The ‘outsider’ theory of Hawaii’s housing crisis

A comparative analysis of how the Aloha State's home prices are affected by out-of-state buyers

By Jensen Ahokovi
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Dear Reader,

Hawaii’s housing crisis is the rare issue that inspires both widespread consensus and strong disagreement.

No one disputes that we have a housing crisis in Hawaii, that there is a lack of affordable housing, that housing prices have climbed to dizzying heights or that we urgently need to grow the housing stock in our state to help keep our family and friends in Hawaii.

But when it comes to the question of how to create more housing, that consensus begins to erode. Faced with ever-mounting evidence that land-use, zoning and homebuilding regulations are the cause of Hawaii’s acute housing shortage, many people believe those regulatory barriers should be removed.

Others, however, want a simpler explanation – a clear “villain,” if you will – that avoids the complexities of what is really going on. Of all the scapegoats cited, none has been more widely accepted than the idea of “outside buyers” – people from outside Hawaii who want to buy homes here. The thinking is pervasive that our housing woes are mostly because of buyers from elsewhere.

There’s just one problem with that idea: It’s not accurate.

In this report, “The ‘Outsider’ Theory of Hawaii’s Housing Crisis,” the Grassroot Institute of Hawaii analyzes the issue of “outside buyers” from multiple angles, including tax-assessment data from other states and counties nationwide showing home prices and the origins of the homebuyers.

The information adds up to one inescapable conclusion: There is no evidence that outside buyers are the driving factor in Hawaii’s high housing costs or lack of affordable housing. In fact, between 2010 and 2020, the vast majority of Hawaii home sales were to Hawaii residents. Their share of home purchases steadily increased during the period, while purchases by out-of-state buyers steadily decreased – even as local home prices kept increasing.

The outside-buyers myth is widely believed, but to the extent that such buyers have any impact at all, the evidence shows it to be statistically insignificant.

What is significant is that focusing on policies meant to discourage outside buyers will do little to help the average local family that wants to
find an affordable home. If we want to address Hawaii’s housing crisis, we cannot be misled by our preconceptions. Real change cannot happen until we properly identify the source of the problem. In this case, that means addressing the substantial regulatory barriers to housing in our state — not getting distracted by the “outsider” theory or any other myths.

As Founding Father John Adams once said: “Facts are stubborn things, and whatever may be our wishes, our inclinations or the dictates of our passions, they cannot alter the state of facts and evidence.”

Our inclination may be to look outside Hawaii for the causes of the housing crisis, but we cannot ignore the facts.

The solution to Hawaii’s housing crisis – like the problem – begins at home.

E hana kākou! (Let’s work together!)

Keliʻi Akina, Ph.D.
About the Grassroot Institue of Hawaii

The Grassroot Institute of Hawaii is a nonpartisan, nonprofit research and educational institute devoted to promoting individual liberty, economic freedom and limited, accountable government. Its goal is to improve the quality of life in Hawaii by lowering the cost of living and expanding opportunities for all.


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Edited by Mark Coleman
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Out-of-state buyers are frequently blamed for the high cost of housing in Hawaii.¹ But despite anecdotes and limited research² that suggest there is a causal relationship, the literature is unable to verify that claim.

Unfortunately, the “outsider” theory of Hawaii’s housing crisis is a politically attractive notion that plays to nativist sentiment while distracting attention from the more likely causes of the housing shortage, such as the state’s extensive land-use, zoning and building regulations.

An analysis of home sales data from the Hawaii Bureau of Conveyances and a novel data set of nationwide tax assessment records provided by the American Enterprise Institute’s AEI Housing Center revealed five important facts:

• From 2008 to 2021, the trend in Hawaii was that the percentage of home sales to Hawaii residents increased while the share to out-of-state buyers decreased.³
• A regression analysis of all 50 states and the District of Columbia shows there is no statistically significant relationship between out-of-state buyers and home prices.\textsuperscript{4}

• A regression analysis of over 2,300 counties nationwide yields a statistically significant but weak positive relationship between out-of-state buyers and counties’ home prices.\textsuperscript{5}

• A regression analysis for the period 2008 to 2021 of average prices for homes bought by local residents versus the percentage of out-of-state buyers yields a statistically significant negative correlation, suggesting that home prices for local residents have been relatively more expensive in periods when there have been fewer out-of-state buyers.\textsuperscript{6}

• Leveraging data from the Cato Institute, a nationwide analysis of median home prices and land-use restrictiveness yields results consistent with previous research\textsuperscript{7} that there is a statistically significant positive correlation between a state’s land-use restrictiveness and median home price.\textsuperscript{8} Moreover, the relationship between state median home prices and land-use restrictiveness is statistically stronger than the relationship between median home prices and the prevalence of out-of-state buyers.

In short, the popular belief that out-of-state residents are the reason for Hawaii’s high housing prices is just that — a popular belief — but not one supported by the evidence analyzed in this study.\textsuperscript{9}
Introduction

It is a widespread belief in Hawaii among policymakers and the general public that the state’s acute lack of affordable housing is the result of out-of-state buyers bidding up prices and crowding out potential resident homebuyers. For example:

- In December 2018, Honolulu Civil Beat columnist Danny de Gracia wrote: “Normal supply and demand conditions don’t apply in a place where so many wealthy outsiders are willing to enter the market.”

- In November 2018, just after the state general election, Hawaii’s leading daily newspaper, the Honolulu Star-Advertiser, editorialized: “Mending bitter fences must be a priority heading into January’s legislative session and beyond, with better communication and collaboration essential to tackling tough state problems. These include producing more truly affordable housing for working-class residents, a top concern in a changing Hawaii due to wealthy outside investors raising the price of paradise.”

- In December 2020, Jonathan Likeke Scheuer, chairman of the state Land Use Commission, wrote in Honolulu Civil Beat: “So many people who want to live here come from areas with better wages and lower housing costs, and thus they are able to outbid current residents in nearly all housing categories.”

- In a survey conducted last year for the Grassroot Institute of Hawaii by Anthology Research, 97% of nearly 1,000 Hawaii residents agreed with the statement that “the cost of housing in Hawaii is too expensive,” and 82% agreed it was because of “out-of-state investors driving up prices.”

- In June 2022, Democratic candidate for state House District 25 Kim Coco Iwamoto said in Honolulu Civil Beat that, “We need to disincentivize out-of-state investors from driving up prices by outbidding local families and depleting stock.”

- Also during June in Civil Beat, Republican candidate for lieutenant governor Seaula Jr. Tupai stated that he wants to “limit the number of out-of-state and foreign investors” and impose on them “strict investment regulations and higher taxes.”

- In April 2022, the Honolulu City Council approved and Mayor Rick Blangiardi signed Bill 41, a measure that banned short-term vacation rentals outside of designated resort areas. Much of the support for the bill cited concerns over affordable housing and the intrusion of nonresidents. One resident testified that “excessive exploitation” by short-term rentals of “a basic community need, housing, simply demonstrates the desperate need for sensible and enforceable regulations to return our communities back to the people who live there.”

- In January 2020, Republican
Clearly, many people believe that Hawaii’s high housing costs are driven primarily by out-of-state buyers, whether from other parts of the U.S. or foreign countries.

State Sen. Kurt Fevella enlisted six Democrats to cosponsor SB3110, which sought to prohibit “nonresident aliens and businesses and trusts that are significantly controlled by nonresident aliens from acquiring certain residential property in the State, except as otherwise provided by law.”

In February 2020, Hawaii U.S. Sen. Brian Schatz, state House Speaker Scott Saiki, state Senate President Ron Kouchi and three other prominent state lawmakers wrote in Honolulu Civil Beat: “We must stabilize home prices, which tend to be inflated due to the investment market. Many in Hawaii cannot compete with outside investors to purchase condos beyond their economic reach.”

Clearly, many people believe that Hawaii’s high housing costs are driven primarily by out-of-state buyers, whether from other parts of the U.S. or foreign countries. This belief, which seems plausible based on anecdotes and isolated statistics, is not supported by empirical evidence. But to the extent that public perception drives public policy, it is a belief that must be addressed.

‘Outside buyers’ difficult to define

The first issue to address is what it means to be an “out-of-state” or “outside” buyer.

Paul Brewbaker, former chief economist at Bank of Hawaii and current principal of economic consulting firm TZ Economics, offered the following scenario:

Suppose your aunt moved your cousins’ family from Honolulu to Vegas in 2004 because she could sell her house on Oahu for, say, $400K. [Then], in summer 2020 – after being notified by her company that her job will permanently involve working remotely hereafter rather than commuting daily to a workplace – suppose that she returns to Hawaii, buys her original house on Oahu (the one she sold in 2004) for, say, $975K, the mark-to-market in 2020. Is your aunt culpable for Hawaii’s housing shortage and increasing costs? I mean, she is a mainland investor in Hawaii real estate, is she not?”

According to Sumner La Croix, professor emeritus of economics at the University of Hawaii:

It all depends on why you are making the categorization. Additional demand by new migrants – whether an aunty returning or a new migrant from Boise – could have different effects on the housing market.
market than additional demand by investors outside of Hawaii who purchase existing housing and rent it to Hawaii residents.22

Similarly, University of Hawaii assistant professor of economics Justin Tyndall remarked:

> I think it is important to be clear about what the categories are that you choose to use. I think DBEDT and others usually classify things based mostly on what data is available. Because the address of the buyer is often available in real estate data, it can be easy to classify things into Hawaii resident/mainland resident/foreign resident. [This] can miss a lot of nuance. I’m not aware of anyone who has attempted to collect more nuanced data. Looking at things like family connections or previous residence locations would be interesting, but getting that data would be the challenge.23

**Out-of-state buyers, by the numbers**

Nuances aside, an out-of-state buyer essentially is anyone whose primary residence is somewhere other than Hawaii, either a U.S. resident from outside the state or a resident of a foreign country.

In Hawaii, the state Department of Business, Economic Development and Tourism calculated that in 2021 those two categories totaled 24.2%, or almost one-fourth, of all Hawaii home sales, which during the year totaled 25,970.

U.S. residents from outside of Hawaii accounted for 5,806, or 22.4%, of the 2021 total, while residents of foreign countries only 468, or 1.8%.24 Hawaii residents purchased the rest: 19,696 homes, or 75.8%.

From 2008 — the earliest year in the DBEDT’s data — to 2021, there were 269,725 home sales overall in Hawaii, with 202,198, or 74.9%, going to Hawaii residents; 58,033, or 21.5%, to U.S. residents outside of Hawaii; and 9,497, or 3.6%, to foreign residents.26

The peak years in each category during that 14-year period in terms of percentages were 81.3% in 2020 for Hawaii homebuyers, 29.3% in 2010 for U.S. residents outside of Hawaii and 5% in 2011 for residents of foreign countries.

As shown in Figure 1, home sales to Hawaii residents between 2010 and 2020 steadily increased from 66.5% to 81.3%. During the same period, sales to mainland residents steadily declined, from 29.3% to 17.4%. Similarly, sales to foreigners declined from their high of 5% in 2011 to 1.3%.

During 2021, Hawaii home purchases by U.S. residents outside of Hawaii and foreigners ticked up to 22.4% and 1.8%, respectively, while sales to Hawaii residents declined to 75.8% — likely because of the adverse economic effects of the state’s coronavirus lockdowns.

A similar situation occurred in the years following the Great Recession of 2008. Sales to local buyers declined from 72.4% in 2008 to 66.5% in 2010, while sales to U.S. residents outside of Hawaii increased from 23.5% to 29.3%. Sales to foreign residents inched upward through 2011, from 4.1% in 2008 to 5.0% in 2011.27

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**Figure 1: Trend of Hawaii home sales by origin of buyer, 2008-2021**

<table>
<thead>
<tr>
<th>Year</th>
<th>Local</th>
<th>Mainland</th>
<th>Foreign</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>72.4%</td>
<td>23.5%</td>
<td>4.1%</td>
</tr>
<tr>
<td>2009</td>
<td>72.0%</td>
<td>23.1%</td>
<td>4.9%</td>
</tr>
<tr>
<td>2010</td>
<td>66.5%</td>
<td>29.3%</td>
<td>4.2%</td>
</tr>
<tr>
<td>2011</td>
<td>66.3%</td>
<td>29.3%</td>
<td>4.4%</td>
</tr>
<tr>
<td>2012</td>
<td>66.2%</td>
<td>29.5%</td>
<td>4.3%</td>
</tr>
<tr>
<td>2013</td>
<td>66.3%</td>
<td>29.4%</td>
<td>4.3%</td>
</tr>
<tr>
<td>2014</td>
<td>66.3%</td>
<td>29.5%</td>
<td>4.2%</td>
</tr>
<tr>
<td>2015</td>
<td>66.3%</td>
<td>29.5%</td>
<td>4.2%</td>
</tr>
<tr>
<td>2016</td>
<td>66.3%</td>
<td>29.5%</td>
<td>4.2%</td>
</tr>
<tr>
<td>2017</td>
<td>66.3%</td>
<td>29.5%</td>
<td>4.2%</td>
</tr>
<tr>
<td>2018</td>
<td>66.3%</td>
<td>29.5%</td>
<td>4.2%</td>
</tr>
<tr>
<td>2019</td>
<td>66.3%</td>
<td>29.5%</td>
<td>4.2%</td>
</tr>
<tr>
<td>2020</td>
<td>66.3%</td>
<td>29.5%</td>
<td>4.2%</td>
</tr>
<tr>
<td>2021</td>
<td>66.3%</td>
<td>29.5%</td>
<td>4.2%</td>
</tr>
</tbody>
</table>

**LEGEND**

- Local
- Mainland
- Foreign
County-level figures

Regarding Hawaii’s four counties, local buyers have accounted for the majority of home sales since 2008. However, outside of Honolulu County, out-of-state and foreign buyers have played a much larger role.

As shown below in figures 2, 3, 4 and 5, the percentages of home sales to U.S. residents outside of Hawaii between 2008 and 2021 totaled 10.7% in Honolulu County, 38.6% in Hawaii County, 39.9% in Kauai County and 40.5% in Maui County, which consists of the islands of Maui, Molokai and Lanai.

Buyers from outside the U.S. during the same period accounted for 3.6%, 2.5%, 1.7% and 5%, respectively.

As with the state overall, the percentages of local buyers in each county generally increased from 2008 to 2021, while the share of out-of-state buyers, both U.S. and foreign, decreased. This was most noticeable in Maui County, which registered the largest upward trend in home sales to local buyers and the largest downward trend in sales to all others.
What about the rest of the U.S.?

So now that we know that the market share of “outside buyers” of Hawaii housing has, in general, been declining over the past decade or more, why is it that Hawaii home prices have soared in recent years?

Could it be, in fact, the other way around: that higher home prices are the reason for the decline in out-of-state buyers?

Or could it be that the dwindling share of out-of-state buyers has been driving up Hawaii housing prices anyway?

This is not to say that outside buyers have had no effect; of course they have. Any additional bidder on a product that is in short supply is likely to have an effect on the price. But other states and counties in the U.S. have out-of-state buyers too. What effect have they had in those markets?

The logical way to answer that question would be to look at home sales data from other states, to see if there is any meaningful relationship between an area’s home prices and its share of out-of-state buyers, whether U.S. or foreign.

Unfortunately, not all states gather or publicize their local housing market data to the extent that Hawaii does. However, the American Enterprise Institute’s Housing Center did recently produce a data set similar to the one in Hawaii, but for the residency status of homebuyers in all 50 states, the District of Columbia and more than 2,300 counties.

Tobias Peter, research fellow and assistant director of the AEI Housing Center, said the source for the data set was publicly available records from tax assessors nationwide containing information about virtually every property in a given state or county, including the mailing addresses of new property owners.39

Peter said there could be some issues with the data in terms of latency of the tax assessment reports, self-reporting or other issues. But he said that, in general, he had confidence in the AEI Housing Center’s data-collection method.

“When we compared the tax assessor shares to the [Hawaii DBEDT] data, they were similar and directionally correct,” Peter said. “This helps us verify the data and also the approach, which is why we have applied it to other states as well.”40

Indeed, a comparison of the data sets for Hawaii produced by the DBEDT and the AEI Housing Center shows them fluctuating closely, within roughly 1% of each other.

For example, using nationwide tax assessments for 2020, the AEI Housing Center estimated the percentage of local homebuyers in Hawaii at 80.6%, U.S. residents not from Hawaii at 18%, and foreign buyers at 1.4%. Using transaction data recorded at the Hawaii Bureau of Conveyances, the DBEDT’s figures for the same period are nearly the same: local homebuyers at 81.3%, U.S. residents not from Hawaii 17.4%, and foreign buyers 1.3%.41

Assuming that the tax assessment data tabulated by the AEI Housing Center holds true for all other states, the claim that out-of-state buyers are responsible for high housing prices in Hawaii can now be tested against the experiences of other states.
State correlations ‘statistically insignificant’

The first factor to consider is median home prices. As seen in Table 1, the average median home price across all states and the District of Columbia was $244,604.

According to the latest American Community Survey estimates on median home prices and the AEI Housing Center tax assessment records, Hawaii’s median home price of $636,400 was the highest in the nation, but its outside-buyer share was “only” third-highest, at 19.4%.

In 2020, Florida experienced the ninth largest in-state migration in the country. Despite having the nation’s seventh largest share of out-of-state buyers at 12.2%, Florida had a below-average median home price of $232,000.

The three most moved-to states in 2020 were South Carolina, Idaho and Oregon.

South Carolina had the largest share of out-of-state buyers of the three states, at 10.6%, but it also had one of the nation’s lowest median home prices, at $170,100.

Idaho’s share of out-of-state buyers in 2020 was 7.7%, just 0.4

As shown in Table 3, the state with the highest outside-buyer share in 2020, at 24.2%, was New Hampshire, yet its median home price of $272,300 was not much above the national average.

Also ranking higher than Hawaii in out-of-state buyers was Vermont, at 22.8%, and it had an even lower median home price than New Hampshire, at $230,900.

Across all states and the District of Columbia, the average out-of-state buyer share in 2020 was 7.3%.

Table 1: Top 10 states re: median home prices vs. out-of-state buyers, 2020

<table>
<thead>
<tr>
<th>Rank</th>
<th>State</th>
<th>Median home price</th>
<th>Out-of-state buyers (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Hawaii</td>
<td>$636,400</td>
<td>19.4%</td>
</tr>
<tr>
<td>2</td>
<td>District of Columbia</td>
<td>$618,100</td>
<td>4.9%</td>
</tr>
<tr>
<td>3</td>
<td>California</td>
<td>$538,500</td>
<td>1.9%</td>
</tr>
<tr>
<td>4</td>
<td>Massachusetts</td>
<td>$398,800</td>
<td>3.4%</td>
</tr>
<tr>
<td>5</td>
<td>Colorado</td>
<td>$369,900</td>
<td>5.9%</td>
</tr>
<tr>
<td>6</td>
<td>Washington</td>
<td>$366,800</td>
<td>3.6%</td>
</tr>
<tr>
<td>7</td>
<td>New Jersey</td>
<td>$343,500</td>
<td>5.7%</td>
</tr>
<tr>
<td>8</td>
<td>Oregon</td>
<td>$336,700</td>
<td>5.1%</td>
</tr>
<tr>
<td>9</td>
<td>Oregon</td>
<td>$325,400</td>
<td>4.3%</td>
</tr>
<tr>
<td>10</td>
<td>New York</td>
<td>$325,000</td>
<td>5.5%</td>
</tr>
<tr>
<td>Avg.</td>
<td>All states, incl. D.C.</td>
<td>$244,604</td>
<td>7.3%</td>
</tr>
</tbody>
</table>
of a percentage point above the national average. However, the state’s median home price of $235,600 was about $9,000 below the national average.\textsuperscript{51}

Of the three states, Oregon was the most expensive, with a median home price of $336,700, yet it had the lowest share of out-of-state buyers, at 5.1%.\textsuperscript{52}

Table 2 shows the 10 states with the lowest median home prices, of which four had out-of-state buyer percentages above the national average of 7.3%, including West Virginia, which had the nation’s lowest median home price, at $123,200.

Looking at the entire United States, a state’s median home price is positively correlated with its percentage of out-of-state buyers,\textsuperscript{54} but this correlation is very small and statistically insignificant.\textsuperscript{55}

According to Peter, and as shown in Figure 6, “no clear pattern emerges” when comparing the combined share of foreign and out-of-state buyers to home values for each state.\textsuperscript{56}

““To me,” Peter said, “the likeliest explanation still is that land-use restrictions have created an artificial shortage of housing that has driven up prices.”\textsuperscript{58}

Tables 3 and 4 show the top and bottom 10 states, respectively, in terms of out-of-state buyers versus median home prices.

Table 2: Bottom 10 states re: median home prices vs. out-of-state buyers, 2020\textsuperscript{53}

<table>
<thead>
<tr>
<th>Rank</th>
<th>State</th>
<th>Median home price</th>
<th>Out-of-state buyers (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>42</td>
<td>Kansas</td>
<td>$157,600</td>
<td>2.3%</td>
</tr>
<tr>
<td>43</td>
<td>Iowa</td>
<td>$153,900</td>
<td>1.8%</td>
</tr>
<tr>
<td>44</td>
<td>Ohio</td>
<td>$151,400</td>
<td>8.3%</td>
</tr>
<tr>
<td>45</td>
<td>Alabama</td>
<td>$149,600</td>
<td>9.5%</td>
</tr>
<tr>
<td>46</td>
<td>Indiana</td>
<td>$148,800</td>
<td>9.1%</td>
</tr>
<tr>
<td>47</td>
<td>Kentucky</td>
<td>$147,100</td>
<td>4.6%</td>
</tr>
<tr>
<td>48</td>
<td>Oklahoma</td>
<td>$142,400</td>
<td>4.9%</td>
</tr>
<tr>
<td>49</td>
<td>Arkansas</td>
<td>$133,600</td>
<td>6.3%</td>
</tr>
<tr>
<td>50</td>
<td>Mississippi</td>
<td>125,500</td>
<td>7.4%</td>
</tr>
<tr>
<td>51</td>
<td>West Virginia</td>
<td>123,200</td>
<td>7.7%</td>
</tr>
</tbody>
</table>

Avg. All states, incl. D.C.: $244,604 7.3%

Table 4: Bottom 10 states re: out-of-state buyers vs. median home prices, 2020\textsuperscript{56}

<table>
<thead>
<tr>
<th>Rank</th>
<th>State</th>
<th>Out-of-state buyers (%)</th>
<th>Median home price</th>
</tr>
</thead>
<tbody>
<tr>
<td>42</td>
<td>Louisiana</td>
<td>3.4%</td>
<td>$202,100</td>
</tr>
<tr>
<td>43</td>
<td>North Dakota</td>
<td>2.9%</td>
<td>$199,900</td>
</tr>
<tr>
<td>44</td>
<td>Virginia</td>
<td>2.8%</td>
<td>$177,200</td>
</tr>
<tr>
<td>45</td>
<td>Texas</td>
<td>2.7%</td>
<td>$174,600</td>
</tr>
<tr>
<td>46</td>
<td>South Dakota</td>
<td>2.5%</td>
<td>$174,600</td>
</tr>
<tr>
<td>47</td>
<td>Kansas</td>
<td>2.3%</td>
<td>$175,600</td>
</tr>
<tr>
<td>48</td>
<td>Minnesota</td>
<td>2.2%</td>
<td>$235,700</td>
</tr>
<tr>
<td>49</td>
<td>Nebraska</td>
<td>2.0%</td>
<td>$164,000</td>
</tr>
<tr>
<td>50</td>
<td>California</td>
<td>1.9%</td>
<td>$538,500</td>
</tr>
<tr>
<td>51</td>
<td>Iowa</td>
<td>1.8%</td>
<td>$152,900</td>
</tr>
</tbody>
</table>

Avg. All states, incl. D.C.: 7.3% $244,604

To me, the likeliest explanation still is that land-use restrictions have created an artificial shortage of housing that has driven up prices.”\textsuperscript{58}

~ Tobias Peter
Assistant director
AEI Housing Center

"To me, the likeliest explanation still is that land-use restrictions have created an artificial shortage of housing that has driven up prices.”

Grassroot Institute of Hawaii
County comparisons show weak positive correlation

In addition to all 50 states and the District of Columbia, the AEI Housing Center provided information on out-of-state buyers in over 2,803 counties across the nation where tax assessment data was available, allowing further analysis at the county level.

To account for possible measurement error, counties with a sample size of less than 100 tax assessments were excluded from this study, leaving 2,309.61

Across those 2,309 counties, the average median home price was $178,400 and the average out-of-state buyer share 69%.62

As shown in Table 5, four of the five counties with the highest median home prices in 2020 were in California: San Mateo, $1.16 million; San Francisco, $1.15 million; Santa Clara, $1.06 million; and Marin, $1.05 million. Ranked third was Nantucket County in Massachusetts, at $1.12 million.

Table 5: Top 10 counties re: median home prices vs. out-of-state buyers, 202063

<table>
<thead>
<tr>
<th>Rank</th>
<th>County</th>
<th>Median home price</th>
<th>Out-of-state buyers (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>San Mateo, Calif.</td>
<td>$1,163,100</td>
<td>0.8%</td>
</tr>
<tr>
<td>2</td>
<td>San Francisco, Calif.</td>
<td>$1,152,300</td>
<td>1.9%</td>
</tr>
<tr>
<td>3</td>
<td>Nantucket, Mass.</td>
<td>$1,117,300</td>
<td>46.0%</td>
</tr>
<tr>
<td>4</td>
<td>Santa Clara, Calif.</td>
<td>$1,081,900</td>
<td>0.5%</td>
</tr>
<tr>
<td>5</td>
<td>Marin, Calif.</td>
<td>$1,053,600</td>
<td>1.6%</td>
</tr>
<tr>
<td>6</td>
<td>New York, N.Y.</td>
<td>$1,024,500</td>
<td>12.1%</td>
</tr>
<tr>
<td>7</td>
<td>Teton, Wyo.</td>
<td>$850,800</td>
<td>41.2%</td>
</tr>
<tr>
<td>8</td>
<td>Alameda, Calif.</td>
<td>$825,300</td>
<td>0.5%</td>
</tr>
<tr>
<td>9</td>
<td>Falls Church City, Va.</td>
<td>$810,900</td>
<td>2.0%</td>
</tr>
<tr>
<td>10</td>
<td>Duques, Mass.</td>
<td>$794,000</td>
<td>36.0%</td>
</tr>
<tr>
<td>Avg.</td>
<td>All 2,309 counties</td>
<td>$178,400</td>
<td>6.9%</td>
</tr>
</tbody>
</table>

As shown in Table 7, and as previously mentioned, the county with the highest percentage of out-of-state buyers in 2020 was Dare County in North Carolina, at 55.7%. Its median home price in 2020 was $297,200, above the national county average of $178,400 but far from being one of the most expensive counties in the nation.

The four next highest counties in terms of out-of-state buyers were Pocahontas County in West Virginia, at 55.4%; Gogebic County in Michigan, 53.3%; La Paz County in Arizona, 53%; and Jackson County in North Carolina, 52.9%.

Like Dare County, their median home prices were also far from the nation’s highest, with Gogebic and La Paz counties having median home prices below $100,000.67 Pocahontas County was not much higher at $119,600, while the median home price in Jackson County was $206,900.68

Notably, the out-of-state buyer shares of the four California counties were all below the national county average of 6.9%, at 0.8%, 1.9%, 0.5% and 1.6%, respectively.

Nantucket County’s out-of-state buyer share was 46%,64 well-above the national average but still lower than the counties with the highest out-of-state buyers shares, such as No. 1 Dare County in North Carolina at 55.7%.65

Table 6 shows the bottom 10 counties in the nation in terms of median home prices versus out-of-state buyers.
Looking at the counties with the fewest out-of-state buyers, 151 counties across the U.S. in 2020 had out-of-state buyer shares that were less than 1%. Of those, 58 – more than a third – had median home prices above the national county average of $178,400.

Notably, Santa Clara and San Mateo counties in California topped the list with median home prices in excess of $1 million with out-of-state buyer shares of 0.5% and 0.8%, respectively.70

As Figure 7 shows, there was an extremely weak positive correlation in 2020 between the median home prices and the percentages of out-of-state buyers among counties. However, unlike the state-level analysis in Figure 6, this correlation at the county level is statistically significant.71

The statistically significant but weak positive correlation in Figure 7 is likely due to the large sample size of counties used in the analysis. If a sample size is large enough, like the sample of 2,309 counties illustrated in Figure 7, then the sample size may overestimate the effect of an otherwise insignificant variable.73

Hawaii’s four counties

Among Hawaii’s four counties, Honolulu had the highest median home price at $702,300, ranking 15th in the nation. Maui County ranked 18th, with a median price of $657,400; Kauai County 25th, at $606,900; and Hawaii County 110th, at $364,100.

All four Hawaii counties were well within the top 10% of the nation’s most expensive counties in terms of median home prices.

Table 8 shows how Hawaii’s four counties stood in 2020, in terms of buyer residency and median home prices, all in relation to the state as a whole and the 2,309 U.S. counties covered in the study.

Table 8: Hawaii home sales by county, buyer residency and median price, 2020

<table>
<thead>
<tr>
<th>County</th>
<th>Local</th>
<th>Elsewhere in U.S.</th>
<th>Foreign</th>
<th>Median home price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Honolulu</td>
<td>90.8%</td>
<td>7.7%</td>
<td>1.5%</td>
<td>$702,300</td>
</tr>
<tr>
<td>Hawaii</td>
<td>71.0%</td>
<td>28.1%</td>
<td>0.9%</td>
<td>$364,100</td>
</tr>
<tr>
<td>Kauai</td>
<td>69.5%</td>
<td>30.3%</td>
<td>0.3%</td>
<td>$606,900</td>
</tr>
<tr>
<td>Maui</td>
<td>58.8%</td>
<td>38.5%</td>
<td>2.7%</td>
<td>$657,400</td>
</tr>
<tr>
<td>State of Hawaii</td>
<td>80.6%</td>
<td>18.0%</td>
<td>1.5%</td>
<td>$636,400</td>
</tr>
<tr>
<td>Average of all 2,309 counties</td>
<td>93.1%</td>
<td>6.6%</td>
<td>0.3%</td>
<td>$178,400</td>
</tr>
</tbody>
</table>
Out-of-state buyers off the hook?

Looking at Hawaii as a whole, if out-of-state buyers are responsible for higher home prices and crowding out local residents, then there should be at least a moderately positive statistical correlation between the two. That’s what the popular outsider theory of Hawaii housing prices would show.

However, in testing the relationship between the average prices Hawaii residents paid for homes and the percentage of out-of-state buyers over the 56 quarters between 2008 and 2021, there was a clear linear and statistically significant negative correlation between the two, as shown in Figure 8.75

This suggests that out-of-state buyers have been less prevalent in periods when home prices for local buyers were relatively high. It also might be that out-of-state buyers are less prevalent during periods of high prices, which would help explain the negative correlation in Figure 8.

On the other hand, testing the relationship between the average prices outside buyers paid for homes and the percentage of local buyers over the 56 quarters between 2008 and 2021 shows that homes purchased by out-of-state buyers were relatively more expensive when there were more in-state homebuyers in the market, also suggesting that outside buyers are less prevalent during periods of high prices.76

Hawaii’s ‘outside buyers’ in a different market?

There is one more factor regarding outside buyers that needs to be considered, and that is that they typically have not been bidding on the same types of properties as in-state bidders.

From 2008 to 2021, in 2021 dollars, the average price of homes purchased by Hawaii residents was $549,972. The average prices paid by mainlanders and foreigners during that same period were $753,740 and $974,975, respectively.78

This disparity in the average home prices paid by locals and out-of-state buyers suggests that the two basic categories of buyer are operating in different markets.

For example, with the exception of Honolulu County, out-of-state residents comprised the majority of condo buyers in the counties of Maui, Hawaii and Kauai from 2008 to 2021. On the other hand, local residents comprised the vast majority of single-family home buyers in all four counties during the same period.79

Consider as well who typically buys the luxury homes built around resorts, golf courses and other ritzy developments. Those are homes that were built and sold in Hawaii, but never really marketed toward local residents. Rather, the target buyers are residents outside of Hawaii who might want a fancy

Figure 8: Quarterly average prices of resident-bought homes vs. share of out-of-state buyers, 2008-202177
second home in paradise not far from the amenities of a world-class resort, or maybe a unit in one of Honolulu’s newer luxury high-rises, which were never intended to qualify as “affordable housing.”

According to real estate market analyst John Jacobson of Locations Hawaii:

Brokers are more likely targeting their efforts on who’s been buying similar property. A seller of a $2 million condo is looking at who is buying $2 million condos. They might target certain mainland markets, like San Diego, Orange County and [the] Bay Area; they might also target local buyers through alumni organizations or executive groups.80

But in general, according to Jacobson:

It’s true that mainland buyers participate more at higher price ranges, and international buyers generally even higher. The typical buyer of a luxury property on Oahu is still a local buyer, but they get thinner at higher price ranges. ... So it’s safe to say that mainland buyers and, say, local first-time homebuyers are not shopping in the same price range.

Maui Realtors Association President Keone Ball agreed. Referring to the Maui County Council’s recent attempt to convert thousands of high-priced vacation rentals into affordable housing,81 Ball said local policymakers “don’t realize that [vacation rentals] are not set up for local residents, they are set up for tourists.”82

As for multimillion-dollar properties, he said, local buyers “generally are not buying in that category.”83

Supply matters

The larger point remains that lack of housing supply is the main reason Hawaii’s home prices are so high.

In other words, the evidence is clear that the primary driver of Hawaii’s high home prices is the state’s homegrown policies that restrict homebuilding, not out-of-state buyers from elsewhere in the U.S. or foreign countries.

As University of Pennsylvania economist Joseph Gyourko stated in email correspondence, “There is no doubt that regulation is at the base of [Hawaii’s housing] problem.”

Gyourko is co-creator of the Wharton Residential Land Use Regulation Index, which analyzes thousands of responses from local planning departments to create indexes that “capture the stringency of local regulatory environments.”84

Earlier this year, the University of Hawaii Economic Research
Organization applied the index to Hawaii and found:

Compared to the 30 most expensive counties in the country, Hawaii County has the highest index value. Maui, Kauai and Honolulu counties are also ranked relatively high with index values in the top third. Even among the nation’s most expensive counties, Hawaii’s counties have some of the highest regulatory burdens as measured by the Wharton Index.85

Gyourko said that trying to blame “outsider demand” is misplaced because all it really represents is “a shifting out of the demand schedule. That would cause higher prices only if supply is inelastic. In a market with plentiful new construction, the supply schedule would be much more elastic, and outward shifts of demand would lead to more units and greater population, not meaningfully higher prices.”86

Looking ahead, the state DBEDT estimated in 2019 that Hawaii will need an average of about 3,600 new homes a year by 2030 to meet expected housing demand.87 The report doesn’t suggest how that demand is supposed to be met. But clearly, unless Hawaii’s land-use and housing regulations are liberalized, the department’s estimated demand for housing is not going to be met.

This would be the case even if the state and counties were to go on a massive taxpayer-financed homebuilding spree. Either way, there are innumerable government barriers that even government-sponsored housing developments would be hard-pressed to surmount.

The simple fact is that Hawaii policymakers need to embrace the evidence that severe government restrictions on land-use and homebuilding are the main reason for Hawaii’s acute lack of housing supply — and act accordingly.

What is the evidence against housing red tape?

Figure 9 is a scatter plot of all 50 states correlated with their average level of land-use restrictiveness as measured by the Cato Institute’s land-use freedom index, which is an extension of the Wharton Index.

While Figure 6 shows no meaningful relationship between nationwide median home prices and out-of-state buyers, Figure 9 shows a statistically significant linear and positive correlation between nationwide median home prices and land-use restrictiveness.88

Land-use regulations are not the only driver of home prices across the country, but the data suggests that they are, at least, a substantially better predictor of home prices.

The following national studies come to similar conclusions:

- In 2021, economist Jaehee Song of Yale University studied the effects of minimum-lot restrictions — a type of housing regulation that determines the minimum lot size allowed for construction — and found that “minimum lot area restrictions play significant roles in increasing housing prices and limiting housing supply.”90

- In 2019, land-use policy expert Randal O’Toole found “a strong negative correlation between
growth-management planning and housing affordability.” He noted that in 2018, “18 of the 20 least-affordable urbanized areas out of 437 nationwide, with value-to-income ratios above 5.8, were in California, Hawaii and Oregon. The other two were Boulder, Colorado, and Flagstaff, Arizona. It’s fair to say that virtually all of the 45 urban areas with value-to-income ratios above 5.0 practice some form of growth management.”

- In 2017, Cato Institute policy analyst Vanessa Brown Calder examined the link between housing regulation and states’ home prices and found that “in general, the states that have increased the amount of rules and restrictions on land-use the most have higher housing prices.”

- In 2014, Gyourko and Federal Reserve economist Raven Molloy documented that “the vast majority of studies have found that locations with more regulation have higher house prices and less construction.”

- In 2009, four economists writing in Cityscape, an academic journal of the U.S. Department of Housing and Urban Development, analyzed the effects of inclusionary zoning policies in California from 1988 to 2005 and found “inclusionary zoning policies had measurable effects on housing markets in jurisdictions that adopt them; specifically, the price of single-family houses increases and the size of single-family houses decreases.”

- Also in 2009, four researchers analyzed high-density zoning in six U.S. metropolitan areas and found that “[high-density zoning] as practiced by suburban governments in the six metropolitan areas limits the construction of multifamily housing below market determined levels.”

- In 2003, Gyourko, Molloy and Harvard University economist Edward L. Glaeser looked at home prices in Manhattan and determined that “in expensive coastal areas especially, there often is a substantial gap between the price of housing and construction costs. This gap suggests the power of land-use controls in limiting new construction.”

- In 2002, Gyourko and Glaeser considered the impact of zoning on housing affordability and concluded: “The bulk of the evidence marshaled in this paper suggests that zoning, and other land-use controls, are more responsible for high prices where we see them. … Measures of zoning strictness are highly correlated with high prices.”

- In 1996, economist Stephen Malpezzi of the University of Wisconsin-Madison analyzed 56 metropolitan areas and found that regulation increases both housing rents and values while lowering homeownership.

- In 1987, economists Lawrence Katz of Harvard University and Kenneth Rosen of the University of California at Berkeley analyzed housing data from the San Francisco Bay Area and found that “house prices are between 17% and 38% higher in those communities in which growth moratoria and/or growth control plans are present.”

Economists in Hawaii agree that housing supply is the critical factor. Said Brewbaker of TZ Economics: “It doesn’t matter whether locals or...
aliens from the Delta Quadrant of the galaxy buy houses. The price of a house is the price of a house. Build more of them, relative to demand, and they won’t be as much more expensive as if you didn’t.”

Noting that “the share of house purchases comprising offshore investors has been decreasing for the last 10-15 years,” Brewbaker dismissed the idea that out-of-state buyers could be the cause of increased home prices in Hawaii.

“The ratio of non-local to local buyers of houses is unrelated to the average prices the two groups pay for houses, on average,” he said. “All houses tend to appreciate at the same rates over time, regardless of who buys them. Building more [houses] could attenuate, somewhat, their rate of price increase in the short run.”

Economist Gerard Dericks, director of Hawaii Pacific University’s Center for Entrepreneurship and Economic Education, observed: “Foreigners” and “the other” have always been a convenient scapegoat to divert unwanted political attention. To perseverate on demand (“outside” or otherwise) as the cause of high home prices reflects a superficial understanding of economics. If politicians allowed the supply of homes to adjust naturally, increases in demand (outside or otherwise) would have only a trivial effect on prices.”

As previously mentioned, researchers from the University of Hawaii Economic Research Organization surveyed Hawaii’s regulatory agencies using questions from the Wharton Residential Land Use Regulation Index to gain an understanding of how significant Hawaii’s regulatory barriers to housing might be.

UHERO economists Carl Bonham and Justin Tyndall and graduate research assistant Rachel Inafuku concluded, “Every 1 point increase in the Wharton Index correlates with an 8% increase in home prices.”

They tiptoed around affirming any causal connection between the regulatory index and local prices, but said “evidence from a number of studies using national data suggests that regulation does cause higher prices.”

In 2013, Bonham wrote with more certainty: Reducing or eliminating overly burdensome regulation on development, including inclusionary zoning, will increase affordability of housing for two reasons. First, it will encourage building, increasing the overall stock of housing, which will help hold down the market price of housing. Second, removing IZ [inclusionary zoning] will facilitate the natural “filtering” process, with newer units going to higher income households and older deprecating units being increasingly occupied by lower income households.”

In 2016, University of Hawaii economist Sumner La Croix wrote that a major reason for Honolulu’s housing shortage is that, “The process of competition in Honolulu land and housing markets takes place under the watchful eyes of state and county governments that together impose the most severe regulation on land development to be found in any large U.S. metropolitan area.”

In 2017, UH economist James Mak testified before a panel of the state House Committee on Economic Development and Business that “[looking for solutions on] the demand side is probably not going to have the effect you desire. … The supply side of the solution is the more practical solution.”

In “Build up or build out? How to make housing more affordable,” a report published by the Grassroot Institute of Hawaii, economist Randal O’Toole concluded: Eliminating restrictions on development of undeveloped lands on the urban fringe is both necessary and sufficient to make housing more affordable. Even in high-cost regions such as the San Francisco Bay Area, Los Angeles, Seattle and Portland, new housing in such areas should cost about the same as new housing in Houston or Oklahoma City. This would bring down the cost of housing in the cities as well.
The preponderance of the evidence gathered in this report strongly suggests that out-of-state buyers have had little meaningful effect, if any, on the large increase in Hawaii housing prices over the past 14 years.

The lack of cogency behind the "outsider" theory of Hawaii’s housing crisis is due to two reasons:

- Hawaii has one of the largest shares of out-of-state buyers in the country, but the share of out-of-state buyers has, in general, been decreasing since 2008, while the share of local buyers has been increasing. Considering these two trends, it is difficult to associate rising housing costs with fewer out-of-state buyers.

- Out-of-state buyers are just one determinant of the price of housing. In Hawaii, as elsewhere, there are many other factors, including, most impor-
tantly, government regulations. To that point, most research finds that land-use regulations comprise the primary reason for the current condition and large increase of home prices in the nation’s most expensive locales.

Rather than scapegoat out-of-state buyers, Hawaii policymakers should focus on reducing the number of governmental regulatory barriers that restrain the state’s housing supply.
Endnotes

1 “Out-of-state buyer” is defined as anyone whose primary residence is somewhere other than the state, district or territory in which the home is being purchased. One caveat is that it is hard to know to what extent purchases on behalf of out-of-state buyers are being handled by locally based tax attorneys. This study is confined to only what the public data shows.


3 There were noticeable reversals to this trend in the two years following the Great Recession of 2008 and during the first year after the COVID-19 lockdowns, which started in March 2020. See “Quarterly & Statistical Economic Report, 1st Quarter 2022,” Hawaii Department of Business, Economic Development and Tourism, March 1, 2022, pp. 165-172. Totals and averages calculated here: Compiled Home Sales Data.xlsx.

4 We fail to reject the null hypothesis: $H_0 = \text{no correlation between home prices and the percentage of out-of-state buyers}.$

5 We reject the null hypothesis: $H_0 = \text{no correlation between home prices and the percentage of out-of-state buyers}.$ This result differs slightly from this study’s other findings, but it is likely due to the large sample size of counties overestimating the effect of out-of-state buyers. Reducing the sample size of counties may yield statistically insignificant results, but that is not done in this study.

6 We reject the null hypothesis: $H_0 = \text{no correlation between home prices and the percentage of out-of-state buyers}.$


8 We reject the null hypothesis: $H_0 = \text{no correlation between land-use restrictiveness and home prices}.$

9 While the preponderance of the evidence gathered in this study finds no meaningful relationship between home prices and the prevalence of out-of-state buyers, no causal inferences can be made regarding that relationship.


20 West and Botsch, “Are Foreign Buyers Making Housing Unaffordable? Results from a Natural Experiment in Vancouver.”


22 Email correspondence with Sumner La Croix, professor emeritus of economics at the University of Hawaii, June 8, 2022.

23 Email correspondence with Justin Tyndall, assistant professor of economics at the University of Hawaii, June 8, 2022.


27 There is research that shows investors actually had a stabilizing effect on home prices after the financial crisis of 2008. See Lauren Lambie-Hanson, Wenli Li and Michel Slonkosky, “Institutional Investors and the U.S. Housing Recovery,” Consumer Finance Institute, November 2019.
To test for statistical significance, researchers generally use a significance level of 0.05. If your calculated P-value, or probability value, is greater than 0.05, then the relationship between the independent variable in question and your dependent variable is statistically insignificant. Researchers can also test for significance at levels of 0.1 and 0.01. The P-value for out-of-state buyers is 0.4, which is greater than 0.05, 0.1 and 0.01. Calculations made here: Compiled Home Sales Data.xlsx, p. 10. This analysis assumes that the relationship between median home prices and shares of out-of-state buyers for states is linear. Another way to interpret the data is that there is no clear linear relationship between the two variables.
Email correspondence with Tobias Peter, research fellow and assistant director of the AEI Housing Center, March 22 and April 25, 2022.

Regression results: P-value of out-of-state buyers: 6.02E-08.

Table 8 source: Reducing the sample size by excluding counties with fewer than 500 or 1,000 observations may yield statistical-

Figure 7 source: Calculations made here:

Median home price data: "Quarterly & Statistical Economic Report, 1st Quarter 2022," Hawaii Department of Business, Economic Development and Tourism, March 1, 2022, p. 2. The y-axis is a log scale of median home prices. Logs are used here instead of median home prices themselves because logs are a helpful tool to condense and visualize data like home prices that often range from very low to very large values.

Reducing the sample size by excluding counties with fewer than 500 or 1,000 observations may yield statistically insignificant results, but this was not done for this study.


Table 6 source: Compiled Home Sales Data.xlsx, p. 6.


Table 5 source: Compiled Home Sales Data.xlsx, p. 6.

Table 4 source: Compiled Home Sales Data.xlsx, p. 10.

Table 3 source: Compiled Home Sales Data.xlsx, p. 6.

Table 2 source: Compiled Home Sales Data.xlsx, p. 10.

Table 1 source: Compiled Home Sales Data.xlsx, p. 6.


Figure 6 source: Calculations made here: Compiled Home Sales Data.xlsx, p. 10.

Email correspondence with John Jacobson, real estate market analyst at Locations – Hawaii Real Estate, June 19, 2022.


Phone call with Keone Ball, president of the Maui Realtors Association, June 20, 2022.

Ibid.

Grassroot Institute of Hawaii
Email correspondence with Joseph Gyourko, economist and professor at the University of Pennsylvania, May 19, 2022.


89 Figure 9 source: This figure shows that the more land-use restrictions there are, the higher the median home price. For median home price data, see “2016-2020 American Community Survey, 5-year Estimates,” U.S. Census Bureau, March 17, 2022. For land-use restrictiveness data, “Freedom in the 50 States: An Index of Personal and Economic Freedom (Land),” Cato Institute, 2021, accessed June 27, 2022. Calculations made here: Compiled Home Sales Data.xlsx, pp. 14-15. The y-axis is a log scale of median home prices. Logs are used here instead of median home prices themselves because logs are a helpful tool to condense and visualize data like home prices that often range from very low to very large values.


100 Email correspondence with Paul Brewbaker, principal at TZ Economics, Dec. 30, 2021.

101 Email correspondence with Gerard Dericks, professor of economics at Hawaii Pacific University, June 11, 2022.


