Loan Type for Units Purchased 2015Q1-2016Q2	N	Sum of weights	Loan type			
			Personal property		Mortgage	
			Mean	Standard deviation	Mean	Standard deviation
Credit score	512	11,119	637	475	621	438
Debt-to-income ratio (%)	508	11,023	24	59	31	65
All trade lines	512	11,080	16	46	17	43
Auto trade lines	423	8,941	3	13	3	11
Retail trade lines	464	9,846	5	20	5	18
Nondeferred student trade lines	495	10,729	1	11	1	13
First mortgage trade lines	422	9,405	0	3	1	5
Personal installment trade lines	410	8,961	4	22	4	17
Trade lines with worse performance in past six months than in prior six months	487	10,513	0	3	0	3
Occurrences of 30-day delinquency in past 12 months	514	11,182	1	8	1	11
Percentage of open trade lines opened in past six months	508	11,023	17	114	18	99
Balance on open trade lines reported in past six months (\$)	508	11,023	83,755	439,815	118,248	310,594
Balance on medical collections (\$)	518	11,306	976	15,695	1,102	15,328



MHOS: Two-Year Post-Purchase Credit Profile Change by Loan Type for Units Purchased 2015Q1-2016Q2	N	Sum of weights	Loan type			
			Personal property		Mortgage	
			Mean	Standard deviation	Mean	Standard deviation
Credit score change	488	10,376	6	337	-7	419
Debt-to-income ratio (%) change	472	10,033	10	64	13	71
All trade lines change	493	10,403	2	23	2	26
Auto trade lines change	373	7,600	0	6	0	7
Retail trade lines change	406	8,343	0	12	0	13
Nondeferred student trade lines change	478	10,156	-0	7	-1	12
First mortgage trade lines change	392	8,720	-0	2	0	3
Personal installment trade lines change	347	7,626	1	11	0	11
Trade lines with worse performance in past six months than in prior six months change	452	9,464	0	3	0	6
Occurrences of 30-day delinquency in past 12 months change	497	10,656	0	10	1	13
Percentage of open trade lines opened in past six months change	479	10,145	-7	171	-10	169
Balance on open trade lines reported in past six months (\$) change	471	10,020	43,273	268,056	70,626	315,390
Balance on medical collections (\$) change	511	11,026	43	17,281	-98	18,266