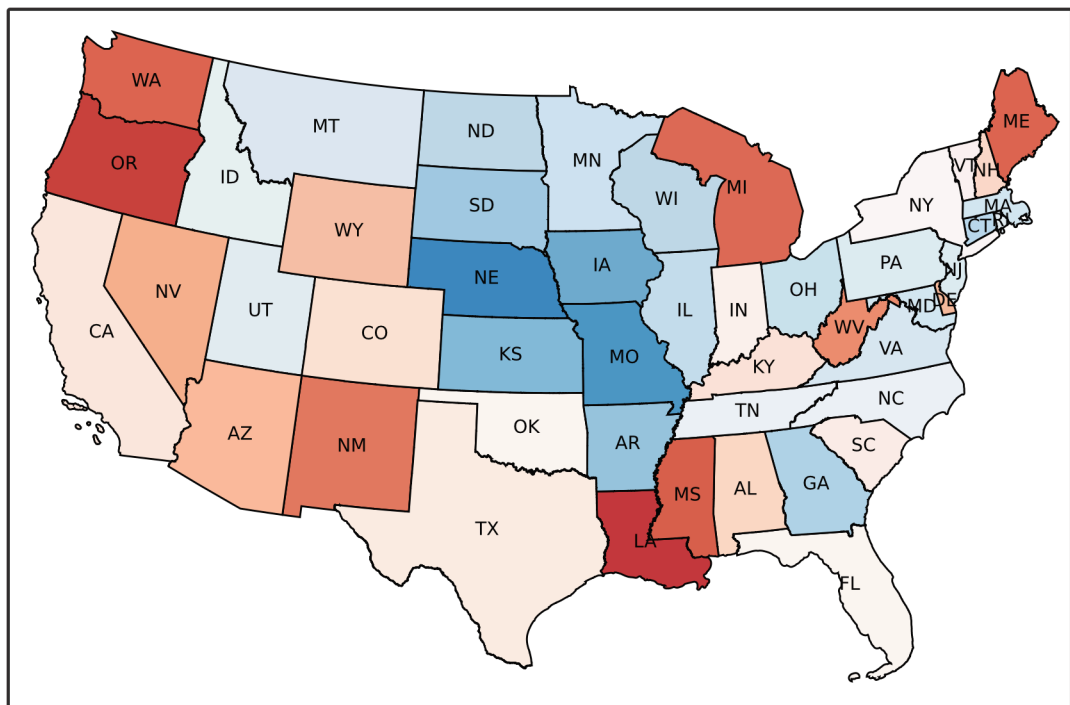




State Receptivity to Manufactured Housing

Why Zoning Reform Has Fallen Short



Center for Mortgage Access Report

Scott Susin

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State Receptivity to Manufactured Housing

Why Zoning Reform Has Fallen Short

Summary

Manufactured housing is the largest source of unsubsidized affordable housing in the United States, providing homes to roughly 7 million families. Manufactured homes are factory-built homes constructed to a federal building standard. While these homes once had a reputation for substandard construction, that reputation has long since faded as quality has improved, and recent surveys show high rates of consumer acceptance.

However, state laws designed to expand access to manufactured housing appear to have made little difference. Since 2024, at least five states have passed laws requiring cities to allow manufactured housing wherever traditional homes are permitted, but this report and other recent research find no evidence that earlier rounds of such reforms have worked. State reforms regulating local zoning codes have not even had much impact on the codes themselves. Understanding the reasons for these disappointing results matters for the next round of policy.

To compare states fairly, we measure each state's manufactured housing share relative to that expected based on the factors researchers have found most predictive of manufactured housing demand: income levels, population density, and climate. We call the resulting excess or shortfall the state's receptivity to manufactured housing.

- States with manufactured housing equal-treatment laws do not have higher manufactured housing shares on average than states without them, after accounting for income, population density, and climate. The same holds for laws that liberalize titling requirements.
- Equal-treatment laws are as common among states with the lowest manufactured housing shares (after adjusting for fundamentals) as among those with the highest.
- Even in the most receptive states, manufactured housing shares exceed predictions by only 2-3 percentage points, suggesting limits on what policy reform alone can accomplish.

None of these findings prove that reforms never succeed. But they do suggest that successes to date have been, at most, modest. Expanding manufactured housing will require more than new legislation. States must enforce the laws they pass, and policymakers at all levels must address the financing barriers that constrain demand regardless of what zoning allows.

Manufactured Housing's Role in Housing Affordability

The United States faces an acute affordable housing shortage, with the housing price-to-income ratio reaching 5.0 in 2024, up from below 4.0 throughout the 1990s.¹ Manufactured housing is an important source of affordable housing used by approximately 7 million households. These households make up 5% of the US total, exceeding the population served by all HUD-subsidized housing programs.² A typical manufactured home on a quarter-acre lot costs about 30 percent less than a site-built equivalent, cut-



ting a monthly mortgage payment by \$585 in 2025 dollars.³ It is a particularly important route to homeownership for lower-income families and for Hispanic and Native American households, who use it at higher rates than White Americans.⁴ However, despite significant quality improvements and persistent demand for affordable options, manufactured housing production remains more than 70% below its 1998 peak.⁵

Manufactured homes are factory-built homes constructed to a federal building standard (the HUD Code) and placed on permanent or semi-permanent sites, and are rarely moved once sited due to difficulty and expense. They are distinct from recreational vehicles and from older 'mobile homes' built before 1976. While these homes once had a reputation for substandard construction, that reputation has long since faded as quality has improved, and a 2022 Freddie Mac survey found that 77% of respondents familiar with manufactured housing view it somewhat or extremely positively.⁶ Manufactured homes once fell in value over time, but in recent decades they have appreciated at similar rates to site-built homes when prices are defined the same way (to include the value of the land).⁷ Yet the legacy of these lower-quality mobile homes lives on in the form of zoning laws, many of which still use this older term, and which often discriminate against manufactured housing.

Manufactured housing is distinct from modular homes, which are also assembled in factories, but which require a permanent foundation and more on-site assembly than manufactured housing, and are considered a higher-end product. Building regulations, zoning codes, and mortgage financing treat modular homes much as they do site-built homes.

For decades, policymakers and industry leaders have promoted factory assembly as the solution to stagnant construction productivity, with a construction worker today producing no more output per hour than in 1987, despite dramatic advances in materials and technology.⁸ But even as site-built housing has become increasingly expensive, factory-built alternatives have not gained popularity.

Two obstacles stand in the way: local zoning regulations that restrict where manufactured homes can be placed, and financing markets that are expensive, fragmented, and largely outside the mainstream.

State Zoning Reform

Here we focus on local zoning regulations, which studies have found to have meaningful impacts.⁹ For example, a recent study from the University of Maryland found that city and county laws allowing manufactured housing, even if only in limited areas, increased 10-year growth of the manufactured housing share by 2 percentage points, compared to a 5 percent baseline. So, local bans reduced but did not eliminate all manufactured housing. One reason for the modest impact is that manufactured housing accounted for 3 percent of new housing even in localities where it was prohibited, which could be due to zoning exceptions or inaccuracies in local governments' description of their laws when surveyed.

In recent years, a growing number of states have liberalized zoning regulations for manufactured housing. In 2024, Maine and Maryland joined the states that treat manufactured and site-built housing equally, allowing manufactured housing wherever single-family homes are permitted, with Kentucky and Montana following suit in 2025.¹⁰ Earlier this year, Virginia became the 24th state to enact such a law.¹¹ Prior to 2024, 19 states had similar equal treatment laws on the books.¹²



However, a recent study by Harvard’s Joint Center for Housing Studies found that such laws are associated with less manufactured housing, not more.¹³ The size of the reduction was 3 percentage points, which is a material difference when compared to the 10.7% MH share found in a typical county. A Freddie Mac study also found counter-intuitive, albeit small, negative effects of state zoning overrides friendly to manufactured housing.¹⁴

The impact of state laws was not the central focus of any prior studies. Here, we examine the evidence in detail and discuss some factors that have driven this limited impact.

Measuring Receptivity

The key measure used here is the difference between actual and predicted MH share, which represents a state’s “receptivity” to manufactured housing. The predicted values are calculated from the main factors that drive adoption of manufactured housing: income, population density, and climate. Areas with lower incomes, lower population density, and milder climates tend to have more manufactured housing for reasons unrelated to state policy, so we need to account for these differences before comparing states. These factors vary within states as well, so the statistical model is estimated with census tract data (small areas averaging roughly 4,000 people) and then aggregated to the state level. See Appendix A for full details.

After subtracting out these fundamentals from the MH share, what remains is the excess or shortfall due to other factors, such as the state regulatory environment and consumer preferences, allowing us to make a fairer comparison across states.

State Rankings

Map 1 displays receptivity across U.S. states, with shades of red indicating states with manufactured housing shares greater than predicted, while shades of blue indicate shares below. Louisiana and Oregon have shares more than 3 percentage points above predicted, while Mississippi, Maine, Washington, Michigan, and New Mexico exceed predictions by more than 2.5 percentage points. At the other extreme, Nebraska has a share more than 3 points below predicted, while Missouri, Iowa, and Kansas fall more than 2 points below. Alaska and Hawaii, not shown on the map, are both about 2 percentage points below predicted.

Table 1 lists data underlying the maps along with a categorization of state laws regulating local zoning requirements. The state MH share ranges from 0.0% in Washington, DC to 14.8% in Mississippi.

Comparing Receptivity in Neighbors

North Carolina vs. Virginia

North Carolina has a 5.9% MH share while Virginia has a 2.5% share. However, both are mapped with near-white shades, indicating that these shares lie close to model predictions. Both states have population densities of close to 220 per square mile. Virginia's median income of \$117,000 is 29% higher than North Carolina's \$91,000, which accounts for some of the difference, but the most important factor is that Virginia falls among the northern states rated as coldest by federal regulators, requiring more insulation and heating equipment. Regulations adopted in 2022 removed most of the state from this zone, but their enforcement has been repeatedly delayed.

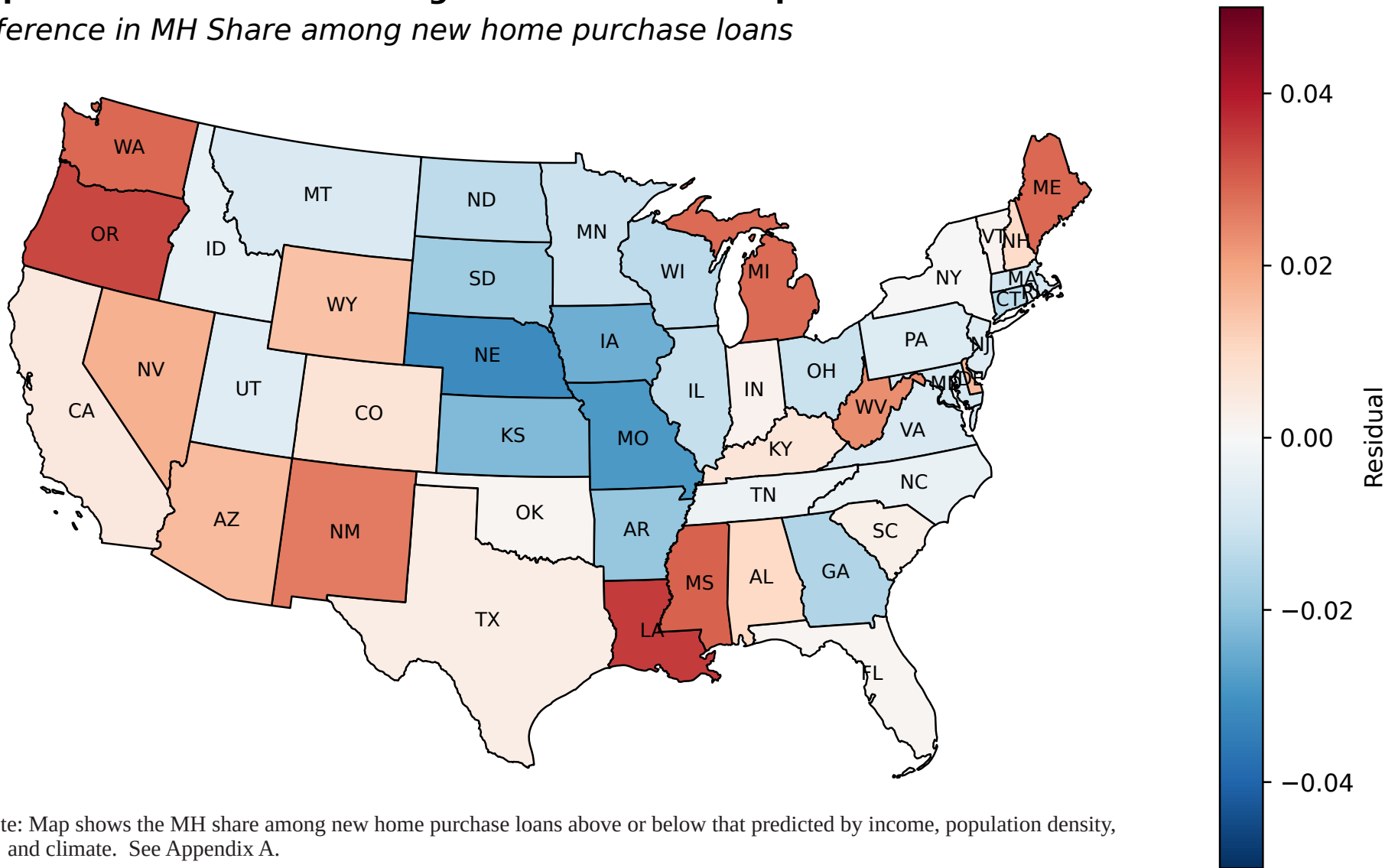
Michigan vs. Ohio

The model predicts similar MH shares of 3.9% in Michigan and 3.6% in neighboring Ohio, driven by similar median incomes (close to \$90,000 in both), roughly comparable population densities (175 per square mile in Michigan, 284 in Ohio), and similar climates. However, Michigan's actual MH share of 6.7% is nearly three-fold greater than Ohio's 2.5% share. Since both have state laws mandating equal treatment for manufactured housing, other factors must explain the difference, such as local zoning codes or differing consumer preferences.



Map 1: Manufactured Housing: Above or Below Expected

Difference in MH Share among new home purchase loans



Note: Map shows the MH share among new home purchase loans above or below that predicted by income, population density, and climate. See Appendix A.

Source: HMDA 2024, ACS 2023 5-year file, and Census GEOINFO file.



Table 1: States Ranked by Above or Below Predicted MH Share (New Loans)

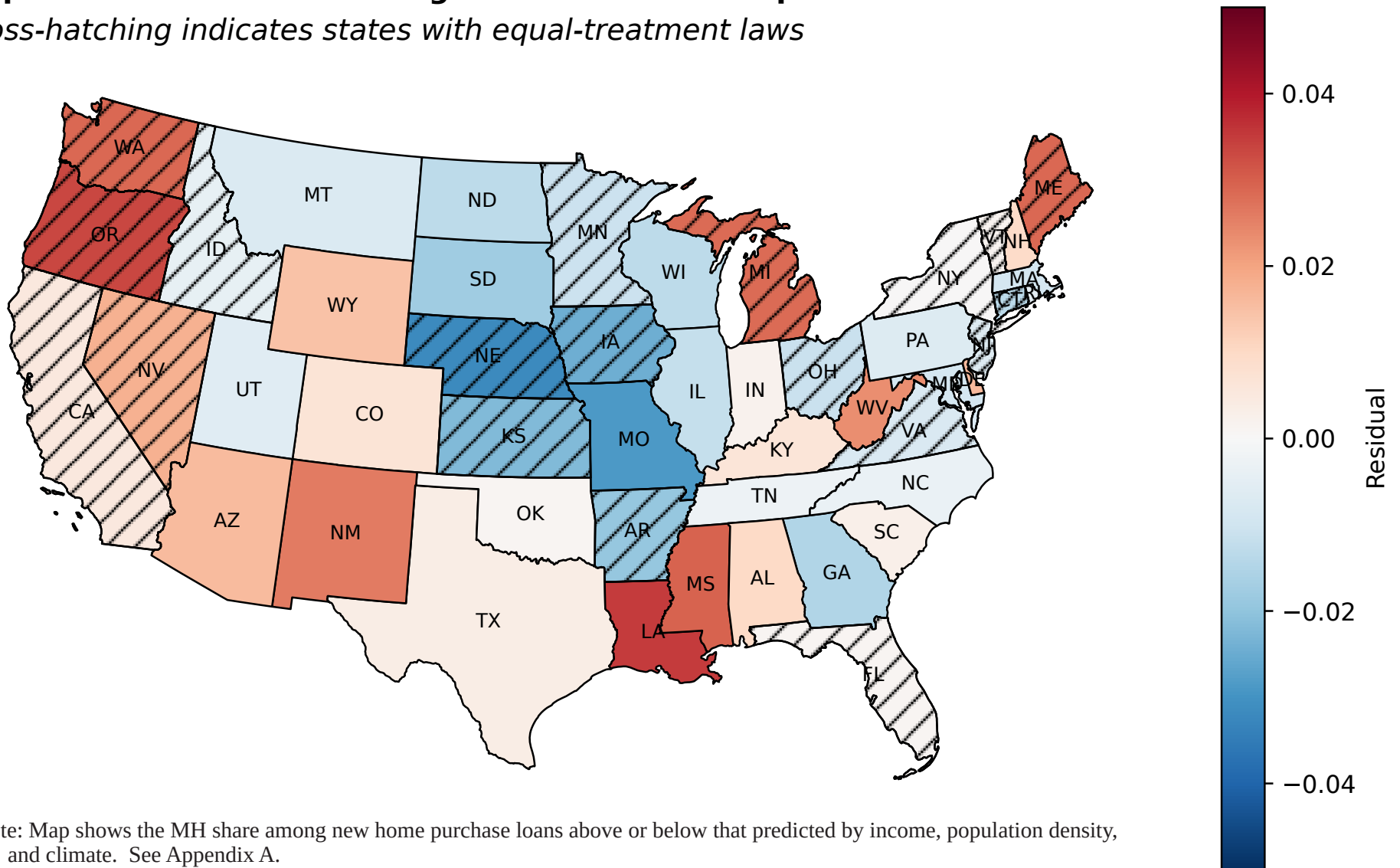
	State	Manufactured Housing Share	Manufactured Housing (predicted)	Above/Below Predicted	State Laws
1	LA	11.0%	7.5%	3.5%	■ No protections
2	OR	7.5%	4.2%	3.3%	■ Equal Treatment
3	MS	14.8%	11.9%	2.9%	■ Other protections
4	ME	8.5%	5.7%	2.9%	■ Equal Treatment
5	WA	5.5%	2.6%	2.9%	■ Equal Treatment
6	MI	6.7%	3.9%	2.8%	■ Equal Treatment
7	NM	10.8%	8.2%	2.6%	■ Other protections
8	WV	10.3%	8.0%	2.3%	■ No protections
9	NV	4.5%	2.8%	1.8%	■ Equal Treatment
10	DE	4.8%	3.2%	1.6%	■ No protections
11	AZ	6.0%	4.4%	1.6%	■ No protections
12	WY	8.0%	6.6%	1.5%	■ No protections
13	AL	9.5%	8.5%	1.0%	■ No protections
14	NH	4.0%	3.0%	0.9%	■ Other protections
15	CO	3.1%	2.4%	0.7%	■ Other protections
16	KY	8.7%	8.0%	0.6%	■ Other protections
17	CA	2.9%	2.4%	0.5%	■ Equal Treatment
18	TX	5.1%	4.8%	0.4%	■ No protections
19	SC	7.5%	7.2%	0.3%	■ No protections
20	IN	4.5%	4.3%	0.2%	■ Other protections
21	VT	5.6%	5.5%	0.1%	■ Equal Treatment
22	OK	7.5%	7.4%	0.1%	■ No protections
23	FL	4.1%	4.0%	0.1%	■ Equal Treatment
24	NY	2.1%	2.1%	0.0%	■ Equal Treatment
25	TN	6.6%	6.9%	-0.3%	■ Other protections
26	NC	5.9%	6.3%	-0.3%	■ Other protections
27	ID	4.3%	4.6%	-0.4%	■ Equal Treatment
28	RI	0.8%	1.3%	-0.5%	■ No protections
29	UT	2.0%	2.6%	-0.6%	■ No protections
30	NJ	0.5%	1.2%	-0.6%	■ Equal Treatment
31	DC	0.0%	0.7%	-0.7%	■ No protections
32	PA	2.3%	2.9%	-0.7%	■ Other protections
33	MT	6.6%	7.3%	-0.7%	■ No protections
34	VA	2.5%	3.2%	-0.7%	■ Equal Treatment
35	MA	0.5%	1.4%	-0.9%	■ No protections
36	MD	0.7%	1.6%	-0.9%	■ No protections
37	MN	1.9%	3.0%	-1.1%	■ Equal Treatment
38	OH	2.5%	3.6%	-1.1%	■ Equal Treatment
39	IL	1.3%	2.5%	-1.2%	■ No protections
40	WI	2.7%	4.0%	-1.3%	■ No protections
41	ND	3.9%	5.2%	-1.3%	■ No protections
42	CT	0.3%	1.7%	-1.4%	■ Equal Treatment
43	GA	4.4%	5.9%	-1.5%	■ No protections
44	SD	4.5%	6.3%	-1.8%	■ No protections
45	AR	7.8%	9.8%	-1.9%	■ Equal Treatment
46	HI	0.0%	2.0%	-2.0%	■ No protections
47	AK	0.4%	2.5%	-2.1%	■ No protections
48	KS	3.7%	5.9%	-2.2%	■ Equal Treatment
49	IA	2.4%	4.8%	-2.4%	■ Equal Treatment
50	MO	3.4%	6.3%	-2.9%	■ No protections
51	NE	1.1%	4.3%	-3.2%	■ Equal Treatment

Note: Predicted values control for median family income, population density, and climate. See Appendix A.

Source: HMDA 2024, ACS 2023 5-year file, and Census GEOINFO file; State laws coded from Mandelker (2016), NCLC (2022), and Frantz (2024).

Map 2: Manufactured Housing: Above or Below Expected

Cross-hatching indicates states with equal-treatment laws



Note: Map shows the MH share among new home purchase loans above or below that predicted by income, population density, and climate. See Appendix A.

Source: HMDA 2024, ACS 2023 5-year file, and Census GEOINFO file; State laws coded from Mandelker (2016), NCLC (2022), and Frantz (2024).

Much of this variance can be explained by fundamental factors, and after subtracting these out, the receptivity excess or shortfall ranges from -3.2% in Nebraska to 3.5% in Louisiana. This remaining variance is not very large. If Louisiana changed its manufactured housing receptivity to the average, its share would fall from 11.0% to 7.5%. At the opposite end of the scale, Nebraska's 1.1% share would change to 4.3% if its receptivity became average. While these are meaningful differences, they are not huge.

Limited Impact of State Laws

Map 2 adds cross-hatching to indicate states with laws mandating that local zoning codes treat manufactured and site-built housing equally. Four of the seven states (OR, ME, WA, MI) where MH shares most exceed predictions have state equal-treatment laws. Yet, similar equal treatment protections are also found in three of the six states with the greatest shortfalls relative to predictions (NE, IA, KS).

Table 2 examines this issue more systematically by comparing the average receptivity measure in states with and without equal-treatment laws. There is almost no difference in average receptivity to manufactured housing between the 19 equal-treatment states and the rest. Stated differently, there is almost no relationship between state equal-treatment laws and MH shares, after controlling for income, population density, and climate. This lack of a difference holds not only in the MH share among new home purchase loans, shown in Maps 1 and 2, but also in the MH share among all households and among all owner-occupied households.

Appendix A reports regression models analogous to Table 2. The results are consistent with the table, and show no statistically significant association between equal-treatment laws and MH shares. This is unsurprising, since these regression models are almost the same as those used to create the receptivity measures reported in the table. However, one model comes close to statistical significance but falls short of the conventional 5% level. This model examines only census tracts with at least one manufactured housing loan, finding an MH share 0.7 percentage points higher in equal-treatment states. While we should be cautious about accepting findings that are not statistically significant, this does hint at a small impact in places where manufactured housing is already well established.

Table 3 examines another aspect of the legal treatment of manufactured housing, laws governing whether they are titled as real or personal property when financed with a home-only loan.¹⁵ About 40% of financed manufactured housing use this type of loan, which typically charge interest rates several percentage points higher than traditional mortgages and come with fewer consumer protections. These loans are most commonly used when the home is placed on rented property, but are frequently used in other situations as well.

Eleven states have adopted laws allowing manufactured housing to be titled as real estate, even when placed on leased land. Another 15 states allow manufactured homes to be titled as real estate, but only when a long-term lease is used, with requirements ranging from 10-35 years. As with the equal-treatment laws, liberal titling laws make almost no difference in the manufactured housing share, after controlling for fundamental factors.



Table 2: Manufactured Housing Shares Relative to Predictions ("Receptivity"), by State Equal Treatment Law

After controlling for key predictors, states with and without equal treatment laws have about the same manufactured housing shares.

Does State Require Equal Treatment of Manufactured and Site-Built Housing?	States	Adjusted MH Share (% of):		
		New Home Purchase Loans	Owner-Occupied Households	All Households
Equal Treatment Law	19	0.0%	0.0%	-0.1%
No Equal Treatment Law	32	0.0%	0.0%	0.1%
Statistically significant difference between the two groups of states?		No	No	No

Table 3: Manufactured Housing Shares Relative to Predictions ("Receptivity"), by State Leasehold Titling Law

After controlling for key predictors, states with and without leasehold titling laws have about the same manufactured housing shares.

Can Leaseholds be Titled as Real Property?	States	Adjusted MH Share (% of):		
		New Home Purchase Loans	Owner-Occupied Households	All Households
All Leaseholds	11	-0.5%	-0.3%	-0.4%
Leaseholds with 10+ year terms	15	0.0%	0.6%	0.5%
No Leaseholds	25	0.2%	-0.2%	-0.1%
Statistically significant difference between the three groups of states?		No	No	No

Note: Table entries are average manufactured housing receptivity: the MH share above or below that predicted by income, population density, and climate. See Appendix A.

Source: HMDA 2024, ACS 2023 5-year file, and Census GEOINFO file; state laws coded from Mandelker (2016), NCLC (2022), and Frantz (2024); title laws classified by the author based on a review of relevant provisions compiled by Fannie Mae (2025)



Table 4a: Major Reform Scenario vs. Current National Manufactured Housing Share

What would happen to the national manufactured housing share if the least receptive states reached the 90th percentile of receptivity?

	New Home Purchase Loans	Owner-Occupied Households	All Households
Current national MH share	4.3%	5.8%	5.2%
Benchmark: the 90th percentile state	WV	SC	AZ
MH Share if all states met or exceeded benchmark	6.6%	8.3%	8.0%
Potential gain in national MH share under reform	2.4%	2.5%	2.8%

Table 4b: Modest Reform Scenario vs. Current National Manufactured Housing Share

What would happen to the national manufactured housing share if the least receptive states became average?

	New Home Purchase Loans	Owner-Occupied Households	All Households
Current national MH share	4.3%	5.8%	5.2%
Benchmark: the median state	FL	NY	TX
MH Share if all states met or exceeded benchmark	4.8%	6.4%	5.7%
Potential gain	0.5%	0.6%	0.5%

Note: Tables show the projected national manufactured housing share if states currently below the benchmark MH receptivity were brought up to the benchmark level. Receptivity is the MH share above or below that predicted by income, population density, and climate. See Appendix A.

Source: HMDA 2024, ACS 2023 5-year file, and Census GEOINFO file.



How Much Could Reform Accomplish?

The receptivity estimates can also be used to simulate the impact of reforms. Table 4a shows the manufactured housing share after a hypothetical reform that levels up the receptivity of all states to nearly that of today's most supportive states. The higher level examined is the 90th percentile of receptivity. Considering the home purchase loan share, the 90th percentile state is West Virginia. While West Virginia is not the most receptive state, it is near the top, with a share 2.3 percentage points above predicted, ranking eighth among all states. A nationwide reform effort that raised the other 43 states and DC to its level of receptivity would have to be considered highly successful. This thought experiment can be considered an upper bound on the possibilities of statewide policy reform, because receptivity reflects not only state policy, but also local policy, consumer preferences, and other factors.

If all states were at least as receptive to manufactured housing as West Virginia, the MH share among home purchase loans would increase from 4.3% to 6.6% which is a 53% increase in relative terms. For policy purposes, the fact that this increase amounts to 2.4 percentage points is more directly relevant than the relative increase. This impact represents 2.4% of homebuyers, which is the group that the policy aims to help. Even if we think that, for example, one third of homebuyers might consider purchasing a manufactured home if it were more available, 2.4 of 33.3 still amounts to only 7% of this group of potential customers. Thus, while a 53% relative increase would be quite important to the manufactured housing industry, and ought to be considered a successful reform, its impact on potential homebuyers would be meaningful but modest.

A similar exercise for the manufactured housing share among existing owner-occupied housing would increase the MH share from 5.8% to 8.3%, a 2.5 p.p. increase. The share among all households would increase by 2.8 p.p. Thus these alternate measures show similar impacts.

A more conservative estimate of the possibilities of reform would bring the bottom half of states up to the median. Here, the impacts would be quite small, for example an increase from 4.3% to 4.8% in the home purchase loans MH share.

The impacts are limited by the fact that the largest states tend to have average receptivity to manufactured housing, and the most receptive states are not greatly above average. California, Texas, Florida, and New York, have excess shares ranging from 0% to 0.5%. Reforms would have the largest impact in the least receptive states, such as Nebraska, Missouri, and Iowa which tend to be smaller.

In addition, even states that are quite receptive to manufactured housing do not have a much higher share than would be expected from fundamentals. West Virginia, the 90th percentile state has a purchase loan MH share of 10.3%, 2.3 percentage points above predicted, or 29% in relative terms. Even Oregon, the most receptive state in relative terms (79%) has a 7.5% share that is only 3.3 percentage points above its 4.2% expected share.

Why Hasn't Reform Worked?

State zoning laws are attempts to override local governments, who have traditionally held prime responsibility for land use. Cities and states that are disinclined to relinquish this authority have many tools to resist. Where state governments lift one restriction, local governments are often able to substitute another. "Look-alike" ordinances, requiring new housing to conform to the neighborhood's existing hous-

ing, can be hard to meet for manufactured homes which often have steel or vinyl siding and shallow roof pitches that differ from site-built housing. These regulations can impose costly requirements on manufactured housing, or even have the effect of a ban. Similarly, vague aesthetic standards give review committees leeway to forbid manufactured housing at their discretion.¹⁶

Local governments can simply choose not to comply with state law. For example, while New York State has an equal-treatment law, a survey of upstate metro areas found that 80% of local governments either restrict manufactured housing to leasehold communities or ban them outright.¹⁷

A recent study found that an index of state manufactured housing zoning mandates had very little ability to predict where local zoning laws allowed manufactured housing. The difference between states with no laws regulating local MH zoning and those with laws requiring equal treatment with site-built housing raised the probability of a locality allowing manufactured housing merely from 59% to 66%.¹⁸

Researchers have also found similar nullification of zoning laws in areas other than manufactured housing. Although minimum unit size requirements have been ruled unconstitutional in Connecticut, a recent study found that such requirements remained on the books, and are likely being enforced, in 22% of the State's zoning districts.¹⁹ Similarly, when California banned localities from prohibiting Accessory Dwelling Units (ADUs) in 2016, many local governments responded by adopting "poison pills" such as parking requirements, wide setback requirements, or restricting ADUs to relatives. The State responded with additional rounds of legislation in 2019 and 2022.²⁰ A study of California's Regional Housing Needs Allocation (RHNA) process documented disappointing results.²¹ Although localities were ostensibly assigned mandatory housing needs quotas, the state had little power to force localities to adopt zoning ordinances that complied with the plan, and from 2003-2014 only about half the mandated housing got built.

Manufactured Housing Financing Sources		
	Percent	Source
Mortgage	31%	2024 HMDA
Home-only loan	20%	2024 HMDA
Nontraditional loan	13%	Horowitz et al. (2025)
Cash	37%	Riley et al. (2021)
Total may not sum to 100% due to rounding.		

Credit Constraints

Combining data from several sources, we estimate that only 31% of manufactured homes are purchased with traditional mortgages.²² The rest are financed with home-only (20%) or nontraditional loans (13%), which have important disadvantages, such as greater expense and limited consumer protections.^{23 24} Many are not financed at all, with 37% of homes purchased in all-cash transactions, which has drawbacks of its own.

Of these financing sources, mortgages have the lowest interest rates and the most government support. In 2024, 73% of these manufactured housing mortgage borrowers obtained them from government-sponsored enterprises (the GSEs, Fannie Mae and Freddie Mac) or government agencies, primarily the Federal Housing Administration (FHA). These borrowers paid interest rates averaging 0.6 percentage points above prime, as measured by the Consumer Financial Protection Bureau's Average Prime Offer Rate (APOR) in the 2024 HMDA data. The remaining 27% without government backing faced interest rates 1.8 percentage points above prime.

Financing is much less available for the 20% of manufactured home buyers who rely on home-only loans. Because these loans are not secured by real estate, they are classified as personal property loans,



a designation that comes with fewer consumer protections and higher rates, and that makes them ineligible for GSE purchase. Nearly all (99%) of these borrowers rely on private sector lenders, paying rates averaging 3.6 percentage points above prime. The GSEs and government agencies participate only through small pilot programs.

These high rates may reflect limited competition. Three companies—21st Mortgage, Vanderbilt, and Triad—control 76% of the home-only loan market, according to my tabulations from the HMDA data. Moreover, 21st Mortgage and Vanderbilt are both owned by Berkshire Hathaway and avoid direct competition, with Vanderbilt focusing on affiliated dealers and 21st Mortgage serving the broader market.

It is also common for manufactured housing to be purchased with non-traditional financing. About 13% of manufactured home buyers are excluded from traditional loan markets and instead rely on alternate financial arrangements such as land contracts, rent-to-own agreements, or seller financing. Finally, manufactured home buyers often forgo institutional financing entirely, purchasing homes with cash. Overall, this financing landscape is costly, risky, and largely outside the mainstream, and likely plays a major role in limiting manufactured housing adoption, regardless of what zoning laws allow.

Conclusion

None of this is to say that state laws make no difference, just that they make little difference on average across states. Despite local government resistance, ADUs in California ultimately surged.²⁵ In New Hampshire, a state commitment to easing titling requirements resulted in substantially lower interest rates for home-only borrowers.²⁶

States with both equal-treatment laws and higher-than-predicted MH shares, like Maine, Oregon, Michigan, and Washington, suggest that laws can succeed, even if similar laws appear to have had little effect in Iowa, Nebraska, and Kansas. While merely passing legislation is insufficient, state laws can be successful if they are enforced and loopholes are closed by follow-up legislation.

At the same time, the evaluation of potential reforms finds that even substantial reforms would have only modest, albeit meaningful, impacts. Credit constraints, particularly the limited availability of conventional mortgages for manufactured homes, stand out as a major barrier to more widespread adoption of manufactured housing. The pro-housing reforms adopted by states in recent years are encouraging, but for manufactured housing, state legislation alone won't be enough. Federal action, particularly expanding access to conventional financing for homes on leased land, is likely necessary to meaningfully expand manufactured housing adoption at scale.

Endnotes

- 1 <https://fred.stlouisfed.org/graph/?g=1MKjj>
- 2 U.S. Census Bureau, American Housing Survey for the United States in 2023.
- 3 Calculated from Table 4 of Herbert et al. (2023) for a double-section manufactured home on a \$65,000 quarter-acre lot, assuming a 30-year mortgage and 2025 prices using the CPI-U. Herbert, Christopher, Chadwick Reed, and James Shen, "Comparison of the Costs of Manufactured and Site-Built Housing," Joint Center for Housing Studies, Harvard University (July 2023). <https://www.jchs.harvard.edu/research-areas/working-papers/comparison-costs-manufactured-and-site-built-housing>
- 4 Among racial and ethnic groups, 5.8% of White non-Hispanic households reside in manufactured housing, compared to 3.2% of Black non-Hispanic, 12.2% of Native American, and 6.7% of Hispanic households. The median income of manufactured housing households is \$40,000, compared to the \$71,000 national median. U.S. Census Bureau, American Housing Survey, 2023.
- 5 <https://fred.stlouisfed.org/graph/?g=1MKi2>
- 6 Freddie Mac, "Manufactured Housing 2022: An Untapped Affordable Housing Solution." https://www.freddiemac.com/research/docs/Manufactured_Housing_2022_Findings.pdf
- 7 Goodman, Laurie, and Daniel Pang. "Manufactured Homes Increase in Value at the Same Pace as Site-Built Homes," Urban Institute, November 19, 2024. <https://www.urban.org/urban-wire/manufactured-homes-increase-value-same-pace-site-built-homes>
- 8 <https://www.bls.gov/productivity/highlights/construction-labor-productivity.htm>
- 9 Dawkins, Casey J. "Local land use regulations and new mobile home concentration." *Urban Studies* (2025). <https://journals.sagepub.com/doi/abs/10.1177/00420980251335564> and Dawkins, Casey J. & C. Theodore Koebel, "Overcoming Barriers to Placing Manufactured Housing in Metropolitan Communities." *Journal of the American Planning Association*, vol. 76, no. 1, 73-88, (2009). <https://www.tandfonline.com/doi/abs/10.1080/01944360903401052>. Note that while Dawkins (2025) uses the term "mobile home," the study analyzes (post-1976) manufactured housing.
- 10 Maine L.D. 337, Maryland H.B. 538, Kentucky's H.B. 160, and Montana S.B. 252. See Siegel, Rachel and Linlin Liang, "States Take Crucial Steps to Expand Supply of Lower-Cost Single-Family Homes." Pew Charitable Trusts (September 3, 2025). <https://www.pew.org/en/research-and-analysis/articles/2025/09/03/states-take-crucial-steps-to-expand-supply-of-lower-cost-single-family-homes>
- 11 Virginia H.B. 655. See Mirshahi, Dean, "New Virginia law will expand zoning for manufactured homes." VPM News, April 7, 2026. <https://www.vpm.org/generalassembly/2026-04-07/maldonado-vanvalkenburg-grumbine-manufactured-housing-virginia>
- 12 The National Consumer Law Center counted 7 such states in 2022 and I added 3 following the work of Frantz, George, "Equitable Zoning for Manufactured Housing," *Zoning Practice*, American Planning Association (April 2024). <https://www.planning.org/publications/document/9287254/>. Professor Daniel Mandelker counted 15 in 2016. Because of incomplete overlap, 19 states appear on at least one list. See Mandelker, Daniel R. "Zoning barriers to manufactured housing," *Urban Lawyer*, Vol. 48, pp. 233- (2016). <https://papers.ssrn.com/sol3/Delivery.cfm?abstractid=2828268> and National Consumer Law Center, "Manufactured Housing Resource Guide," (August 2022). https://www.nclc.org/wp-content/uploads/2022/09/advocating_at_the_local_level.pdf
- 13 See Herbert, Christopher, Alexander Hermann, Daniel McCue, and Chadwick Reed, "A Review of Barriers to Greater Use of Manufactured Housing for Entry-Level Homeownership." Joint Center for Housing Studies, Harvard University (January 2024). <https://www.jchs.harvard.edu/research-areas/working-papers/review-barriers-greater-use-manufactured-housing-entry-level>
- 14 Aw, Astou, Larièce Brown, and Ashley Yea, "Identifying the Opportunities to Expand Manufactured Housing." Freddie Mac (2022). <https://web.archive.org/web/20230621115455/https://sf.freddiemac.com/docs/pdf/marketing-materials/identifying-the-opportunities-to-expand-manufactured-housing.pdf>



- 15 Title laws were classified by the author based on a review of relevant provisions compiled by Fannie Mae, Titling Requirements for Manufactured Homes (2025). <https://singlefamily.fanniemae.com/originating-underwriting/titling-manufactured-homes-real-property>
- 16 Mandelker, Daniel R. "Zoning barriers to manufactured housing," *Urban Lawyer*, Vol. 48, pp. 233- (2016). <https://papers.ssrn.com/sol3/Delivery.cfm?abstractid=2828268>
- 17 Frantz states that "57 percent of local governments restrict manufactured housing to leasehold manufactured housing communities; 30 percent prohibit them outright; and only 20 percent of local governments permit them in conventional residential zoning districts." Since the figures sum to 107%, there is clearly some overlap; my best guess is that the overlap is between categories 1 and 2, so I report 80%. See: Frantz, George. "Equitable Zoning for Manufactured Housing." *Zoning Practice*, American Planning Association (April 2024). https://planning-org-uploaded-media.s3.amazonaws.com/publication/download_pdf/Zoning-Practice-2024-04.pdf
- 18 Dawkins (2025) reports that 64% of the localities sample allow MH, and I used the reported regression results to compare the effect of reducing the state law index to zero (no MH protections) versus increasing it five (all protections).
- 19 Bronin, Sara C. , "Zoning by a Thousand Cuts." *Pepperdine Law Review**, vol. 50, p. 719- (2023). <https://digitalcommons.pepperdine.edu/plr/vol50/iss4/2>
- 20 Gill, Julia, and Jenny Schuetz. "In California, statewide housing reforms brush against local resistance." *Brookings Institution* (June 2023). <https://www.brookings.edu/articles/in-california-statewide-housing-reforms-brush-against-local-resistance/>
- 21 Elmendorf, Christopher S., Eric Biber, Paavo Monkkonen, and Moira O'Neill. "Making It Work." *Ecology Law Quarterly*, Vol. 47, No. 4 (2020): 973-1060. <https://papers.ssrn.com/sol3/Delivery.cfm?abstractid=3500139>
- 22 These figures are from three different surveys and cover time periods differing by a few years, but are the best available, and should be more than sufficiently accurate to support the discussion.
- 23 Figures for nontraditional loans calculated from Horowitz, Alex, Tara Roche, and Rachel Siegel, "1 in 5 Manufactured Home Borrowers Use Risky Contract Financing." *Pew Charitable Trusts* (2025). <https://www.pew.org/en/research-and-analysis/issue-briefs/2025/01/1-in-5-manufactured-home-borrowers-use-risky-contract-financing>
- 24 Figures for cash purchases from Riley, Sarah, Allison Freeman, and Jess Dorrance. "Alternatives to Mortgage Financing for Manufactured Housing." *Center for Community Capital, University of North Carolina at Chapel Hill* (2021) <https://www.pew.org/-/media/assets/2022/03/alternatives-to-mortgage-financing-for-manufactured-housing.pdf>
- 25 Boateng, Stephanie and Rashida Dorsey-Johnson, "Trends in Median Appraised Value for Properties With Accessory Dwelling Units in California," *Federal Housing Finance Agency Statistics Blog* (January 2, 2025). <https://www.fhfa.gov/blog/statistics/trends-in-median-appraised-value-for-properties-with-accessory-dwelling-units-in-california>
- 26 Staveski, Adam and Rachel Siegel, "States Hold the Keys to Greater Mortgage Access for Manufactured Home Buyers," *Pew Charitable Trusts* (February 17, 2026). <https://www.pew.org/en/research-and-analysis/issue-briefs/2026/02/states-hold-the-keys-to-greater-mortgage-access-for-manufactured-home-buyers>



Appendix A: Methods



Appendix A: Methods

This appendix explains how the main analysis was conducted, for readers with a background in economics or statistics. It covers dataset construction, statistical methods, and model development.

The goal here is to evaluate the impact of state policies on the incidence of manufactured housing (MH). To do this, we estimate a model that predicts the manufactured housing share based on fundamentals. Deviations from these predictions, when averaged at the state level, are due to state-specific factors, such as state policies on manufactured housing zoning and titling; and the preferences of a state's consumers. Once estimated, these state-level residuals can be compared to state policies. While a similar analysis could be conducted by including the state policies in the regression along with the fundamental factors, the approach here allows states to be ranked, mapped, and examined individually.

A potential weakness of this cross-sectional approach is that states where manufactured housing is popular may be more likely to adopt permissive laws. The opposite is also possible: when local governments are particularly hostile to MH, state legislators may pass preemption laws to override their opposition, as argued by Herbert et al. (2024).¹ Such endogeneity makes it difficult to determine whether the laws caused higher MH shares or merely reflect them. A before-and-after (differences-in-differences) comparison of adopting and non-adopting states would address this, but is left for future research.

Data

The main analysis models the MH share among 2024 home purchase loans at the census tract-level, using Home Mortgage Disclosure Act data (HMDA). Alternate analyses were conducted of the MH share among all households and the MH share among owner-occupied housing using American Community Survey (ACS) 2019-2023 data.² The different outcomes have different strengths and weaknesses, but on the whole, the HMDA data is preferred because it captures choices made in 2024, which could have been influenced by the laws in effect in that year. In contrast, the ACS data measures the housing stock, which reflects choices made over many decades, which in many cases could not have been influenced by laws enacted relatively recently.

The HMDA data has the disadvantage of covering only owner-occupied housing financed with mortgages or home-only loans. This limitation means that the HMDA data include only 37% of the manufactured housing universe, as discussed below. However, it is probably reasonable to assume that many statewide laws affect all types of manufactured housing similarly. For example, zoning laws apply whether or not the owner resides in the home and regardless of how it is financed. Another limitation of

1 Herbert, Christopher, Alexander Hermann, Daniel McCue, and Chadwick Reed, "A Review of Barriers to Greater Use of Manufactured Housing for Entry-Level Homeownership." Joint Center for Housing Studies, Harvard University (January 2024). <https://www.jchs.harvard.edu/research-areas/working-papers/review-barriers-greater-use-manufactured-housing-entry-level>

2 The Census Bureau releases tract-level ACS data only in 5-years files.

HMDA is that smaller lenders are not required to report. Thus, HMDA covers about 94% of loans, but in rural areas this falls to about 82%.³

By putting together several data sources, we can get a reasonable estimate of the percentage of manufactured housing excluded from these data. Rented homes make up 26% of all manufactured housing.⁴ Cash rather than borrowed funds is used in 37% of home purchase transactions.⁵ In the 2024 HMDA, 61% of manufactured borrowers use traditional mortgages and 39% use home-only loans. Of manufactured housing that is financed, 20% use alternate arrangements such as land contracts, rent-to-own agreements, or seller-financed mortgages.⁶ Putting these estimates into mutually exclusive categories, 26% of manufactured homes were rented, 27% of manufactured homes were purchased with cash, 23% were financed with mortgages, 15% with home-only loans, and 9% were financed using alternate arrangements. While these are figures from three different surveys, covering different time periods, the estimates are probably reasonable approximations. Thus, the mortgages and home-only loans covered in the HMDA data account for about 37% of manufactured homes.

HMDA data covers 80,784 Census tracts in the 50 states plus the District of Columbia where at least one mortgage was made in 2024. The ACS data covers tracts without mortgages as well, amounting to 81,584 tracts.

State Law Coding

The National Consumer Law Center (NCLC) reviewed state zoning laws in 2018 and categorized 7 states as allowing MH wherever single-family housing is allowed.⁷ A 2024 review of state laws was used to add 3 additional states to this category.⁸ A 2016 review of state laws by law professor Daniel Mandelker classified 12 states as requiring equal treatment of MH and site-built housing, and an additional 3 as requiring equal treatment by banning “any land use regulation directed specifically at manufactured housing.”⁹ I group the 15 Mandelker states together. Mandelker’s list of 15 includes only six of the ten NCLC/Frantz states, so the combined list totals 19 states. I did not attempt to reconcile the differences, which may reflect coding decisions, the timing of when laws were passed and the lists

3 The figures in the text are for the period since 2018, when the coverage rules were most recently revised and are approximations from the report’s graphs. See: Consumer Financial Protection Bureau, Report on the Home Mortgage Disclosure Act Rule Voluntary Review, March 2023, <https://www.consumerfinance.gov/data-research/research-reports/report-on-the-home-mortgagedisclosure-act-rule-voluntary-review/>.

4 2024 American Community Survey.

5 2019 American Housing Survey data from Riley, Sarah, Allison Freeman, and Jess Dorrance. "Alternatives to Mortgage Financing for Manufactured Housing." Center for Community Capital, University of North Carolina at Chapel Hill (2021). <https://www.pew.org/-/media/assets/2022/03/alternatives-to-mortgage-financing-for-manufactured-housing.pdf>

6 Horowitz, Alex, Tara Roche, and Rachel Siegel, “1 in 5 Manufactured Home Borrowers Use Risky Contract Financing.” Pew Charitable Trusts (2025). <https://www.pew.org/en/research-and-analysis/issue-briefs/2025/01/1-in-5-manufactured-home-borrowers-use-risky-contract-financing>

7 While the NCLC report is dated 2022, it is a revision of a 2018 report and its coding of state laws seems not to have been updated. See: National Consumer Law Center, "Manufactured Housing Resource Guide," (August 2022). https://www.nclc.org/wp-content/uploads/2022/09/advocating_at_the_local_level.pdf.

8 Frantz, George, “Equitable Zoning for Manufactured Housing,” Zoning Practice, American Planning Association (April 2024). <https://www.planning.org/publications/document/9287254/>.

9 Mandelker, Daniel R. "Zoning barriers to manufactured housing," Urban Lawyer, Vol. 48, pp. 233- (2016). <https://papers.ssrn.com/sol3/Delivery.cfm?abstractid=2828268>



compiled, or errors. An additional five states passed equal treatment laws from 2024 to 2026. They are not included in the analysis since, due to implementation lag, we would not expect them to affect outcomes in 2024 or earlier.

Mandelker states that “all of these statutes should invalidate zoning ordinances that treat manufactured housing unequally from traditional housing.” Nonetheless, grouping these 19 equal-treatment statutes together necessarily elides nuances that may be important. For example, the laws may differ in the scope they allow for local governments to impose “poison pill” requirements that in practice amount to a ban. These issues are beyond the scope of this study.

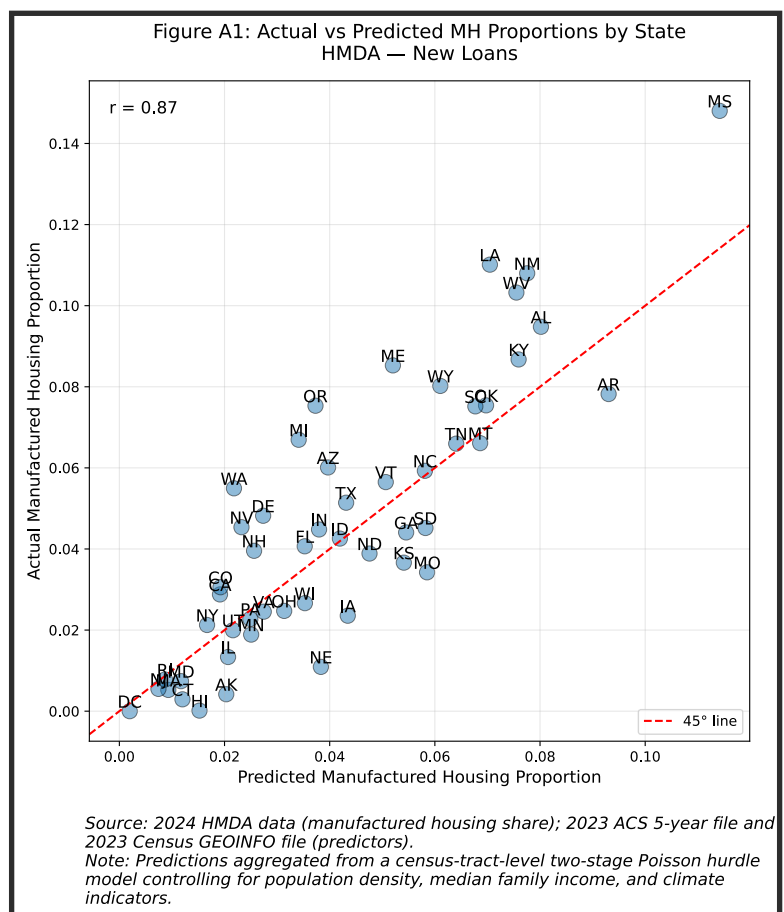
State laws regarding titling manufactured housing as real estate were classified from summaries of relevant state laws compiled by Fannie Mae.¹⁰

Poisson Hurdle Model

The main statistical model used here is a two-stage Poisson hurdle model estimated using census tract-level data. The first stage is a logit model predicting whether a tract has any manufactured housing and the second stage is a Poisson count model with an offset, which is equivalent to predicting the share of manufactured housing units in the tract.¹¹ Compared to a one-stage model predicting a tract’s manufactured housing share, the Poisson model has the advantage of constraining the predicted counts to be positive, and thus the resulting shares will lie between zero and one. The second stage Poisson model has the advantage over a log-linear model of avoiding transformation bias when aggregating the predictions.¹²

State Level Aggregation

The tract-level predicted counts from the Poisson model are aggregated to the state level, and divided by the number of loans, yielding the



10 Fannie Mae, Titling Requirements for Manufactured Homes (2025). <https://singlefamily.fanniemae.com/originating-underwriting/titling-manufactured-homes-real-property>

11 Strictly speaking, the Poisson regression models the log of the number of MH units. By including the log of the number of loans as a predictor, with its coefficient fixed to one (called an “offset”), the regression is exactly equivalent to modeling the log of the manufactured housing share.

12 The issue is that $e^{\ln Y}$ is a downward-biased estimate of \bar{Y} (i.e., $\exp(\text{mean of } \ln Y)$ vs. $\text{mean of } Y$). However, when corrections for the bias are made, the model performs about as well as the Poisson model. Miller, Don M., "Reducing Transformation Bias in Curve Fitting." *The American Statistician*, vol 38, no. 2: (1984). doi:10.1080/00031305.1984.10483180.



state manufactured housing share. This aggregation accounts for the non-linear nature of the model. In particular, estimating at the state or county level would amount to the assumption that a tract with low population density and another with high density are equivalent to two medium-density tracts. The tract-level model allows for the likely possibility that this assumption does not hold.

Figures A1 and A2 present the results of this aggregation for the HMDA and ACS models, respectively. The figures plot actual versus predicted MH shares, indicating that the model fits well, with a correlation of 0.87 in the HMDA data and 0.82 in the ACS data. At the same time, a number of states lie above or below the predictions. For example, in Figure A1 Louisiana and Oregon have MH shares about 4 percentage points (p.p.) greater than their predicted values, which in Oregon’s case is roughly double the predicted share. Other states, such as Iowa, Nebraska, and Missouri, fall well short of predictions. These residuals are the focus of this study.

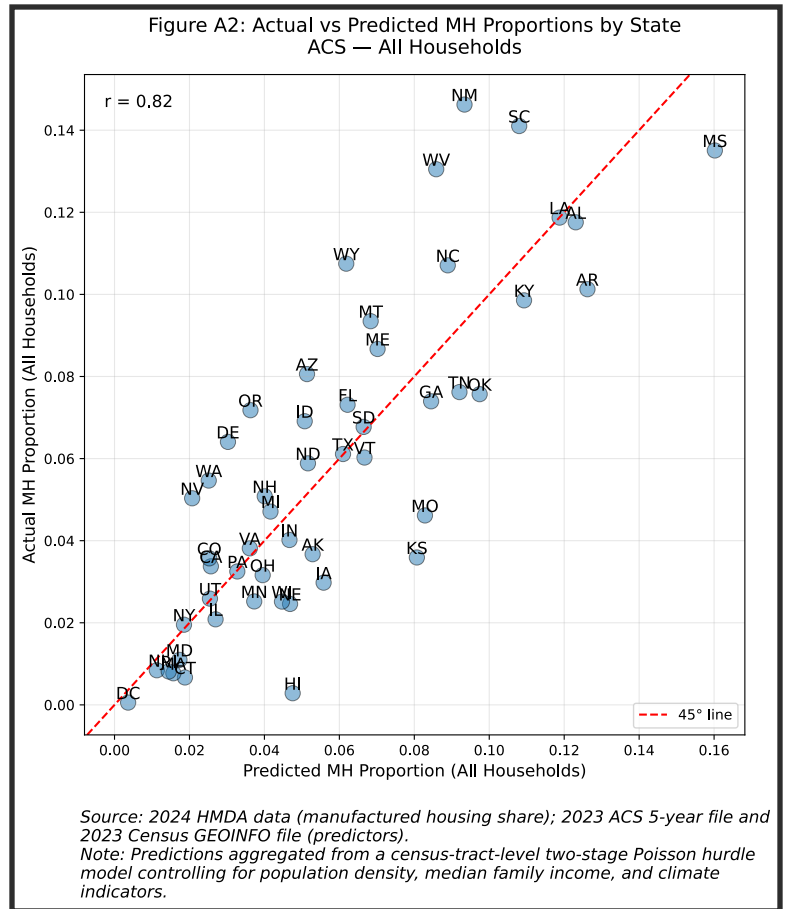


Table A1 compares the results of this aggregation to an alternative model where OLS is used to estimate a one-stage model of county MH shares. In the HMDA data, the Poisson tract-level model has a substantially higher R^2 than the OLS county-level model (76% vs. 64%), while both models perform similarly in the ACS data. Overall, the Poisson model is highly predictive, with R^2 ranging from 76% to 68% across datasets.

Table A1: State-Level Fit of Hurdle Model vs. County OLS

	Hurdle (tract → state)		County OLS (county → state)	
	R^2	Mean resid.	R^2	Mean resid.
HMDA: MH Share of Loans	0.76	+0.0044	0.64	+0.0090
ACS: All Households	0.68	+0.0010	0.70	+0.0024
ACS: Owner-Occupied	0.68	+0.0029	0.69	+0.0060

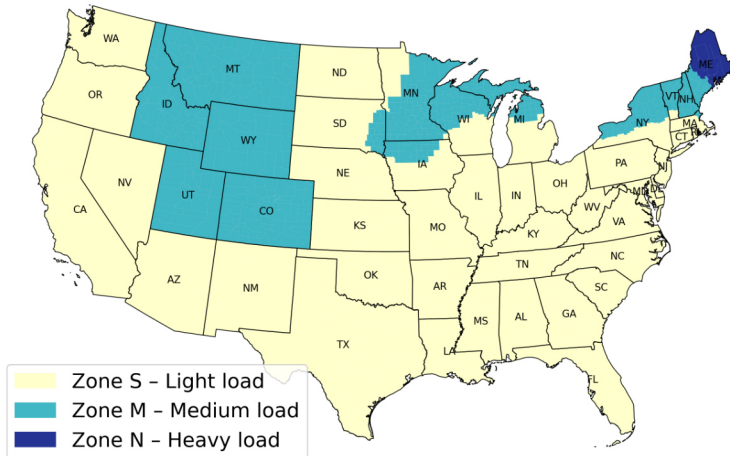
R^2 = squared correlation of actual vs. predicted state MH share. Mean residual = mean across states of (actual - predicted).



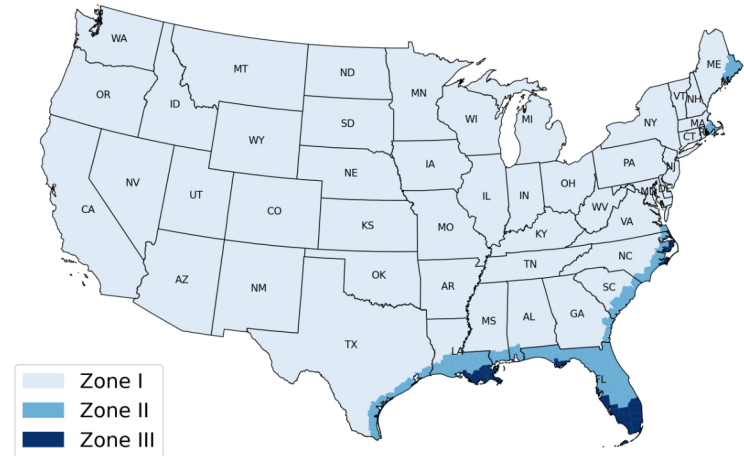
Exhibit A1: Climate Zone Classifications

HUD Manufactured Housing Construction and Safety Standards

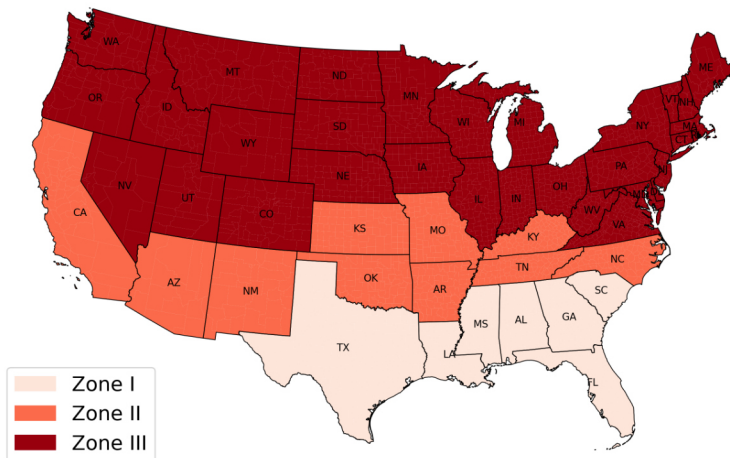
Roof Load Zones



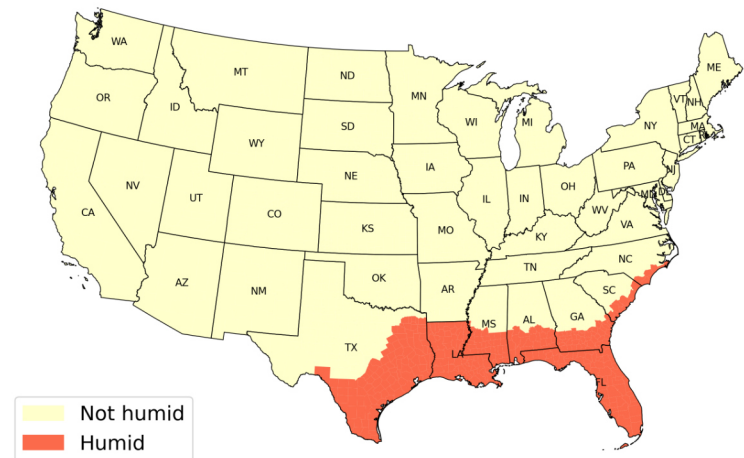
Wind Zones



Heat Zones



Humid Zone



Across all three outcomes, the average state-level residuals are about twice as large in the OLS model. While the residuals from a state-level model would be forced to average to zero, the aggregated model has no such restriction. Thus, residuals averaging to something other than zero are a sign of functional form misspecification, although such misalignment can also occur by chance in small samples such as the 51 observations here.

While the rank ordering of the states is unaffected by the level of the residuals, for counterfactual exercises it is desirable that the residuals average to zero. For the HMDA data Poisson model, the residuals average to 0.0044, which is 10% of the national 0.043 MH share. The ACS data Poisson model residuals for all households are 0.0010, which is 2% of the national average of 0.052. This misalignment is somewhat visible for the HMDA results in Figure A1, where the points have some tendency to lie above this predicted line, but is hardly noticeable for the ACS results in Figure A2. In the body of this report, we adjust for this misalignment by the simple expedient of subtracting the mean to center the residuals at zero.

Model Estimates and Interpretation

Tables A2 and A3 display the means of the variables used in the regression analysis. The mean of the natural logarithm of tract median family income is 11.4 (\$89,322). The mean of the natural logarithm of population density is 7.1 (1,212 population per square mile). The HMDA and ACS samples are slightly different because the HMDA data excludes tracts with no mortgage loans.

Table A4 displays a version of the analysis model in columns (1a) and (1b) which includes an indicator for the presence of a state equal-treatment law. In the body of report, the underlying regression models do not include this indicator and instead compare state-level aggregate residuals across states grouped by the presence of an equal-treatment or titling law. Working with state residuals has the advantage of allowing states to be ranked and being relatively easy to interpret. However, in academic research the impact of state laws would typically be tested by including their indicators directly in the regression model, as is done here. This alternate specification thus serves as a useful robustness check.

The model controls for income, population density, and indicators for heat, wind, roof, and humidity zones. These last are regions (states and counties) established by HUD production requirements, shown in Exhibit A1. In colder areas, more insulation is required; in zones with heavy snowfall, roofs must be reinforced; and in hurricane-prone areas, they must be built to withstand high winds. Column (2) displays an OLS regression of the manufactured housing share on the same variables. Column (3) displays a similar county-level regression, for comparison with the previous literature. All standard errors are adjusted for state-level clustering. Finally, column (4) displays a state-level regression, with heteroskedasticity-robust (HC1) standard errors, with the simple model serving as a robustness check.

The one-stage OLS model is easier to interpret, and is worth reviewing to see if the results are plausible. The scale of the estimated effects can be compared to an average manufactured housing share of 5.5% (in the unweighted tract-level dataset). The OLS model in column 2 shows that a one SD (0.44) increase in $\ln(\text{Median family income})$ decreases the manufactured housing share by 2.1 percentage points. At the mean, a one SD increase in population density (by 2.12 log units), decreases the manufactured housing share by 3.8 percentage points.¹³ The manufactured housing share is 2.0 p.p. higher in the heat zone I

¹³ Calculated as $\beta_1 \ln d_0 + \beta_2 (\ln d_0)^2 - \beta_1 \ln \bar{d} - \beta_2 (\ln \bar{d})^2$ using the unrounded $\beta_2 = 0.0027$.



(warmest states) than in the middle states and 2.6 p.p. lower in heat zone III (colder states). The MH share is an additional 1.9 p.p. lower in the snowy middle roof zone¹⁴, and 6.3 p.p. lower in the North roof zone (Alaska and parts of Maine). The MH share is only about 0.6 p.p. lower in the coastal wind zone II (much of the Gulf coast and Atlantic seaboard), but it is 3.7 p.p. lower in wind zone III (Hawaii, and parts of Alaska, Florida, Louisiana, and North Carolina), the most hurricane-prone parts of the country.

HUD also has specific requirements for vapor barriers in humid areas, shown in the Exhibit A1 maps, but they are omitted from the regression because they are relatively inexpensive, and because they have substantial overlap with wind zones II and III and complicate their interpretation.

The main analysis relies on the Poisson hurdle model, Models 1a and 1b. Model 1a is a logit model so e^{β} are odds ratios. Model 1b is a Poisson regression, so e^{β} are incidence rate ratios (ratios of MH shares). The models have generally similar findings, although there are some differences in the results for the HUD zones. For example, its coefficient of -1.29 implies that a one SD (0.44) increase in $\ln(\text{income})$ decreases the MH share by 43% ($\exp(-1.29 \cdot 0.44) - 1$). From the average share of 5.5%, this is a decrease of 2.4%, quite similar to the 2.1% OLS estimate calculated above. The signs of $\ln(\text{density})$ and $\ln(\text{density})^2$ differ across models (1a), (1b), and (2), but considering these coefficients jointly, all three models imply similar downward-sloping curves over the range of the data.

Table A5 displays similar results for the manufactured housing share among all owner-occupied households from the ACS sample.

Robustness Checks

The equal-treatment law indicators in Tables A4 and A5 are consistent with the results presented in Table 2 in the body of the report, supporting the finding that state laws have relatively little impact on MH shares. None are statistically significant at the 5% level. The one partial exception is model (1b) of Table A4, where the equal treatment indicator is statistically significant at the 10% level. The coefficient of 0.118 indicates that state laws increase the MH share by 12.5% ($\exp(0.118) - 1$). From a base share of 5.5%, this is an increase of 0.7 p.p, a modest but meaningful effect. While we would not want to overinterpret such marginally significant results, this impact in a model limited to tracts with at least one MH loan may be a hint that state laws can have an impact where manufactured housing is already well established.

Table A6 displays results from alternate state law coding, with the equal treatment states split into those identified by the NCLC or Frantz, and those identified only by Mandelker. The six states that overlap are included in the NCLC/Frantz group. For the MH shares of HMDA home purchase loans, there is almost no difference across the three groups. For the MH shares of ACS owner-occupied households, the NCLC/Frantz and Mandelker states differ by 0.7 p.p., but the differences are not statistically significant. Thus, these alternate coding schemes appear to have little or no impact on the findings.

14 The middle roof zone is Idaho, Montana, Wyoming, Utah, Colorado, New Hampshire, and parts of South Dakota, Minnesota, Iowa, Wisconsin, Michigan, New York, Massachusetts, Maine, and Vermont.

Regression Specifications in Other Research

Several previous researchers have estimated similar models (Dawkins 2025; Dawkins & Koebel, 2010; Brooks & Mueller, 2020; Herbert et al., 2024).^{15 16 17 18} Two of the studies used county-level data, while Dawkins and Dawkins & Koebel used a mix of cities and counties. The studies modeled different outcomes. The dependent variable was the 2015 MH share in Brooks & Mueller, 2003-2007 MH placements in Dawkins & Koebel, and the MH share of 20-year housing growth in both Dawkins and Herbert et al. Note that while some of these studies use the term “mobile home,” all are analyzing post-1976 manufactured housing, except for Brooks & Mueller, who study the full mobile and manufactured housing stock, most of which was built after 1976.

There is little agreement on the choice of variables to include in the model. No prior study included all three types of variables included in our model: income, population density, and the climate. Three of the four models included median income while Brooks & Mueller instead included six variables highly correlated with income (persistent poverty, near poverty, receipt of public assistance, share with a college degree, etc.) Three of the studies included density, but Brooks & Mueller included only an indicator for non-metro counties. Only Brooks & Mueller included measures of the weather and climate, which they found to be important predictors.

15 Dawkins, Casey J. "Local land use regulations and new mobile home concentration." *Urban Studies* (2025). <https://journals.sagepub.com/doi/abs/10.1177/00420980251335564>

16 Dawkins, Casey J. & C. Theodore Koebel, "Overcoming Barriers to Placing Manufactured Housing in Metropolitan Communities." *Journal of the American Planning Association*, vol. 76, no. 1, 73-88, (2009). <https://www.tandfonline.com/doi/abs/10.1080/01944360903401052>

17 Brooks, Matthew M., and J. Tom Mueller. "Factors affecting mobile home prevalence in the United States: Poverty, natural amenities, and employment in natural resources." *Population, Space and Place* vol. 26, no. 4, (2020). <https://onlinelibrary.wiley.com/doi/abs/10.1002/psp.2311>

18 Herbert, Christopher, Alexander Hermann, Daniel McCue, and Chadwick Reed, "A Review of Barriers to Greater Use of Manufactured Housing for Entry-Level Homeownership." Joint Center for Housing Studies, Harvard University (January 2024). <https://www.jchs.harvard.edu/research-areas/working-papers/review-barriers-greater-use-manufactured-housing-entry-level>



Table A2: Descriptive Statistics - HMDA Tract-Level Sample

	Mean	SD
Dependent variables		
MH share of purchase loans	0.0552	0.131
Regressors		
ln(Median family income)	11.4	0.443
ln(Population density)	7.1	2.12
ln(density) ²	54.9	27.1
Heat zone I (ref: II)	0.24	0.427
Heat zone III (ref: II)	0.502	0.5
Roof zone M (ref: S)	0.0917	0.289
Roof zone N (ref: S)	0.00376	0.0612
Wind zone II (ref: I)	0.0663	0.249
Wind zone III (ref: I)	0.0408	0.198
Equal-treatment law	0.477	0.499

N = 80,784.

Source: Dependent variables: 2024 HMDA data; income: 2023 ACS 5-year file; density: Census 2023 GEOINFO file; climate: 24 CFR 3280, subparts D & F.

Table A3: Descriptive Statistics - ACS Tract-Level Sample

	Mean	SD
Dependent variables		
MH share of all households	0.0573	0.106
MH share of owner-occ. households	0.0582	0.112
Regressors		
ln(Median family income)	11.4	0.447
ln(Population density)	7.11	2.13
ln(density) ²	55.1	27.3
Heat zone I (ref: II)	0.24	0.427
Heat zone III (ref: II)	0.502	0.5
Roof zone M (ref: S)	0.0912	0.288
Roof zone N (ref: S)	0.00387	0.0621
Wind zone II (ref: I)	0.0661	0.248
Wind zone III (ref: I)	0.041	0.198
Equal-treatment law	0.478	0.5

N = 81,584.

Source: Dependent variables and income: 2023 ACS 5-year file; density: Census 2023 GEOINFO file; climate: 24 CFR 3280, subparts D & F.



Table A4: MH Share of All Purchase Loans, HMDA

	(1a)	(1b)	(2)	(3)	(4)
	P(any MH)	Count MH>0	OLS (tract)	OLS (county)	OLS (state)
Constant	+14.049*** (1.212)	+13.944*** (0.851)	+0.902*** (0.081)	+2.750*** (0.295)	+1.515*** (0.409)
ln(Median family income)	-1.144*** (0.103)	-1.295*** (0.073)	-0.047*** (0.005)	-0.227*** (0.026)	-0.123*** (0.036)
ln(Population density)	+0.585*** (0.149)	-0.384*** (0.048)	-0.062*** (0.010)	-0.014 (0.010)	-0.012 (0.014)
ln(density) ²	-0.114*** (0.016)	+0.020*** (0.006)	+0.003*** (0.001)	-0.000 (0.001)	+0.000 (0.001)
Heat zone I (ref: II)	+0.006 (0.164)	+0.093 (0.065)	+0.020* (0.012)	+0.074*** (0.020)	+0.016 (0.014)
Heat zone III (ref: II)	-0.711*** (0.197)	-0.007 (0.087)	-0.026*** (0.007)	-0.018 (0.021)	-0.006 (0.008)
Roof zone M (ref: S)	+0.137 (0.260)	-0.237** (0.119)	-0.019** (0.008)	-0.025* (0.014)	+0.003 (0.010)
Roof zone N (ref: S)	-0.247 (0.438)	-0.372** (0.187)	-0.063*** (0.024)	-0.043 (0.033)	-0.004 (0.023)
Wind zone II (ref: I)	+0.097 (0.138)	-0.188*** (0.064)	-0.006 (0.007)	-0.005 (0.016)	+0.014 (0.031)
Wind zone III (ref: I)	-0.923*** (0.312)	-0.267** (0.114)	-0.037*** (0.010)	-0.083*** (0.019)	-0.051*** (0.019)
Equal-treatment law	+0.161 (0.169)	+0.118* (0.067)	+0.003 (0.006)	-0.013 (0.016)	-0.003 (0.006)
N	80,784	24,621	80,784	3,129	51
Pseudo-R ² / Adj. R ²	0.356	0.261	0.298	0.417	0.645

Note: State-clustered SEs in parentheses (HC1 for state-level OLS). Pseudo-R² for Poisson models; Adjusted R² for OLS models. * p<0.10 ** p<0.05 *** p<0.01



Table A5: MH Share of Owner-Occupied Households, ACS

	(1a)	(1b)	(2)	(3)	(4)
	P(any MH)	Count MH>0	OLS (tract)	OLS (county)	OLS (state)
Constant	+18.805*** (0.815)	+10.521*** (0.863)	+0.849*** (0.073)	+1.968*** (0.183)	+1.345*** (0.433)
ln(Median family income)	-1.054*** (0.077)	-1.076*** (0.077)	-0.053*** (0.006)	-0.162*** (0.016)	-0.104*** (0.038)
ln(Population density)	-0.969*** (0.244)	-0.033 (0.062)	-0.029*** (0.007)	+0.003 (0.008)	-0.017 (0.014)
ln(density) ²	+0.007 (0.016)	-0.008 (0.007)	+0.001 (0.001)	-0.001* (0.001)	+0.001 (0.001)
Heat zone I (ref: II)	-0.082 (0.144)	+0.114 (0.085)	+0.011 (0.010)	+0.039** (0.019)	+0.009 (0.011)
Heat zone III (ref: II)	-0.650*** (0.151)	-0.355*** (0.108)	-0.029*** (0.007)	-0.020 (0.015)	-0.017 (0.012)
Roof zone M (ref: S)	+0.271 (0.179)	-0.052 (0.107)	-0.009 (0.007)	-0.013 (0.010)	+0.003 (0.010)
Roof zone N (ref: S)	+0.755*** (0.220)	-0.103 (0.122)	-0.026 (0.017)	-0.002 (0.019)	+0.006 (0.018)
Wind zone II (ref: I)	+0.139 (0.119)	+0.069 (0.058)	+0.011** (0.005)	+0.030* (0.016)	+0.073*** (0.020)
Wind zone III (ref: I)	-0.145 (0.228)	+0.087 (0.122)	-0.014 (0.010)	-0.025* (0.014)	-0.061*** (0.014)
Equal-treatment law	+0.151 (0.133)	+0.156* (0.082)	+0.007 (0.006)	-0.012 (0.011)	-0.007 (0.007)
N	81,584	38,252	81,584	3,129	51
Pseudo-R ² / Adj. R ²	0.324	0.259	0.265	0.462	0.728

Note: State-clustered SEs in parentheses (HC1 for state-level OLS). Pseudo-R² for Poisson models; Adjusted R² for OLS models. * p<0.10 ** p<0.05 *** p<0.01



Table A6: Manufactured Housing Shares Relative to Predictions ("Receptivity") by Two Classifications of State Equal Treatment Law

Under both classifications, states with and without equal treatment laws have about the same manufactured housing shares, after controlling for key predictors.

Does State Require Equal Treatment of Manufactured and Site-Built Housing?	States	Adjusted MH Share (% of):		
		New Home Purchase Loans	Owner-Occupied Households	All Households
Equal Treatment Law (NCLC/Frantz)	10	-0.1%	0.3%	0.1%
Equal Treatment Law (Mandelker)	9	0.0%	-0.4%	-0.4%
No Equal Treatment Law	32	0.0%	0.0%	0.1%
Statistically significant difference between the three groups of states?		No	No	No

Note: Table entries are average manufactured housing receptivity: the MH share above or below that predicted by income, population density, and climate. See Appendix A.

Source: HMDA 2024, ACS 2023 5-year file, and Census GEOINFO file; state laws coded from Mandelker (2016), NCLC (2022), and Frantz (2024).

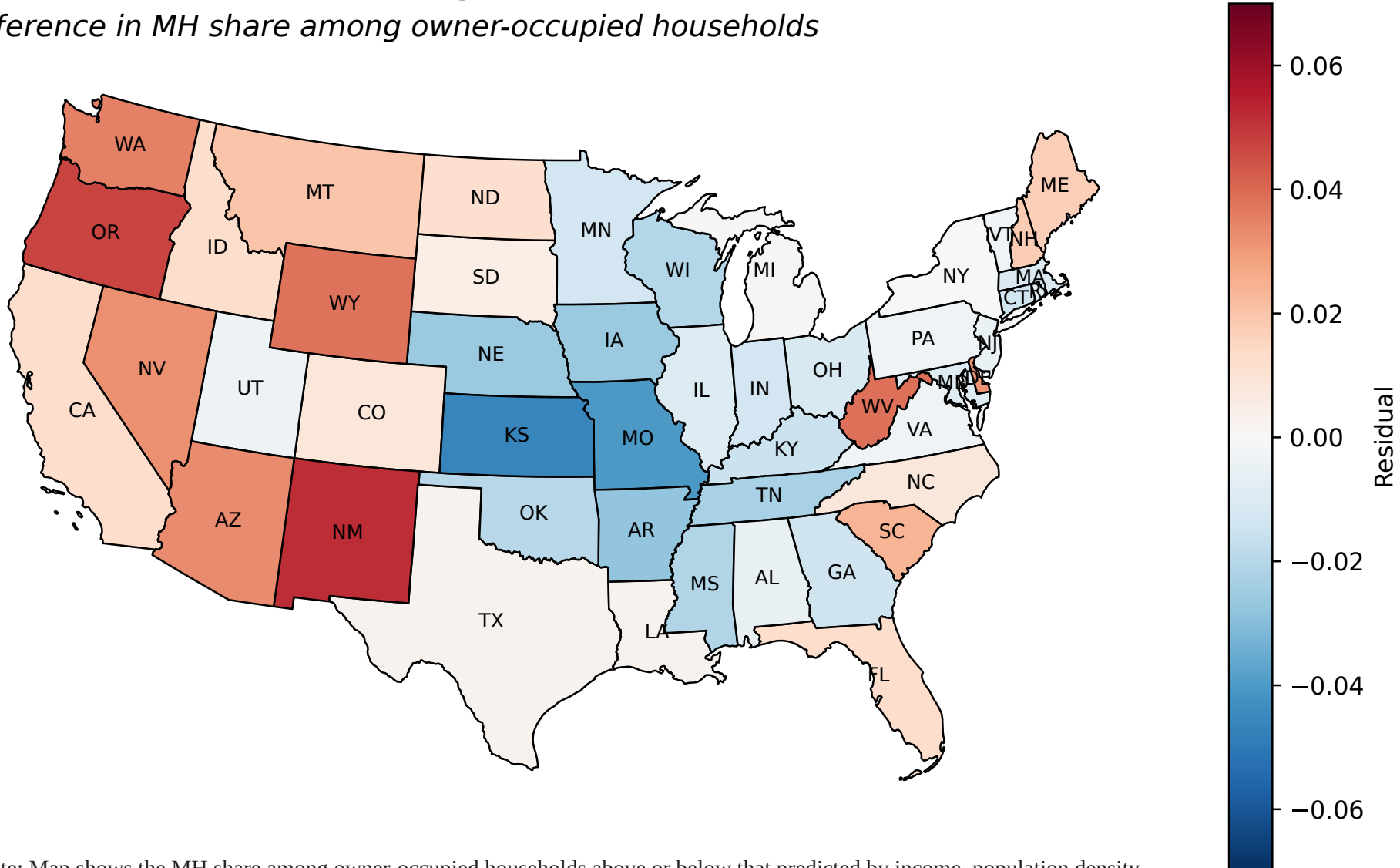


Appendix B: Additional Exhibits



Map B1: Manufactured Housing: Above or Below Expected

Difference in MH share among owner-occupied households



Note: Map shows the MH share among owner-occupied households above or below that predicted by income, population density, and climate. See Appendix A.

Source: HMDA 2024, ACS 2023 5-year file, and Census GEOINFO file; State laws coded from Mandelker (2016), NCLC (2022), and Frantz (2024).



Table B1: States Ranked by Above or Below Predicted MH Share (New Loans)

	State	Loans	Pop. per sq. mi.	Median Family Income	Manufactured Housing Share	Manufactured Housing (predicted)	Above/Below Predicted
1	LA	34,100	107	\$79,970	11.0%	7.5%	3.5%
2	OR	36,906	44	\$104,013	7.5%	4.2%	3.3%
3	MS	23,027	61	\$70,816	14.8%	11.9%	2.9%
4	ME	12,091	44	\$91,442	8.5%	5.7%	2.9%
5	WA	71,163	119	\$120,278	5.5%	2.6%	2.9%
6	MI	90,134	175	\$91,624	6.7%	3.9%	2.8%
7	NM	17,789	18	\$79,500	10.8%	8.2%	2.6%
8	WV	14,278	74	\$75,687	10.3%	8.0%	2.3%
9	NV	33,457	30	\$91,906	4.5%	2.8%	1.8%
10	DE	10,935	514	\$107,048	4.8%	3.2%	1.6%
11	AZ	79,647	74	\$95,184	6.0%	4.4%	1.6%
12	WY	5,448	6	\$94,672	8.0%	6.6%	1.5%
13	AL	51,017	99	\$79,566	9.5%	8.5%	1.0%
14	NH	11,605	155	\$119,819	4.0%	3.0%	0.9%
15	CO	67,590	57	\$118,550	3.1%	2.4%	0.7%
16	KY	40,606	114	\$79,427	8.7%	8.0%	0.6%
17	CA	217,940	263	\$119,562	2.9%	2.4%	0.5%
18	TX	311,329	113	\$95,883	5.1%	4.8%	0.4%
19	SC	67,904	175	\$83,717	7.5%	7.2%	0.3%
20	IN	74,516	188	\$86,821	4.5%	4.3%	0.2%
21	VT	4,319	70	\$103,619	5.6%	5.5%	0.1%
22	OK	37,035	58	\$81,517	7.5%	7.4%	0.1%
23	FL	240,903	425	\$91,491	4.1%	4.0%	0.1%
24	NY	96,013	395	\$114,284	2.1%	2.1%	0.0%
25	TN	73,447	171	\$86,050	6.6%	6.9%	-0.3%
26	NC	119,220	220	\$91,136	5.9%	6.3%	-0.3%
27	ID	21,237	23	\$92,235	4.3%	4.6%	-0.4%
28	RI	7,943	1,042	\$113,414	0.8%	1.3%	-0.5%
29	UT	35,267	40	\$108,535	2.0%	2.6%	-0.6%
30	NJ	64,763	1,250	\$128,787	0.5%	1.2%	-0.6%
31	DC	4,764	12,077	\$166,474	0.0%	0.7%	-0.7%
32	PA	98,949	285	\$100,906	2.3%	2.9%	-0.7%
33	MT	8,578	8	\$87,854	6.6%	7.3%	-0.7%
34	VA	88,025	217	\$117,424	2.5%	3.2%	-0.7%
35	MA	48,656	884	\$134,296	0.5%	1.4%	-0.9%
36	MD	56,497	635	\$126,250	0.7%	1.6%	-0.9%
37	MN	56,131	72	\$112,495	1.9%	3.0%	-1.1%
38	OH	109,266	284	\$90,186	2.5%	3.6%	-1.1%
39	IL	105,692	225	\$107,132	1.3%	2.5%	-1.2%
40	WI	52,140	107	\$96,518	2.7%	4.0%	-1.3%
41	ND	7,254	11	\$101,452	3.9%	5.2%	-1.3%
42	CT	27,712	736	\$124,206	0.3%	1.7%	-1.4%
43	GA	109,396	186	\$96,106	4.4%	5.9%	-1.5%
44	SD	8,146	13	\$91,424	4.5%	6.3%	-1.8%
45	AR	27,924	58	\$74,528	7.8%	9.8%	-1.9%
46	HI	6,915	220	\$119,893	0.0%	2.0%	-2.0%
47	AK	6,465	2	\$110,585	0.4%	2.5%	-2.1%
48	KS	26,537	35	\$92,975	3.7%	5.9%	-2.2%
49	IA	31,134	57	\$92,809	2.4%	4.8%	-2.4%
50	MO	62,204	89	\$89,403	3.4%	6.3%	-2.9%
51	NE	18,405	28	\$96,905	1.1%	4.3%	-3.2%

Source: HMDA 2024, ACS 2023 5-year file, and Census GEOINFO file.

Note: Predicted values from two-part hurdle model controlling for median family income, population density, and climate indicators. Model estimated with tract-level data and aggregated to state-level with residuals centered at zero. See Appendix A.

Table B2: States Ranked by Above or Below Predicted MH Share (Owner-Occupied Households)

	State	Owner-Occ. Households	Pop. per sq. mi.	Median Family Income	Owner-Occ. MH Share	Owner-Occ. MH Share (predicted)	Above/Below Predicted
1	NM	563,978	18	\$78,926	16.0%	10.8%	5.2%
2	OR	1,076,549	44	\$103,791	9.1%	4.3%	4.7%
3	WV	532,387	74	\$75,358	13.2%	9.3%	3.9%
4	WY	170,437	6	\$94,456	10.8%	7.0%	3.8%
5	WA	1,927,820	119	\$120,074	6.6%	3.0%	3.5%
6	AZ	1,868,367	68	\$94,499	9.3%	6.0%	3.3%
7	NV	699,476	30	\$91,814	5.9%	2.7%	3.2%
8	DE	285,392	514	\$107,048	6.5%	3.4%	3.1%
9	SC	1,473,124	175	\$83,666	13.4%	11.0%	2.4%
10	MT	314,238	8	\$87,258	9.8%	7.9%	2.0%
11	NH	399,663	155	\$119,819	6.1%	4.3%	1.8%
12	ME	436,029	45	\$91,153	9.2%	7.5%	1.7%
13	CA	7,465,204	255	\$118,897	4.4%	3.1%	1.3%
14	FL	5,733,508	426	\$91,326	8.2%	6.9%	1.3%
15	ID	501,163	23	\$92,197	7.0%	5.8%	1.2%
16	ND	205,867	11	\$99,700	7.2%	6.0%	1.2%
17	CO	1,537,887	57	\$118,505	4.0%	3.1%	0.9%
18	NC	2,771,368	220	\$91,030	10.3%	9.5%	0.8%
19	SD	245,848	12	\$90,258	7.7%	7.2%	0.5%
20	LA	1,182,491	105	\$79,469	12.8%	12.5%	0.3%
21	TX	6,687,870	113	\$95,423	7.1%	6.9%	0.2%
22	MI	2,934,224	176	\$91,194	4.9%	4.8%	0.1%
23	NY	4,126,010	409	\$112,537	2.7%	2.7%	-0.0%
24	PA	3,608,389	285	\$100,830	3.6%	3.8%	-0.3%
25	VA	2,229,195	218	\$117,227	3.8%	4.1%	-0.3%
26	VT	196,096	70	\$103,619	6.6%	7.0%	-0.3%
27	UT	772,352	40	\$108,539	2.7%	3.1%	-0.4%
28	NJ	2,210,166	1,257	\$128,669	1.1%	1.5%	-0.5%
29	AL	1,367,131	100	\$79,297	12.1%	12.6%	-0.5%
30	DC	126,172	11,927	\$165,794	0.0%	0.6%	-0.6%
31	RI	274,814	1,046	\$113,334	1.1%	1.9%	-0.8%
32	MD	1,575,187	632	\$125,940	1.2%	2.1%	-0.9%
33	IL	3,325,861	226	\$106,785	2.3%	3.2%	-1.0%
34	MA	1,724,308	889	\$134,229	1.0%	2.0%	-1.0%
35	OH	3,220,395	285	\$89,832	3.4%	4.5%	-1.1%
36	IN	1,878,770	188	\$86,816	3.9%	5.2%	-1.3%
37	MN	1,650,374	71	\$112,466	2.9%	4.2%	-1.3%
38	CT	937,190	738	\$124,067	0.8%	2.2%	-1.4%
39	GA	2,592,309	186	\$95,903	7.3%	8.7%	-1.5%
40	KY	1,218,655	114	\$79,209	10.2%	11.7%	-1.5%
41	OK	1,013,280	58	\$81,478	8.6%	10.5%	-1.9%
42	AK	178,352	1	\$107,245	3.9%	5.8%	-2.0%
43	WI	1,656,469	108	\$96,198	3.0%	5.0%	-2.1%
44	MS	776,962	62	\$70,263	14.4%	16.5%	-2.1%
45	TN	1,851,692	171	\$85,719	7.6%	9.9%	-2.3%
46	IA	931,646	57	\$92,734	3.4%	5.9%	-2.6%
47	NE	523,458	25	\$96,702	2.6%	5.2%	-2.6%
48	AR	783,017	58	\$74,352	10.8%	13.6%	-2.7%
49	MO	1,682,143	89	\$89,295	4.9%	8.9%	-4.0%
50	KS	774,575	36	\$92,755	3.9%	8.6%	-4.6%
51	HI	305,427	225	\$119,110	0.2%	4.9%	-4.7%

Source: ACS 2023 5-year file and Census GEOINFO file.

Note: Predicted values from two-part hurdle model controlling for median family income, population density, and climate indicators. Model estimated with tract-level data and aggregated to state-level with residuals centered at zero. See Appendix A.



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About the Center for Mortgage Access

The Center for Mortgage Access (CMA) is a policy research organization focused on housing and mortgage finance, with particular attention to issues of access and equity. CMA was founded in 2025 by economist Scott Susin, following his tenure at the Federal Housing Finance Agency—the primary regulator of Fannie Mae and Freddie Mac—where his work focused on consumer protection, fair lending, and affordable housing.

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