# Burned, Sold, and Rebuilt?

## The Long Road to Recovery After California Wildfires

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BEACON ECONOMICS

# Executive Summary

California's wildfire recoveries have historically been prolonged and fraught with uncertainty. Despite efforts by state and local governments to accelerate rebuilding, many communities continue to experience slow and uneven progress. This report offers a distinctive perspective on the recovery process, drawing on proprietary data from ATTOM Data Solutions and historical records from CAL FIRE to shed light on questions that have long resisted clear answers.

This analysis identifies critical observations regarding variations in recovery periods, with a dramatic contrast between best-case scenarios, such as the 2017 Tubbs Fire, and worst-case scenarios, such as the 2018 Camp Fire. For example, 76% of the homes lost in the Tubbs Fire were rebuilt within six years, a historically swift recovery. Following the Camp Fire, however, fewer than 30% of homes were rebuilt within five years of the event, due partly to sizable delays and ongoing hardships related to the sheer scale of destruction.

The 2018 Woolsey Fire, which shares geographic and administrative similarities with the recent Los Angeles wildfires, is also highlighted. Recovery from the Woolsey Fire has been unusually slow, with only 34% of homes rebuilt through fiscal year 2024. This is indicative of systemic issues such as complex permitting practices, underinsurance, and financial difficulties for homeowners.

Beacon Economics also examines whether post-fire property sales are associated with faster rebuilding. There is some evidence to support this, though overall reconstruction rates remain modest for both sold and unsold homes. In the case of the Carr Fire, for example, analysis finds that 31% of sold properties remained unreconstructed, compared to 58% of those that were not sold.

The impacts of wildfires extend beyond construction delay, deeply affecting local property tax revenues. The study reveals a 74% average decline in property tax revenues in the year immediately following a fire, with persistently low revenues even five years later. The analysis also examines factors influencing whether destroyed homes are rebuilt after wildfires, comparing the neighborhood characteristics of homes that remained unreconstructed to those that were rebuilt. This shows that newer homes in more densely populated areas tend to be rebuilt. Notably, local household incomes do not appear to be a significant factor in the rebuilding process once other conditions are accounted for.

This study not only covers historical recovery patterns but also emphasizes the need for targeted policy interventions to speed up the rebuilding processes, address labor shortages, and manage environmental cleanup efficiently. Without strategic action, communities risk prolonged displacement and muted economic conditions, as past events in California amply demonstrate.

# Introduction

"More than six years after wildfires destroyed their Malibu homes, many still struggle to rebuild."[1]

This Los Angeles Times headline from earlier this year underlines the prolonged process of wildfire recovery. This follows the more recent Los Angeles wildfires, among the most devastating and costly in U.S. history. The challenges of post-wildfire rebuilding has gained urgent policy attention. To accelerate recovery, Governor Newsom recently issued an executive order suspending CEQA review and California Coastal Act permitting for properties that were substantially damaged or destroyed.[2]

It appears that Newsom's efforts have helped, with some residents beginning to rebuild their homes in early May, only four months after the fires began. Even so, rebuilding remains an uphill battle, with an estimated 17,000-plus homes either damaged or destroyed by the Palisades and Eaton fires. As daunting as this number seems, counts from the Decennial Census between 2010 and 2020—a time when construction activity was weakened by the Great Recession—suggest the county's housing stock expanded by nearly 15,000 units per year.

As of Summer 2025, Los Angeles County had an estimated 25,000 unemployed workers from the Construction sector, suggesting the necessary labor is there on paper. However, access to that workforce remains uncertain. With roughly 40% of construction workers in the region being foreign-born, the current administration's immigration crackdown may significantly constrain rebuilding efforts.

Aside from labor shortages, the biggest hurdles are debris cleanup and testing for hazardous materials like asbestos and lead. These challenges are compounded by the steep terrain of the Palisades and the

1 Liam Dillon, "More Than Six Years after Wildfires Destroyed Their Malibu Homes, Many Still Struggle to Rebuild," Los Angeles Times, February 12, 2025.

2 California Governor's Office, "Governor Newsom Signs Executive Order to Help Los Angeles Rebuild Faster and Stronger," Office of Governor Gavin Newsom, January 12, 2025.

prevalence of older housing stock in both areas, which may contain significant toxic remnants. Some estimates suggest that full reconstruction in Los Angeles could take anywhere from 16.5 to 40 years,[3] [4] although, as of May 2025 more than 5,000 properties across the Eaton and Palisades burn areas have received final sign off.[5] Moreover, Los Angeles Mayor Karen Bass has issued an executive order to streamline the rebuilding process. In the Pacific Palisades area, which falls under the City of Los Angeles' jurisdiction, nearly 300 homes had entered the construction phase by late October, according to city reports.[6]

This brief takes a data-driven approach to historic reconstruction patterns in California, examining how many homes are rebuilt in the years following major wildfires, whether owners opt to sell, and how those decisions affect the pace of rebuilding.

Beacon Economics' findings suggest that rebuilding efforts have advanced at uneven rates, particularly regarding the Woolsey Fire, which most geographically resembles the Palisades and Eaton fires. The question of whether homes sold in the aftermath of a wildfire are rebuilt more quickly is also answered. The analysis suggests that while selling may be associated with a higher likelihood of rebuilding, most destroyed homes remain unreconstructed several years after a wildfire, regardless of sale status.

Beacon Economics and the Pepperdine School of Public Policy gratefully acknowledge ATTOM Data Solutions for making this analysis possible by providing access to proprietary data at a significantly discounted rate.

3 Strassmann, Mark. "As Los Angeles Rebuilds after Fires, Some Fear Trump's Immigration Policies Will Make It Harder." CBS News, February 3, 2025.

4 Gatsby, Josefin. "How Long Will It Take to Rebuild After the LA Wildfires?" Gatsby Investment Blog, February 6, 2025.

5 California Governor's Office of Emergency Services. "More than 5,000 Properties Complete in Wildfire Debris Removal Effort." Cal OES News

6 Bass, Karen. "Mayor Bass Issues New Executive Order to Further Streamline Rebuilding of Businesses and Commercial Properties in Pacific Palisades." Office of the Mayor, City of Los Angeles.

# Data and Methods

To assess wildfire impacts, property-level data from ATTOM Data Solutions was linked to CAL FIRE's Damage Inspection Program (DINS), which tracks structures damaged or destroyed in California wildfires since 2013.[7] We link Assessor's Parcel Numbers (APN) from CAL FIRE with Assessor Records provided by ATTOM Data Solutions using multiple techniques. The first step was a raw match on APNs, which left many unmatched records because of inconsistencies in APN formats across jurisdictions. These discrepancies were corrected where possible. For properties lacking APNs, matches were made using a combination of spatial proximity (nearest-neighbors) and fuzzy logic (Jaccard similarity) based on county, property number, and street address. The resulting dataset supports a summary of the largest wildfire incidents, detailed below.[8]

## Table 1: APN Parcel Match Summary, Top 20 Incidents[9]

| Incident | DINS APNs | ATTOM Data | Match Rate (%) | Incident Start |
|---|---|---|---|---|
| Camp | 15,287 | 15,120 | 98.9% | Nov-18 |
| Tubbs | 4,541 | 4,518 | 99.5% | Oct-17 |
| Caldor | 3,054 | 2,653 | 86.9% | Aug-21 |
| CZU Lightning Complex | 2,654 | 2,476 | 93.3% | Aug-20 |
| LNU Lightning Complex | 2,117 | 1,999 | 94.4% | Aug-20 |
| Glass | 2,007 | 1,997 | 99.5% | Sep-20 |
| North Complex | 1,563 | 1,549 | 99.1% | Sep-20 |
| Dixie | 1,758 | 1,417 | 80.6% | Jul-21 |
| Valley | 1,554 | 1,417 | 91.2% | Sep-15 |
| Woolsey | 1,314 | 1,256 | 95.6% | Nov-18 |
| Carr | 1,287 | 1,186 | 92.2% | Jul-18 |

7 Structures damaged by fire prior to 2013 do not have a digital record.

8 There are some limitations to the Assessor records. The data received reflects a one-time snapshot of the assessor history, meaning there may be differences in timing between when the local assessment data is available and when it is captured by ATTOM Data Solutions. To overcome this limitation the analysis was restricted to include properties that are consistent throughout the entire history.

9 Excludes unidentifiable parcels in the CAL Fire DINS data. For example, APNs that took the value of 'unknown', '000', 'None', 'No Parcel Data', etc. The DINS data also excludes records where the damage designation was "Inaccessible" or structures were 'Other Minor Structure' and Mobile/Motor Homes. Motor/Mobile homes were excluded because there can be multiple numbers within a single parcel.

| | | | | |
|---|---|---|---|---|
| Creek | 1,459 | 1,144 | 78.4% | Dec-17 |
| Mountain | 1,046 | 906 | 86.6% | Aug-19 |
| Kincade | 863 | 850 | 98.5% | Oct-19 |
| Thomas | 997 | 837 | 84.0% | Dec-17 |
| Nuns | 802 | 791 | 98.6% | Oct-17 |
| Park | 853 | 749 | 87.8% | Jul-24 |
| Atlas | 736 | 731 | 99.3% | Oct-17 |
| Butte | 580 | 500 | 86.2% | Sep-15 |
| Silverado | 584 | 477 | 81.7% | Oct-20 |

Source: CAL FIRE Damage Inspection (DINS) Data, ATTOM. Analysis by Beacon Economics.

In addition to historical Assessor records from fiscal year 2016 through 2024, ATTOM provided real estate deed data ("Recorder" data), which covers individual properties from calendar years 2018 to 2024 and provides legal records on changes in ownership, sales date, price, and document types such as grant deed, quit claim, and so on. Linking property records enables tracking of post-wildfire sales activity, helping to assess how reconstruction outcomes differ between homes that are sold and those whose owners choose to rebuild directly.

# Addressing the Question: What Has Happened to Destroyed Homes in the Aftermath of California Wildfires?

To better understand how soon California homes destroyed by wildfires are rebuilt, the analysis uses DINS data linked with ATTOM Data Solutions Assessor records for select wildfires where pre-fire assessed value (AV) information is available. To validate the data, destroyed homes are segmented to confirm that the home was destroyed by comparing the Improvement AV in the prior year, allowing the home's value to be distinguished from the value of the land.

The extract below concerns four homes affected by the Atlas Fire of October 2017 (fiscal year 2018). It is known that the properties were destroyed because the improvement AV prior to the fire was greater than zero. Homes built in the same year are not included in the analysis. Rebuilding activity is tracked using changes in Improvement AV over subsequent years. For example, Home A was destroyed and never rebuilt. Homes B and C were rebuilt two years after the Atlas Fire, while Home D was rebuilt three years after the fire.

## Improvement Assessed Value for Selected Sample of Atlas Fire Homes

| Property ID | FY 2017 | FY 2018 | FY 2019 | FY 2020 | FY 2021 | FY 2022 |
|---|---|---|---|---|---|---|
| A | 1,108,043 | 0 | 0 | 0 | 0 | 0 |
| B | 195,000 | 0 | 0 | 268,130 | 295,167 | 300,870 |
| C | 1,123,239 | 0 | 0 | 610,000 | 902,943 | 921,001 |
| D | 850,000 | 0 | 0 | 0 | 752,737 | 860,921 |

Source: ATTOM Data Solutions, CAL FIRE. Analysis by Beacon Economics.

A look back at some recent, large California wildfires reveals the uneven rate of rebuilding. The table below presents the cumulative percentage of destroyed homes that were rebuilt in one, two, or more years after each fire. For instance, 13.4% of homes destroyed in the Nuns fire were rebuilt in the following fiscal year, while 27.1% were rebuilt two years after the fire. According to the analysis, nearly 34% of destroyed homes in the Woolsey Fire were rebuilt by fiscal year 2024. This accords with city data that suggests fewer than 40% of destroyed homes in Malibu were rebuilt by February 2025.[10]

10 Stone, Erin. 2025. "More Than Six Years after the Woolsey Fire, the Struggle to Rebuild Continues." *LAist*, April 28, 2025.

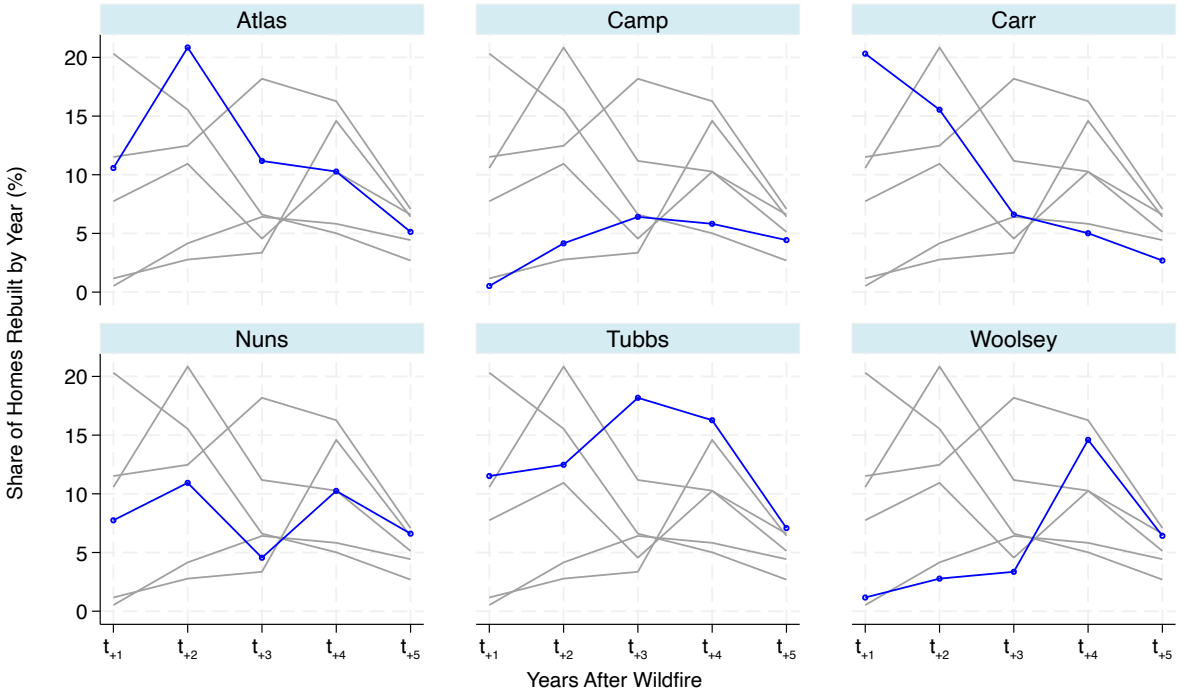
## Share of Destroyed Homes with Rebuild for Select California Wildfires

| | Years after Fire | | | | | |
|---|---|---|---|---|---|---|
| | +1 | +2 | +3 | +4 | +5 | +6 |
| Atlas | 16.3 | 38.4 | 50.2 | 58.6 | 63.4 | 66.2 |
| CZU Lightning Complex | 6.7 | 20.8 | 28.1 | | | |
| Camp | 2.0 | 8.7 | 17.2 | 23.7 | 28.5 | |
| Carr | 28.2 | 42.0 | 48.8 | 53.2 | 55.7 | |
| LNU Lightning Complex | 4.6 | 8.5 | 17.3 | | | |
| North Complex | 3.9 | 5.2 | 19.6 | | | |
| Nuns | 13.4 | 27.1 | 34.2 | 43.3 | 50.1 | 54.9 |
| Tubbs | 22.4 | 35.4 | 52.8 | 63.4 | 69.6 | 76.4 |
| Woolsey | 1.9 | 5.4 | 8.8 | 25.0 | 33.9 | |

Source: ATTOM Data Solutions, CAL FIRE. Analysis by Beacon Economics.

Perhaps the most alarming insight from the analysis is the sluggish pace of rebuilding following the Woolsey Fire. A 2021 report from Climate Resolve attributed this to multiple factors, including Los Angeles' byzantine permitting process, homes being underinsured, and many homeowners simply not having the money to rebuild.[11] In terms of location, the Woolsey Fire is most similar to the Palisades Fire, which, in theory, should offer the best approximation of the trajectory for the Palisades and Eaton fires, considering they both occurred in Los Angeles County. The timing of reconstruction for most destroyed homes is also inconsistent. In the Woolsey case, more homes were rebuilt in the fourth year following the fire, a stark contrast to other fires, such as Atlas and Carr, where rebuilding began at a brisk pace the following year.

11 Climate Resolve. 2021. Lessons from the Woolsey Fire. Los Angeles: Climate Resolve

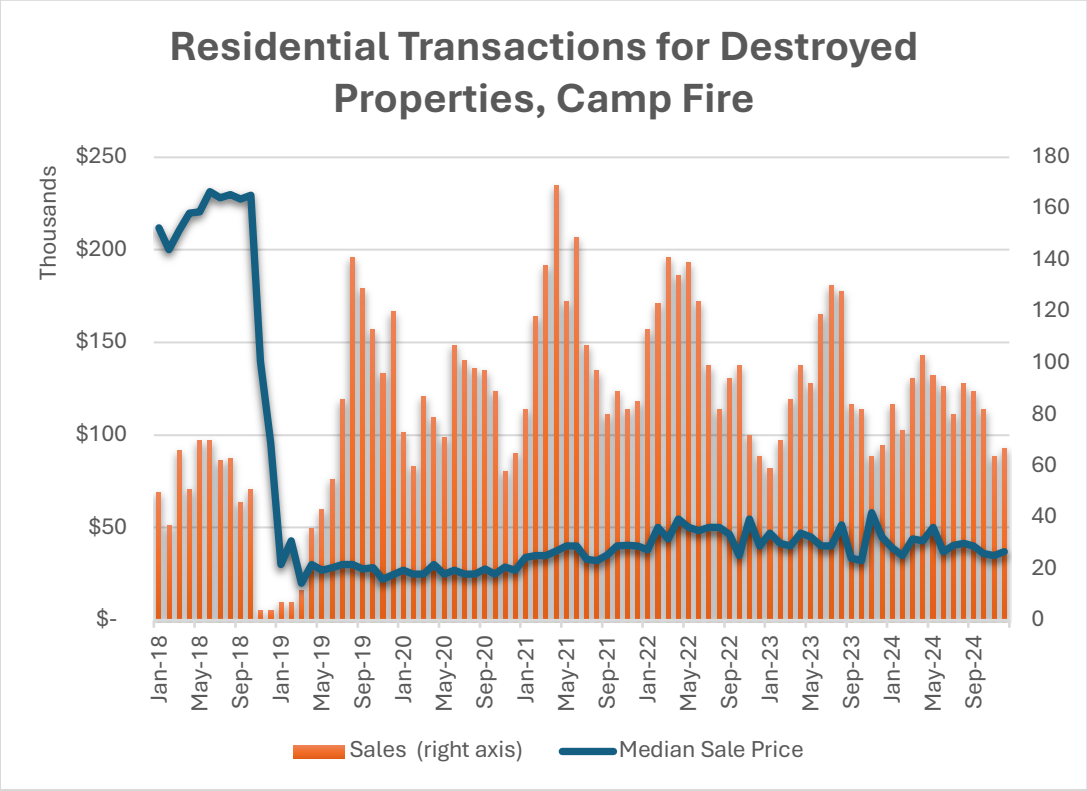



# Addressing the Question: Should Homeowners Walk Away?

In the aftermath of Los Angeles' most recent wildfires, many homeowners now face the difficult decision of whether to hold onto their damaged property and navigate the complex and costly rebuilding process or sell to a buyer more willing and able to undertake the reconstruction. The question is then, are properties that change hands rebuilt more quickly than those retained by the original owner?

An answer to this question lies in looking at homes sold in the twelve months following the wildfire, not including the month of the fire itself. So, if a wildfire occurred during February 2018, for example, sales are segmented from March 2018 to March 2019. In general, there are no sales during the month of the event. Even so, that month is excluded to avoid capturing sales recorded before the fire. A visual depiction of this is provided below for the Camp Fire. Note that because the Recorder data begins in 2018, incomplete information is included for the Atlas, Tubbs, and Nuns fires, all of which began during

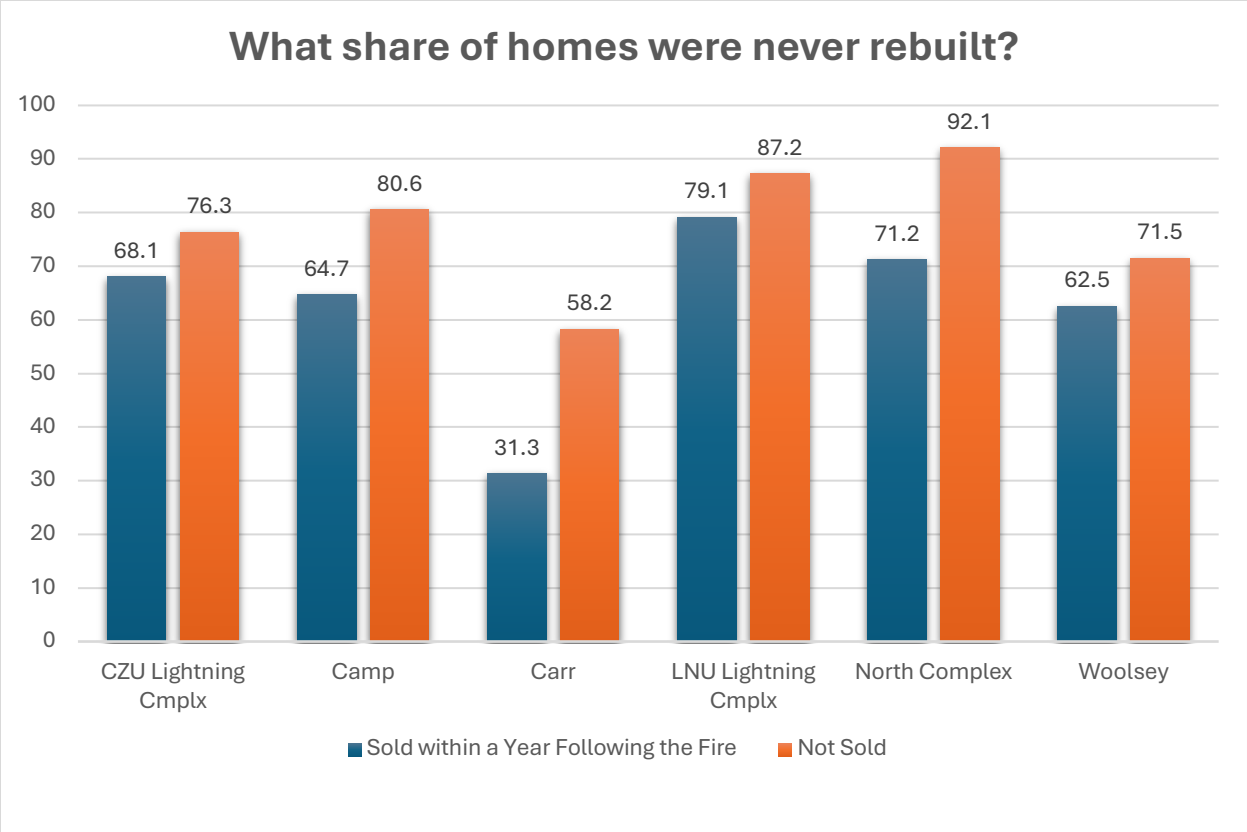
October 2017. In other words, sales that might've occurred during November and December 2017 are not captured. Examining the initial months following other fires shows this is reasonable, considering sales generally do not occur during the first two months.[12]




Source: ATTOM Data Solutions, CAL FIRE. Analysis by Beacon Economics.

Next, Assessor data is linked with the DINS data to identify homes that were destroyed. This combined dataset is then merged with the Recorder data to capture title changes (i.e., sales). Sales are flagged when a grant deed (indicating a change of ownership) is recorded and the transaction is identified as arms-length. Although more than 99% of transactions in the sample are arms-length, interfamily transfers are excluded. This combined dataset reveals which properties sold, how long it took for them to sell, and when (or whether) they were ultimately rebuilt.

12 For example, with the North Complex Fire, which occurred in September, the first sale was recorded a couple of months later in December. This general pattern holds across our sample events with few exceptions.




Source: ATTOM Data Solutions, CAL FIRE. Analysis by Beacon Economics.

Across the six fires in the sample, destroyed properties that are sold in the first year following the wildfire were more likely to be rebuilt compared to those that remained with the original owners, although there is variation in magnitude across incidents. For example, following the Carr fire, only 31.3% of properties sold during the first year were never rebuilt, compared to 58.2% of unsold properties. The Carr fire represents a unique case where many homes were not rebuilt. Instead, homeowners placed mobile or manufactured homes on the site as a permanent or semi-permanent replacement.[13]

The North Complex and LNU Lightning Complex reveal relatively high non-rebuild rates for both sold and unsold properties, with more than 70% of homes never rebuilt for both groups. Note though, that time elapsed from the events is uneven—both fires occurred in the second half of 2020. In general, these

13 This was captured by looking at the value of Improvement AV. For example, a property had an Improvement AV of $150,000 in the first year, then 0 during the fire year, and subsequently in the range $10,000–$25,000 for the next several years. Where this was the case, verification was made using historic satellite images from Google Earth. This occurred mostly in the Carr Fire, so these cases were flagged as non-rebuilds if the improvement AV was less than $30,000 in the years following the event.

findings suggest that while selling may be associated with a higher likelihood of rebuilding, most destroyed homes remain unreconstructed several years after the fires regardless of sale status.

# Property Tax Impacts of Wildfires: An Event-Study Approach

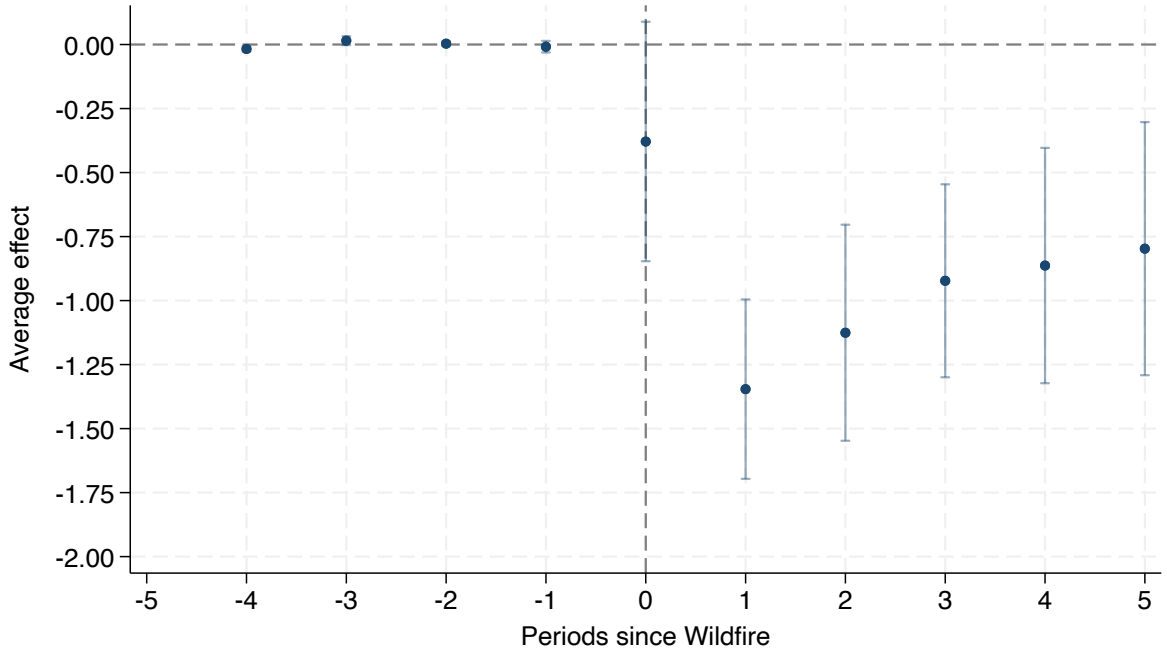
Up to this point, the analysis has focused largely on the pace of rebuilding following a wildfire, but these events and the subsequent rebuild also have implications for local government finances. The destruction of a large number of homes has historically resulted in a prolonged decline in the assessed value of the affected properties, thereby eroding the property tax base, an essential revenue stream for local services such as public safety and school districts. To understand fiscal effects more broadly, an event-study framework is applied using the difference-in-difference estimator from Callaway and Sant'Anna.[14] The change in property tax collections for destroyed homes is modeled across the sample, examining periods before and after wildfire events. This approach accommodates the staggered nature of the wildfires and captures dynamic treatment effects across time. The regression takes the form of

$$Y_{it} = \alpha_i + \lambda_t + \sum_g \sum_k \delta_{g,k} * D_{i,g,t}^{(k)} + \varepsilon_{it}$$

Where

- $Y_{it}$ is the natural log of property tax for a property $i$ in period $t$
- $\alpha_i$ is the property fix effect
- $\lambda_t$ is a year fixed effect
- $D_{i,g,t}^{(k)}$ is an event-time indicator equal to 1 if property $i$ belongs to the treatment cohort $g$ (i.e., was destroyed)
- $\delta_{g,k}$ is the average treatment effect for group $g$at event time $k$

14 Callaway, Brantly, and Pedro HC Sant'Anna. "Difference-in-differences with multiple time periods." Journal of econometrics 225, no. 2 (2021): 200-230.



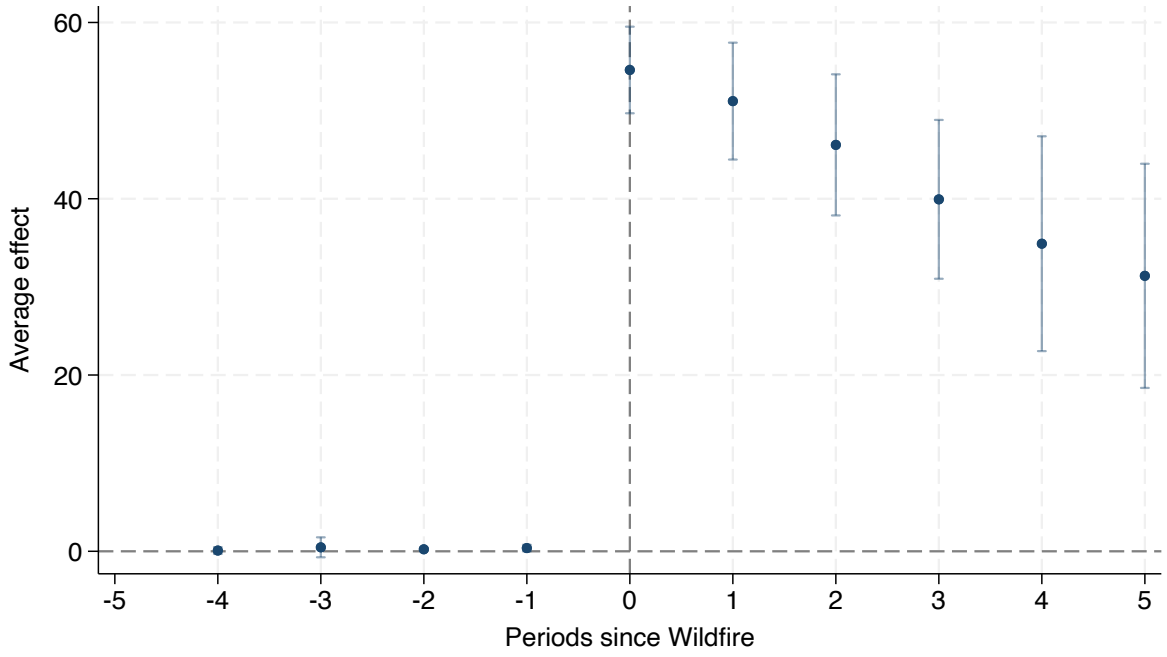

The event study reveals a sharp drop in property tax in the year of the wildfire, although the effects are not fully realized. This is attributed to partial-year assessments that adjust the value of a property within the fiscal year. In other words, property taxes are based on AV at the beginning of the year, but natural disasters such as wildfires can cause AV to be reduced for the remainder of the fiscal year. This suggests that while immediate losses occur, the full extent isn't realized until the following fiscal year—and the recovery process is painfully slow. In the event year, property tax revenues decline by roughly 31%, although, given the extremely conservative approach taken and the clustering of errors at the county level, this is not highly significant [15] and merely reflects significant variation in reassessments during the initial year.

The years leading up to wildfire events exhibit parallel trends, indicating that the identifying assumption hold. The pre-treatment coefficient across the four years prior to the event is small and insignificant (p=0.532), which gives credence to results suggesting there is no evidence that burned homes were systematically different before the wildfire. In the first full fiscal year after the wildfire, property tax collections for destroyed homes decline by nearly 74% compared to pre-event levels, and property tax

15 There are 19 counties in the sample.

collections remain 55% down after five years, with a 59% average revenue loss across the post-treatment period.

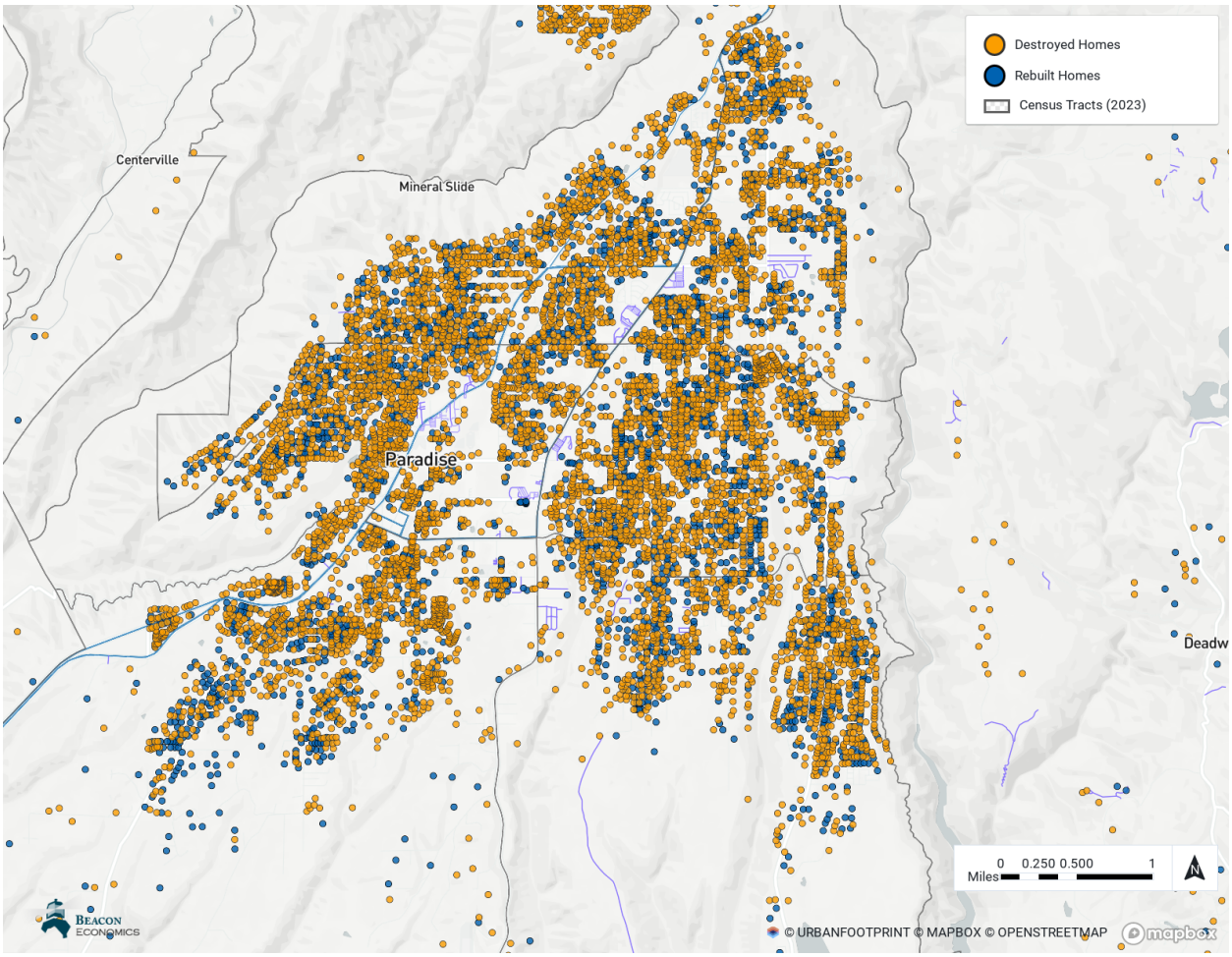
Property tax collections do not decline to zero because total AV is based on both improvement (structures) and land. Even after a wildfire, the land remains taxable even if the structure on it is destroyed. As a final exercise, the value of land as a percentage of total AV is examined. In the initial year following the wildfire, the share of land AV jumps by nearly 55 percentage points. As rebuilding begins, the share declines but remains elevated due to the slow and partial nature of reconstruction.



# What Factors Are Associated With a Rebuild?

A deeper understanding of the factors associated with post-wildfire rebuilding can be gained by comparing demographic, housing, and various neighborhood characteristics of the homes that were rebuilt to those that were not. To do so, destroyed properties are mapped to census tracts, the richest geography from a statistical standpoint. This approach enables examination of neighborhood characteristics surrounding the destroyed homes. Because wildfires can drastically alter neighborhood composition, data from the American Community Survey for the year prior to the wildfire are used. Property-level information is drawn from ATTOM Data Solutions, supplemented by tract-level classifications from Voulgaris (2017) and rural designations from the Health Resources and Services Administration. Records flagged for data quality concerns are excluded. Other potentially influential factors—such as local government response and variation in wildfire timing—remain unaccounted for.

## Map of Destroyed and Rebuilt rural Butte County




The table below provides a high-level summary of the differences between destroyed homes that were rebuilt and those that were not. For continuous variables, information is included on the share of the population that is foreign-born, the share that has a bachelor's degree or higher, the home ownership rate, the retirement population as a percentage of total residents, and so on. Variables such as household income and home value are deflated to the current year and transformed using the natural logarithm. The table also presents the differences between the two groups. For continuous variables such as income, home value, density, etc. a pooled t-test is used to compare means. For categorical variables such as tract type or year structure built, a chi-square test is used to test whether or not the distribution across the categories differs significantly between the two groups.

The results suggest there are meaningful differences between neighborhoods where homes were rebuilt and those where they were not. In particular, homes that were rebuilt tend to be in more populated areas with newer housing stock, while homes that were not rebuilt tend to be in higher-income areas. There is no significant difference between homes in neighborhoods with a high number of seasonal (vacation) homes, but it's found that larger homes are more likely to be rebuilt.[16] In terms of categorical variables, newer homes are more likely to be rebuilt, as are homes in rural tracts (by HRSA's definition). However, analysis is limited by the number of events, as there is a significant difference between destroyed and rebuilt homes across wildfires. Most rebuilt homes in the sample are linked to the Tubbs Fire, while the Camp Fire accounts for many of the homes that remain destroyed.

## Table of Descriptive Statistics for Select Wildfires

| | Destroyed<br>10,440 (58.1%) | Rebuilt<br>7,542 (41.9%) | Test |
|---|---|---|---|
| Foreign Born | 29.18 (12.15) | 28.83 (13.50) | 0.065 |
| Seasonal Homes | 10.16 (17.61) | 9.92 (17.93) | 0.364 |
| Ownership | 46.93 (22.29) | 43.11 (22.15) | <0.001 |
| ln(Household Inc) | 11.06 (0.40) | 10.98 (0.38) | <0.001 |
| Pop Density | 691.18 (971.16) | 891.54 (953.05) | <0.001 |
| Bachelor's+ | 29.79 (20.22) | 27.19 (19.77) | <0.001 |
| Population 65+ | 10.78 (6.23) | 11.02 (6.49) | 0.011 |
| Homes built before 1980 | 57.80 (26.75) | 58.85 (28.84) | 0.013 |
| Vacancy Rate | 8.04 (7.14) | 8.00 (7.36) | 0.673 |
| Single-Family | 49.54 (29.36) | 49.78 (24.88) | 0.558 |
| ln(Home Value) | 12.82 (0.66) | 12.79 (0.54) | 0.001 |
| # of Bedrooms | 2.65 (0.87) | 3.01 (0.86) | <0.001 |
| Tract Type | | | |
| Established suburb | 2,406 (23.0%) | 1,015 (13.5%) | <0.001 |
| Mixed-use | 1,184 (11.3%) | 548 (7.3%) | |
| New development | 1,565 (15.0%) | 1,096 (14.5%) | |
| Old urban | 1,194 (11.4%) | 1,645 (21.8%) | |
| Patchwork | 162 (1.6%) | 233 (3.1%) | |
| Rural | 96 (0.9%) | 144 (1.9%) | |
| Urban residential | 3,833 (36.7%) | 2,861 (37.9%) | |
| Incident | | | |
| Atlas | 104 (1.0%) | 210 (2.8%) | <0.001 |

16 The number of bedrooms reflects data on the structure before the fire.

| | | | |
|---|---|---|---|
| CZU Lightning Complex | 333 (3.2%) | 138 (1.8%) | |
| Camp | 7,346 (70.4%) | 3,010 (39.9%) | |
| Carr | 303 (2.9%) | 433 (5.7%) | |
| LNU Lightning Complex | 302 (2.9%) | 71 (0.9%) | |
| North Complex | 485 (4.6%) | 122 (1.6%) | |
| Nuns | 183 (1.8%) | 233 (3.1%) | |
| Tubbs | 941 (9.0%) | 3,096 (41.1%) | |
| Woolsey | 443 (4.2%) | 229 (3.0%) | |
| Rural (HRSA) | | | |
| Not Rural | 10,324 (98.9%) | 7,332 (97.2%) | <0.001 |
| Rural | 116 (1.1%) | 210 (2.8%) | |
| Year Home Built | | | |
| 1930 or earlier | 327 (3.1%) | 148 (2.0%) | <0.001 |
| 1940 | 896 (8.6%) | 336 (4.5%) | |
| 1950 | 1,151 (11.0%) | 621 (8.2%) | |
| 1960 | 1,432 (13.7%) | 805 (10.7%) | |
| 1970 | 2,416 (23.1%) | 1,689 (22.4%) | |
| 1980 | 2,130 (20.4%) | 1,963 (26.0%) | |
| 1990 | 1,225 (11.7%) | 1,163 (15.4%) | |
| 2000 | 784 (7.5%) | 740 (9.8%) | |
| 2010 | 79 (0.8%) | 77 (1.0%) | |

Mean (Standard deviation): p-value from a pooled t-test.
Frequency (Percent %): p-value from Pearson test.

As an extension to the analysis, a set of logistic regressions is considered to determine what factors are associated with rebuilding while controlling for factors such as income levels, home ownership, and so on (the descriptive analysis does not account for the differences that could arise from other covariates). The table below presents the results for three separate logit regressions where the dependent variable is the probability of a rebuild. The difference across regressions lies in the contextual controls: the Fire Incident column includes dummy variables for each wildfire, Rural introduces a rural dummy based on the HRSA definition, and the Land Use column includes dummy variables for tract-level land use types as defined in Voulgaris (2017).

One of the strongest predictors of home rebuilding is population density. Homes in neighborhoods with higher populations, more single-family homes, and higher home values are all associated with a greater likelihood of rebuilding, with these effects positive across all three specifications. Neighborhoods with a

lower probability of rebuilding tend to have a larger retirement-age population and older housing stock, although some of these estimates are inconsistent across specifications, as will be discussed shortly. Interestingly, the coefficient on household income is either negative or not statistically significant.

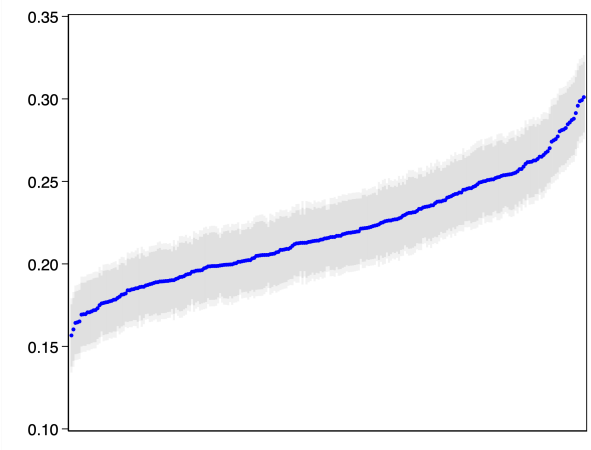
## Determinants of Rebuilding by Fire Incident, Rural Status, and Land Use

| | Fire Incident | Rural | Land Use |
|---|---|---|---|
| Foreign Born | 0.020 | 0.003 | 0.015 |
| | (0.002) | (0.002) | (0.002) |
| Seasonal Homes | 0.003 | -0.003 | -0.012 |
| | (0.001) | (0.001) | (0.002) |
| Ownership | 0.001 | -0.003 | -0.018 |
| | (0.003) | (0.002) | (0.003) |
| ln (Household Inc.) | -0.221 | -1.890 | -0.544 |
| | (0.263) | (0.190) | (0.221) |
| ln (Pop. Density) | 0.155 | 0.277 | 0.242 |
| | (0.017) | (0.016) | (0.019) |
| Bachelor's+ | 0.005 | 0.015 | 0.005 |
| | (0.003) | (0.002) | (0.003) |
| Population 65+ | -0.053 | -0.022 | 0.070 |
| | (0.008) | (0.007) | (0.011) |
| Built Before 1980 | 0.004 | -0.005 | -0.006 |
| | (0.001) | (0.001) | (0.001) |
| Vacancy Rate | 0.015 | 0.003 | -0.011 |
| | (0.004) | (0.004) | (0.005) |
| Single-Family | 0.011 | 0.023 | 0.026 |
| | (0.002) | (0.001) | (0.002) |
| ln (Home Value) | 0.367 | 1.299 | 1.195 |
| | (0.142) | (0.109) | (0.138) |
| No. of Bedrooms | 0.128 | 0.379 | 0.312 |
| | (0.021) | (0.019) | (0.019) |
| Rural (HRSA) | | 1.575 | |
| | | (0.151) | |
| N | 17953 | 17953 | 17953 |
| Log likelihood | -10423.62 | -11437.42 | -11158.48 |
| $\chi^2$ | 3573.32 | 1545.73 | 2103.61 |

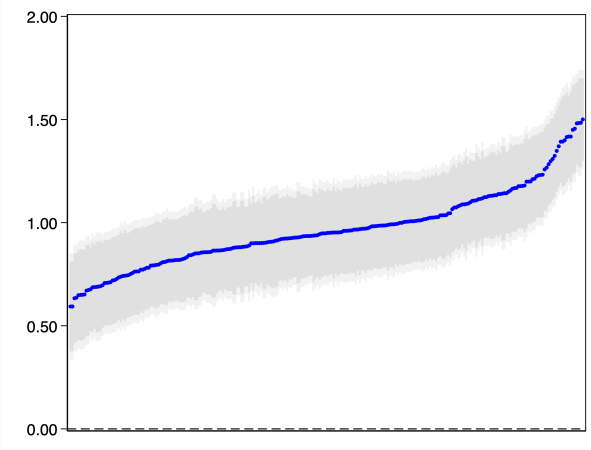
Some controls may be influenced by the inclusion of others—for example, home values and the share of residents with a bachelor's degree or higher may absorb variation otherwise attributed to household incomes. As an alternative, coefficients are mapped from a range of hundreds of variations of the coefficients in the specification curves below for select covariates. The blue dots represent the point estimates for coefficients across various estimations, while the shaded areas reflect confidence intervals around the estimates.

Population density appears to be a consistent predictor of rebuilding. Homes destroyed in more densely populated areas are more likely to be rebuilt, possibly reflecting greater access to rebuilding resources or infrastructure advantages in denser communities. Homes in rural tracts also have higher rates of rebuilding, which could be due to a very small number of tracts in the sample falling under the HRSA definition. It's also possible that homes in rural tracts face fewer regulatory hurdles, holding all else constant. Interestingly, homes in higher-income areas are less likely to be rebuilt, which is somewhat counterintuitive but could reflect a greater reliance on insurance settlements or stricter environmental review processes. As a final exercise, a cross-fit partialing-out estimator (Double Machine Learning) is applied to assess the effect of income, yielding an insignificant result.

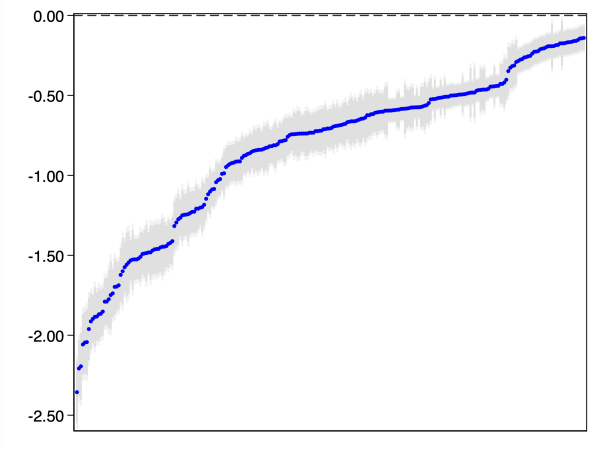
## Specification Analysis for Selected Control Variables



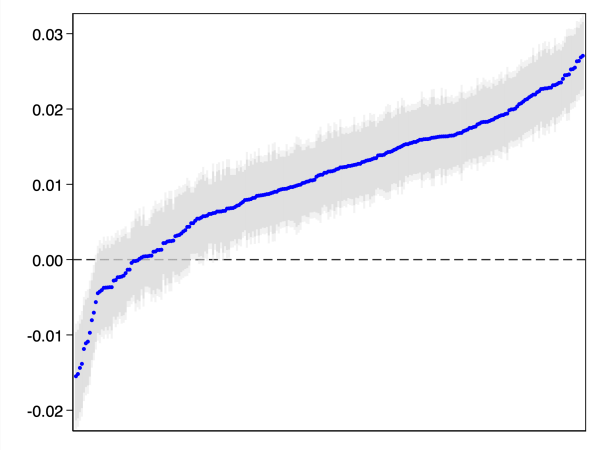

(a) ln(Population Density)




(b) Rural Tracts (HRSA)




(c) ln(Real Household Income)




(d) Share of Population 65+

# Conclusion and Considerations

Wildfire recovery remains an ongoing challenge in California. While some owners may choose to sell—and in some cases, have their property rebuilt faster—the broader takeaway from the analysis is that most destroyed homes remain unreconstructed years after the fire, regardless of whether they are sold or not. The Woolsey Fire, which offers the closest comparison to the Palisades and Eaton fires geographically, shows just how slow rebuilding can be when permitting delays, underinsurance, and financial straits coincide.

Looking ahead, policymakers should take concerted steps to streamline the permitting process, invest in workforce development to counter labor shortages in the construction industry, and fund debris removal and environmental testing, particularly in areas with older housing and challenging terrain. If left unaddressed, these delays risk prolonging displacement for residents and creating lasting gaps in both the housing supply and local property tax base.

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Founded in 2006, Beacon Economics—an LLC and certified Small Business Enterprise with the state of California—is an independent research and consulting firm dedicated to delivering accurate, insightful, and objectively based economic analysis. Employing unique proprietary models, vast databases, and sophisticated data processing, the company's specialized practice areas include sustainable growth and development, real estate market analysis, economic forecasting, industry analysis, economic policy analysis, and economic impact studies. Beacon Economics equips its clients with the data and analysis they need to understand the significance of on-the-ground realities and to make informed business and policy decisions.

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