

TRUTH AND CONSEQUENCES: WHAT CATASTROPHE TEACHES US ABOUT HOMEOWNERSHIP AND UNDERINSURANCE

by
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The firestorms enveloping Los Angeles in January 2025 made yet more inescapable the reality of the increasingly overwhelming impacts that climate change is having on communities. Many thousands of owner-occupied homes were destroyed. Most homes have insurance, but many homeowners will be surprised to find themselves underinsured, meaning their insurance proceeds will be materially less than the insurer-reported, incurred cost of rebuilding their destroyed home. The human consequences on these homeowners, each of whom has lost everything in a single week, are a now sadly all too imaginable tragedy in real time.

How underinsurance happened and what could have been done about it will dominate many conversations, both legal and political, but perhaps then will fade until an even worse catastrophe event inevitably occurs somewhere else. Since the 1990s, the United States has been in an unmissable cycle of escalating fires, floods, hurricanes, and other severe weather events. Los Angeles, over time, likely will be best described merely as an example of the worst of it that happened “back then.”

Despite the history of disasters followed by homeowners faced with terrible choices, debate remains about the most basic of questions. In Los Angeles, for example, how many of these homeowners were underinsured? How badly underinsured were they? Why? Are only disaster victims likely underinsured,

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or does disaster just expose and exacerbate the problem? How much does disaster make underinsurance worse? Whose fault is it? What can be done about it? Are those answers idiosyncratic, or do they describe a broader—perhaps nationwide—crisis of underinsurance?

This Article analyzes the deepest and broadest data so far available to answer these questions and to address the implications of those answers. The data—obtained in response to multiple Public Information Requests to the California Department of Insurance—is aggregated from at least 98% of all fire insurance claims of owner-occupied homes anywhere in California, whether incurring minor damage or suffering complete destruction, whether caused by a catastrophe event or not, across the years 2018–2023. This data shows that there is a barely hidden nationwide crisis of underinsurance, and that without decisive action from lawmakers, we risk creating a cascade of disasters wherein the intersection of climate change and insurance persistently and inevitably robs homeowners of any chance to fully recover what they have lost.

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INTRODUCTION

*“I hear tell the road to hell is paved with good intentions,
but mama, my intentions were the best.”*

—Lyric from Randy Travis¹

The January 2025 Los Angeles wildfires were startling in their ferocity, breadth, longevity, and destructiveness.² But what should not be startling is that

¹ RANDY TRAVIS, *Good Intentions, on Always & Forever*, at 01:16–01:31 (Spotify, Warner Bros. Recs. May 4, 1987).

² Doug Smith & Sandhya Kambhampati, *Real Estate Losses from Fires May Top \$30 Billion, from Old Mobile Homes to \$23-Million Mansions*, L.A. TIMES (Feb. 21, 2025, at 03:00 PT), <https://www.latimes.com/california/story/2025-02-21/real-estate-losses-from-palisades-and-eaton-fires-top-30-billion> [<https://perma.cc/V2JY-SMEJ>] (noting that half of the burned homes were rentals; the estimated \$30 billion in real estate damage casts doubt on future of affordable housing); CLAIR BARNES, THEO KEEPING, GAVIN MADAKUMBARA, JOHN ABATZOGLOU & PARK WILLIAMS ET AL., CLIMATE CHANGE INCREASED THE LIKELIHOOD OF WILDFIRE DISASTER IN HIGHLY EXPOSED LOS ANGELES AREA 4–5 (2025), <https://www.worldweatherattribution.org/wp-content/uploads/WWA-scientific-report-LA-wildfires.pdf> [<https://perma.cc/K6KT-H36A>]. Early estimates are that the Palisades and Eaton fires “triggered nearly 48,000 claims” as of slightly less than three months post-fires, averaging \$337,000 in reconstruction cost value, 72% of which were not smoke damage claims, and 23% of which exceeded \$500,000. VERISK, QUARTERLY PROPERTY REPORT JANUARY–MARCH 2025, at 9–10 (2025),

after each such catastrophe, many homeowners who thought they had adequate insurance learned that they did not, and that they were short by a lot. No one likes underinsurance. No one likes the political, regulatory, and legislative inability to minimize underinsurance. And no one is comfortable with scores of homeowners being unable to return home. Yet disaster exposing underinsurance is a seemingly unavoidable, recurring cycle.³ And we also know what the post hoc handwringing will sound like—some combination of “it was nobody’s fault” and “it was the homeowner’s fault.”⁴

Underinsured homeowners usually do not fare well. Their insurance company will not pay beyond policy limits. Public resources will not cover the gap. And their likely litigation outcome will be poor.

This “second disaster” is almost inevitable without robust and compelling data on the frequency, depth, and causes of underinsurance. In the absence of such data, courts tend to focus on the singular factual dispute at issue and, through discovery orders, often conclude that what may be happening with insurers generally or to other insureds repetitively is not relevant to what happened to an individual homeowner in a single claim adjustment by a single adjuster. The insurer and homeowner often have little memory or documentation of a single, long-ago, maybe discussion about the adequacy of coverage. This lack of evidence leaves a court with nothing more to rule upon than clauses in an insurance policy stating that the coverage limits for rebuilding a destroyed home are based on an estimate and may not be accurate. Courts have few options and sparse evidentiary foundation to reject the presumption that a homeowner read and understood their insurance policy. And so, litigation often ends with the homeowner holding the bag for woefully insufficient insurance.

The current regulatory and legislative landscape does little better in addressing underinsurance than courts do. The lack of robust underinsurance data has impaired meaningful legislative and regulatory reform. Broad statewide

estimating/pes-q2-property-report.pdf [https://perma.cc/XB6R-EQYM]; see also STEVE BOWEN, BRIAN KERSCHNER & JIN ZHENG NG, GALLAGHER RE, NATURAL CATASTROPHE AND CLIMATE REPORT: PRELIMINARY OVERVIEW 7–12 (2025), <https://www.ajg.com/gallagherre/-/media/files/gallagher/gallagherre/news-and-insights/2025/july/h1-2025-natural-catastrophe-and-climate-report.pdf> [https://perma.cc/NJT3-3WDQ] (comparing the California insured losses to insured losses from other global natural catastrophes).

³ Saumi Shokraee, *How Underwriters Can Minimize the Coverage Gap*, CORELOGIC (Mar. 30, 2021), <https://www.corelogic.com/intelligence/how-underwriters-can-minimize-the-coverage-gap/> (on file with the Lewis & Clark Law Review) (“With natural catastrophe events becoming more frequent and more severe, many insurers are looking for ways to ensure that their portfolios are properly covered. Total losses are on the rise, and coverage gaps can mean a higher potential for litigation.”).

⁴ See Kenneth S. Klein, *The Unnatural Disaster of Insurance, Underinsurance, and Natural Disasters*, 30 CONN. INS. L.J. 1, 4–5, 23–31, 44–46 (2023) (summarizing challenges homeowners face in underinsurance litigation).

regulatory and legislative solutions remain elusive.⁵

It's a conundrum. Homeowners are willing to pay for more insurance. Companies want to sell more insurance. And yet underinsurance persists.

The consequences are profound. Climate change accelerates the frequency of wildfires and hurricanes that destroy homes.⁶ Climate change is not going away.⁷ Fires, floods, and hurricanes are not going away.⁸ The impacts of natural disasters on insurance are not going away.⁹ But ubiquitous insurance and

⁵ For a more general discussion of how misunderstandings by regulators of the language and coverage of insurance policies can undermine effective regulatory response, see Daniel Schwarcz, *Reevaluating Standardized Insurance Policies*, 78 U. CHI. L. REV. 1263, 1266–67, 1269, 1338–48 (2011).

⁶ See FED. INS. OFF., U.S. DEP'T OF THE TREASURY, ANALYSES OF U.S. HOMEOWNERS INSURANCE MARKETS, 2018–2022: CLIMATE-RELATED RISKS AND OTHER FACTORS 1–4, 17, 19, 27–43 (2025), https://consumerfed.org/wp-content/uploads/2025/09/Analyses_of_US_Homeowners_Insurance_Markets_2018-2022_Climate-Related_Risks_and_Other_Factors_0.pdf [<https://perma.cc/KLU8-NXFX>]; BARNES ET AL., *supra* note 2, at 47 (explaining how severe drought and hurricane-force winds exacerbated fires); see Parinthia Sastry, Ishita Sen & Ana-Maria Tenekedjiva, *When Insurers Exit: Climate Losses, Fragile Insurers, and Mortgage Markets* 1, 6, 15 (Harv. Bus. Sch. Working Paper No. 24-051, 2024); Shanthi P. Ramnath & Will Jeziorski, *Chicago Fed Letter: Homeowners Insurance and Climate Change*, FED. RSRV. BANK OF CHI.: CHI. FED. LETTER No. 460 (2021), <https://www.chicagofed.org/-/media/publications/chicago-fed-letter/2021/cfl460-pdf.pdf> [<https://doi.org/10.21033/cfl-2021-460>].

⁷ See, e.g., BARNES ET AL., *supra* note 2, at 6–7 (discussing climate models' projections of the continuing effects of climate change).

⁸ See, e.g., *id.* at 7 (discussing how climate-change-induced “hydroclimate whiplash” skews weather events and precipitation levels to greater extremes, causing more severe drought, flooding, and hurricanes).

⁹ See, e.g., STEVE BOWEN, BRIAN KERSCHNER & JIN ZHENG NG, GALLAGHER RE, NATURAL CATASTROPHE AND CLIMATE REPORT: 2024, at 23–24 (2025), <https://www.ajg.com/gallagherre/-/media/files/gallagher/gallagherre/news-and-insights/2025/natural-catastrophe-and-climate-report-2025.pdf> [<https://perma.cc/85GE-JVLX>]; BARNES ET AL., *supra* note 2, at 46 (explaining the continued reductions in wildfire insurance coverage in places like California); Sastry et al., *supra* note 6, at 10–11; Steve Kolk, President & Consulting Actuary, Kolkulations LLC, Insights into Catastrophe Trends: From the Actuaries Climate Index and the US Billion-Dollar Disasters, Slideshow presented to the NAIC Joint Meeting of the Catastrophe Risk (E) Subgroup and Property and Casualty Risk-Based Capital (E) Working Group (Mar. 24, 2025), https://content.naic.org/sites/default/files/national_meeting/JtPCRBC_CatRisk_Agenda%26Materials_250324_0.pdf [<https://perma.cc/7J69-R55Y>], in *Meeting Schedule for 2025 Spring National Meeting*, NAT'L ASS'N OF INS. COMM'RS, https://content.naic.org/sortable_agenda/spring_agenda.htm [<https://perma.cc/4SGN-4435>]; Loretta Worters & Jeremy Engdahl-Johnson, *Triple-I/Milliman: 2025 US P/C Insurance Outlook Shows Strength in Personal Auto, Ongoing Pressure in General Liability Lines*, INS. INFO. INST. (July 10, 2025), <https://www.iii.org/press-release/triple-i-milliman-2025-us-p-c-insurance-outlook-shows-strength-in-personal-auto-ongoing-pressure-in-general-liability-lines-071025> [<https://perma.cc/QX3Q-SWS2>] (“The Los Angeles wildfires in January 2025 contributed significantly to industry losses. The Q1 2025 loss ratio was the worst first-quarter performance for homeowners in over

homeownership could go away if we cannot do better and cannot do better soon.¹⁰

This Article takes on these issues from two perspectives. The first, denominated “Truth,” is an empirical analysis of the largest data set yet available to clarify the factual landscape of underinsurance in homeowner insurance coverage. The second, denominated “Consequences,” is a legal and policy discussion of the implications of that data.

Preceding these two perspectives is some context. Part I of this Article is an introduction to homeownership and insurance. Part I is necessary because the topline data finding of this Article—that a supermajority of homeowners want full insurance, are willing to pay for full insurance, and think they have full insurance, but likely are underinsured and by a lot—will surprise most readers. The reason it will be a surprise is that most people don’t give much thought to homeowner insurance. Put another way, it is likely the following narrative resonates with most

15 years and the worst of any quarter since Q2 2011.”); David Wessel, *Homeowners Insurance in an Era of Climate Change*, BROOKINGS INST. (June 17, 2025), <https://www.brookings.edu/articles/homeowners-insurance-in-an-era-of-climate-change/> [<https://perma.cc/YP92-KQKR>]; Claire Brown & Mira Rojanasakul, *A Climate ‘Shock’ Is Eroding Some Home Values. New Data Shows How Much.*, N.Y. TIMES (Nov. 19, 2025), <https://www.nytimes.com/interactive/2025/11/19/climate/home-insurance-costs-real-estate-market.html> [<https://perma.cc/SJU9-DED5>]; Mark Nevitt, *The Legal Crisis Within the Climate Crisis*, 76 STAN. L. REV. 1051, 1085, 1114 (2024); JORDAN HAEDTLER & AMY WEINHOUSE, CLIMATE CABINET, CLIMATE RISK AND STATE INSURANCE POLICY: 2025 IN REVIEW 31 (2025), <https://climatecabineteducation.org/wp-content/uploads/2025/12/Climate-Cabinet-2025-State-Insurance-Policy-Review.pdf> [<https://perma.cc/DSA8-LSX7>].

¹⁰ See, e.g., FED. INS. OFF., *supra* note 6, at 1–4, 17, 19, 27–44; BARNES ET AL., *supra* note 2, at 46–47; Sastry et al., *supra* note 6, at 1 (discussing how mispricing in insurance contracts leads to even greater climate losses); Ramnath & Jeziorski, *supra* note 6 (discussing the risk of insurance providers ceasing coverage altogether in high climate risk areas); see also J. Anthony Cookson, Emily A. Gallagher & Philip Mulder, *Coverage Neglect in Homeowners Insurance* 20–21 (Fed. Rsr. Bank Phila. Working Paper No. 25-09, 2025) (“[U]nderinsurance is an economically significant impediment to disaster recovery.”); Xuesong You, Carolyn Kousky & Ajita Atreya, *Wildfire Insurance Availability as a Risk Signal: Evidence from Home Loan Applications* 32 (Oct. 27, 2024) (unpublished manuscript), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5017469 [<http://dx.doi.org/10.2139/ssrn.5017469>] (discussing the “significant decline in the volume of home loan applications for high-risk properties since 2019”); Lilit Fellowes-Granda, Marc Jarsulic & Alexandra Thornton, *Managing the Climate Change-Fueled Property Insurance Crisis*, CTR. FOR AM. PROGRESS (Apr. 2, 2025), <https://www.americanprogress.org/article/managing-the-climate-change-fueled-property-insurance-crisis/> [<https://perma.cc/72NJ-Y4YG>] (discussing insurance companies retreating from states with significant climate losses); LLOYD DIXON, FLAVIA TSANG & GARY FITTS, CAL. NAT. RES. AGENCY, *THE IMPACT OF CHANGING WILDFIRE RISK ON CALIFORNIA’S RESIDENTIAL INSURANCE MARKET* 59 (2018), https://www.energy.ca.gov/sites/default/files/2019-12/Forests_CCCA4-CNRA-2018-008_ada.pdf [<https://perma.cc/74MJ-6B8B>] (“[H]omeowners in high-risk areas are purchasing less coverage relative to structure value and selecting higher deductibles than homeowners in low-risk ZIP codes.”).

home-owning readers of this Article: You neither have read your homeowner insurance policy nor questioned the adequacy of your insurance coverage. You first bought homeowner insurance because you were required to do so to close escrow and move into a new home. Your insurance company quoted coverage based on its estimate of what it would cost to rebuild your home. If you questioned the estimate, then your insurance company perhaps quoted a new premium extending coverage by a stated percentage. You bought the quoted coverage. You renewed the policy annually without reflection unless your coverage was cancelled or the premium dramatically spiked. If you ever shopped your insurance, then you shopped on premium, not coverage. And that's about all the thought you ever put into the matter.

Part I of this Article proceeds on the premise that this narrative may not describe all readers, but it describes many and could describe most. And so, Part I puts all readers on an equal and adequate footing as to the particulars of buying and selling homeowner insurance: what percentage of homes have homeowner insurance (take-up rates), what is covered and what is not, how coverage normally is negotiated, what makes underinsurance possible, and what factors might contribute to underinsurance. Part I describes how and why many insurers in this ecosystem do not respond to the possibility of underinsurance by trying to sell more coverage. Instead, insurers put language in insurance policies purporting to shift the risk of inadequate coverage to the homeowner.

Part II is the Truth section of this Article. In 2020, the California Department of Insurance (CADOI) began collecting data in two-year tranches on insurance fire claims across California.¹¹ To date, this constitutes essentially all fire claims of any size in years 2018–2023 involving insured, owner-occupied homes.¹² Pursuant to four Public Records Act Requests, CADOI has aggregated the data by year, incurred loss, type of insurance coverage, amount of insurance coverage, and whether the loss occurred in a catastrophe or not.¹³ This comprises a novel data set of claims arising from over 74,000 fire-damaged or fire-destroyed, owner-occupied homes with traditional homeowner insurance, thus enabling the broadest and deepest analysis ever done of the frequency of, average depth of, and factors leading to underinsurance of homes.

¹¹ CAL. INS. CODE § 929(a)(1) (West 2025).

¹² See *Wildfire Risk Information Reporting*, CAL. DEP'T OF INS. (July 7, 2025), <https://www.insurance.ca.gov/01-consumers/200-wrr/WildfireRiskInfoRpt.cfm> [<https://perma.cc/V3X6-M2YA>].

¹³ Pursuant to California Public Records Act requests, PRA-2022-00683 (on file with author), PRA-2022-00684 (on file with author), PRA-2025-00002 (on file with author), and PRA-2025-00303 (on file with author), as well as a series of follow-up communications between CADOI and the author concerning these requests, CADOI aggregated the data presented in this Article and transmitted that data to the author in Excel spreadsheets that are on file both with the author and the Lewis & Clark Law Review.

Part II reports analysis of the data. What emerges is a bracing description of the state of the homeowner insurance market. The data is backward looking, but if past is prologue, then we are in a persistent homeowner insurance crisis, and we do not even know it. Defining “underinsurance” as when the available insurance coverage to rebuild a destroyed home is less than the insurer-reported calculation of the incurred loss, slightly more than seven out of ten homeowners are likely underinsured by an average of roughly 20%.

Wildfire isn’t the problem; we are underinsured for a one-off housefire. Wildfire amplifies the frequency and depth of underinsurance but doesn’t cause it.

Homeowner price sensitivity isn’t the problem. A supermajority of homeowners want to fully and adequately insure their homes, are willing to pay for it, and think they have it. But most of them are wrong and are short by a lot. Homes destroyed in a wildfire will be underinsured roughly eight out of ten times and by, on average, 25%. And homes suffering a one-off house fire will be underinsured by a comparatively lower, but still troubling, 68% of the time and by, on average, 17%.

The dominant factor explaining underinsurance appears to be the inaccuracy of the reconstruction estimate the insurer provides at point-of-sale of insurance coverage. That estimate appears to be low between 75% and 95% of the time, and, on average, by over 30%.

The centrality of point-of-sale reconstruction estimates to underinsurance is of particular importance. While different states face different catastrophe profiles, insurers nationwide use the same algorithms to estimate reconstruction costs. If these algorithms bias low in California, then this suggests there is a national underinsurance crisis, and this is so whether a catastrophe causes the loss or not.

Part III is the Consequences section of this Article. Part III will describe how the legislative, regulatory, and judicial systems navigate this space. What emerges is that, while insurance is a highly regulated business sector, the government entities making and enforcing those regulations largely treat underinsurance disputes as one-off idiosyncrasies that should be controlled by the language of insurance contracts that a homeowner likely never reads and only understands (to whatever degree they do) based upon conversations with their insurer. That approach is at odds with the factual data presented in this Article.

Part III will broadly propose how the regulatory space might be re-ordered to reduce both unintentional underinsurance and litigation over it. The proposals in Part III start from a premise that because insurance is a regulated, for-profit business, regulatory re-ordering only works if it maintains the ability of and incentives for insurers to profitably sell adequate insurance.

Part III will describe a menu of policy responses to underinsurance that could solve underinsurance, but likely would also make insurance more expensive, with all the knock-on consequences that would entail. There are no easy answers. But what Part III will illustrate is that while underinsurance is pervasive and devastating, it is not inevitable.

I. AN INTRODUCTION OF HOMEOWNERSHIP, INSURANCE, AND UNDERINSURANCE

Today, almost every owner-occupied home in the United States is covered by homeowner insurance. Approximately 90% of owner-occupied homes in the United States are insured.¹⁴ Yet, the ubiquity of homeowner insurance is a relatively contemporary phenomenon,¹⁵ and when the worst happens, no matter what the worst is, adequate coverage turns out to be less dependable and more elusive than one might assume.

A. *A Brief History of Homeowner Insurance and Why Underinsurance Is Even Possible*

Homeowner insurance is ubiquitous because a typical mortgage in the United States requires homeowner insurance. A mortgage without insurance would not comply with the servicing guidelines of two government-sponsored enterprises (GSEs), the Federal National Mortgage Association (Fannie Mae) and the Federal Home Loan Mortgage Corporation (Freddie Mac), both charged with maintaining robust residential mortgage lending markets.¹⁶ The result is that one way or the other, over nine out of ten homeowners have insurance.

If a homeowner's insurance lapses and they have a mortgage, then their "bank" (which may be the loan servicer, because only one-third of loans are wholly owned by the originating lender¹⁷) will "force place" insurance on the home, meaning the bank will purchase, at the homeowner's expense, insurance that protects the loan but not the home.¹⁸ In simplified terms, the bank will be insured, but the

¹⁴ Kenneth S. Klein, *Ashes to Ashes: A Way Home for Climate Change Survivors*, 63 ARIZ. L. REV. 679, 693 (2021); Ramnath & Jeziorski, *supra* note 6; see also SHARON CORNELISSEN, DOUGLASS HELLER & MICHAEL DELONG, CONSUMER FED'N OF AM., EXPOSED: A REPORT ON 1.6 TRILLION DOLLARS OF UNINSURED AMERICAN HOMES 9–10, 18 & n.52 (2024), <https://consumerfed.org/wp-content/uploads/2024/03/Exposed-UninsuredHomes-1.pdf> [<https://perma.cc/52Y9-DUXX>] (reporting that approximately 7.4% of owner-occupied homes lack homeowners insurance and analyzing demographic and geographic factors associated with being uninsured).

¹⁵ Klein, *supra* note 4, at 8–9.

¹⁶ FANNIE MAE, SERVICING GUIDE: FANNIE MAE SINGLE FAMILY 172–79 (2022), <https://singlefamily.fanniemae.com/media/30496/display/> [<https://perma.cc/GP7H-RYGP>]; FREDDIE MAC, SINGLE-FAMILY SELLER/SERVICER GUIDE 4703-1 to 4703-11, 8202-1 to 8202-12 (2023) https://guide.freddie.com/ci/okcsFattach/get/1009097_2 [<https://perma.cc/KLT4-4YAG>].

¹⁷ ANDREAS FUSTER, DAVID LUCCA & JAMES VICKERY, FED. RSRV. BANK OF N.Y., MORTGAGE-BACKED SECURITIES, STAFF REP. NO. 1001, at 8–9 (2022).

¹⁸ See, e.g., FANNIE MAE, *supra* note 16, at 173, 186–89, 191–92; CORNELISSEN ET AL., *supra* note 14, at 13.

homeowner will not (this is a variant of private mortgage insurance—the insurance a homeowner must fund that insures only the mortgage if the borrower’s down payment on the home is less than 20%).¹⁹ Recent work of the Consumer Federation of America (CFA) reports that 2% of owner-occupied homes with mortgages have force-placed insurance.²⁰

At any given moment in time, roughly one-third of owner-occupied homes are not under mortgage at all.²¹ If a home does not have a mortgage, then a homeowner has the option of not having insurance.²² Standard homeowner insurance stands in contrast to other residential property insurance in that there is a high voluntary take-up rate.²³ CFA calculates that 86% of homes without a mortgage nonetheless choose to have insurance.²⁴ CFA further develops the argument that of homeowners who are uninsured, a material percentage wish to have insurance but cannot afford it,²⁵ which means that the voluntary take-up rate for standard homeowner insurance may be understated.

Simply put, over 90% of owner-occupied homes have at least standard homeowner insurance.²⁶ The Board of Governors of the Federal Reserve calculates that 93% of homeowners have insurance (in California the percentage is slightly higher).²⁷

Standard homeowner insurance, however, turns out to be both the floor and ceiling that most homes have. Standard homeowner insurance covers some but not all perils. The HO-3 Special Form is the most common type of homeowner insurance policy²⁸ (the Federal Insurance Office reported in 2012 that it is the

¹⁹ NAT’L ASS’N OF INS. COMM’RS, A CONSUMER’S GUIDE TO HOME INSURANCE 5 (2022), <https://content.naic.org/sites/default/files/publication-hoi-pp-consumer-homeowners.pdf> [<https://perma.cc/MC89-E6GG>].

²⁰ CORNELISSEN ET AL., *supra* note 14, at 11–14.

²¹ *American Housing Survey*, U.S. CENSUS BUREAU, <https://www.census.gov/programs-surveys/ahs/data/interactive/ahstablecreator.html> (choose 2011 in “Select Year” dropdown menu and click “Get Table” to generate table for 2011; repeat for 2013, 2015 and 2017) [<https://perma.cc/BX89-JMPF>] (last visited Mar. 28, 2026); ALICIA LORO, ELLEN MERRY, MIKE ZABEK, JEFF LARRIMORE, ZOFSHA MERCHANT, FATIMAH SHAALAN, JULIE SIWICKI & ANNA TRANFAGLIA, BD. OF GOVERNORS OF THE FED. RSRV. SYS., ECONOMIC WELL-BEING OF U.S. HOUSEHOLDS IN 2024, at 64 (2025), <https://www.federalreserve.gov/publications/files/2024-report-economic-well-being-us-households-202505.pdf> [<https://perma.cc/3A4U-VY22>].

²² Klein, *supra* note 4, at 8.

²³ For a discussion of the lower voluntary take-up rates of flood, earthquake, and fire insurance, see Klein, *supra* note 14, at 692–97.

²⁴ CORNELISSEN ET AL., *supra* note 14, at 12; Klein, *supra* note 14, at 694.

²⁵ See CORNELISSEN ET AL., *supra* note 14, at 13–16.

²⁶ Klein, *supra* note 4, at 8.

²⁷ LORO ET AL., *supra* note 21, at 67, 68 fig. 33.

²⁸ FED. INS. OFF., *supra* note 6, at 46; NAT’L ASS’N OF INS. COMM’RS, *supra* note 19, at 2.

insuring form for roughly 82% of all owner-occupied homes nationwide²⁹), and covers all perils except “flood, earthquake, war, nuclear accident, intentional loss, collapse, mold, wear and tear, seepage, settling, and other perils specifically excluded.”³⁰ The broad takeaway is that standard homeowner insurance covers fire and wind but not earthquake and flood.

Consequently, we are a nation of homeowners almost entirely either uninsured or underinsured for flood. According to 2016–2017 data from the Insurance Information Institute, only 13%–15% of homes are insured for flood.³¹ Voluntary take-up rates of flood insurance appear to run slightly less than 10%.³² Outside of Special Flood Hazard Areas (where flood insurance is required to get a federally backed mortgage), “very few properties have a flood policy, even in areas at risk of flooding.”³³ Indeed, even after a major flood, voluntary take-up rates of flood insurance typically only increases by 1.5%.³⁴ The “vast majority” of homes that are insured for flood are insured under the National Flood Insurance Program (NFIP),³⁵ which caps coverage at \$250,000 for repair or reconstruction of an insured dwelling.³⁶

Nationally, we also largely are uninsured for earthquake. Banks and the government almost never mandate earthquake insurance.³⁷ The CEO of the

²⁹ FED. INS. OFF., U.S. DEP’T OF THE TREASURY, REPORT PROVIDING AN ASSESSMENT OF THE CURRENT STATE OF THE MARKET FOR NATURAL CATASTROPHE INSURANCE IN THE UNITED STATES 16–17 (2015), <https://home.treasury.gov/system/files/311/Natural%20Catastrophe%20Report.pdf> [<https://perma.cc/6Z9L-PKMW>]; accord Martin F. Grace, Robert W. Klein & Paul R. Kleindorfer, *Homeowners Insurance with Bundled Catastrophe Coverage*, 71 J. RISK & INS. 351, 355 (2004).

³⁰ FED. INS. OFF., *supra* note 29, at 17 (emphasis omitted).

³¹ *Flood Insurance: National Flood Insurance Program*, INS. INFO. INST., <http://www.iii.org:80/fact-statistic/flood-insurance> (on file with the Lewis & Clark Law Review) (last visited Mar. 28, 2026).

³² Klein, *supra* note 14, at 692.

³³ Carolyn Kousky, Howard Kunreuther, Michael LaCour-Little & Susan Wachter, *Flood Risk and the U.S. Housing Market*, 29 J. HOUS. RSCH. at S3, S3, S9 (2020).

³⁴ *Id.* at S10–11 (“An examination of take-up rates for flood insurance after hurricanes found that this requirement increased take-up rates by about 5%, with only an additional 1.5% increase in take-up rates not due to this requirement.”); see Craig E. Landry, Sarah Anderson, Elena Krasovskaia & Dylan Turner, *Willingness to Pay for Multi-Peril Hazard Insurance*, 97 LAND ECON. 797, 801 (2021) (“Despite this reform, uptake rates of flood insurance are still low, even for those subject to the mandatory purchase requirement.”).

³⁵ *Flood Insurance*, FLA. OFF. INS. REGUL., <https://flor.com/property-casualty/flood-insurance> [<https://perma.cc/L874-B4F7>] (last visited Oct. 27, 2025); accord NAT’L ASS’N OF INS. COMM’RS, *supra* note 19, at 5.

³⁶ FEMA, NATIONAL FLOOD INSURANCE PROGRAM: FLOOD INSURANCE MANUAL 3.2–3.3 (2021), https://www.fema.gov/sites/default/files/documents/fema_nfip-all-flood-insurance-manual-apr-2021.pdf [<https://perma.cc/TB45-PN78>].

³⁷ FED. INS. OFF., *supra* note 29, at 38 (citing *Catastrophic Risk in California: Are*

California Earthquake Authority is quoted as saying only 10% of Californians have earthquake insurance.³⁸ Nationally, the figure is 7%–8%.³⁹

Until the 1990s, not only did almost every homeowner have fire insurance, but it was quite unlikely a homeowner would be underinsured because homes typically had Guaranteed Replacement Cost (GRC) coverage.⁴⁰ A destroyed home with GRC coverage will be reconstructed no matter the cost.⁴¹

From 1988 through 1997, almost all insurers gradually moved from GRC to Replacement Cost Value (RCV) coverage.⁴² RCV coverage imposes upper limits on the coverage of dwelling reconstruction.⁴³ In other words, RCV creates the possibility of homeowners having coverage limits that result in inadequate insurance funds to reconstruct a destroyed home, i.e., “underinsurance.”

Today (and since around 1996) RCV coverage is the homeowner insurance standard.⁴⁴ And because the Federal Housing Finance Agency (FHFA), which is the umbrella agency of Fannie Mae and Freddie Mac, is concerned with the adequacy of coverage, FHFA requires RCV coverage for a compliant mortgage (as opposed to the most likely alternative, which is an Actual Cash Value (ACV) policy).⁴⁵ An ACV

Homeowners and Communities Prepared?: Informational Hearing Before the S. Comm. on Ins., 2014 Leg. Sess. 8 (Cal. 2014).

³⁸ Nick Miller, *Only 10 Percent of California Homes Are Covered By Earthquake Insurance*, KVCR (July 9, 2019, at 11:49 PDT), <https://www.kvcrnews.org/post/only-10-percent-california-homes-are-covered-earthquake-insurance#stream/0> [<https://perma.cc/TE4D-ZSCQ>].

³⁹ FED. INS. OFF., *supra* note 29, at 39 fig. 9; INS. INFO. INST., 2016 CONSUMER INSURANCE SURVEY: HOMEOWNERS INSURANCE: UNDERSTANDING, ATTITUDES AND SHOPPING PRACTICES 6 (2017), <https://www.iii.org/sites/default/files/docs/pdf/pulse-wp-020217-final.pdf> [<https://perma.cc/YCT4-7BUX>]. When Mary Kelly, Steven Bowen, and Glenn McGillivray studied why take-up rates of earthquake insurance are so dismal in the United States in contrast to Canada, they concluded that the likely explanation was the unique American psyche and attitudes about freedom and government. Mary Kelly, Steven G. Bowen & R. Glenn McGillivray, *The Earthquake Insurance Protection Gap: A Tale of Two Countries*, 39 J. INS. REGUL. 1, 21–22 (2020).

⁴⁰ See PETER M. WELLS, *INSURING TO VALUE: MEETING A CRITICAL NEED* 49, 51 (2d ed. 2007).

⁴¹ NAT’L ASS’N OF INS. COMM’RS, *A SHOPPING TOOL FOR HOMEOWNERS INSURANCE* 10 (2023), https://content.naic.org/sites/default/files/inline-files/committees_c_trans_read_wg_related_shopping_tool_singles.pdf [<https://perma.cc/FX2U-LX7W>]; NAT’L ASS’N OF INS. COMM’RS, *supra* note 19, at 5.

⁴² See WELLS, *supra* note 40, at 53; see also Schwarcz, *supra* note 5, at 1316–18 (observing that some carriers developed less generous replacement-cost provisions while retaining existing policyholders on older, more generous forms, and noting that at least one agent reported being instructed not to switch policyholders to the new form to avoid “legal problems”).

⁴³ NAT’L ASS’N OF INS. COMM’RS, *supra* note 41, at 9.

⁴⁴ Klein, *supra* note 4, at 11.

⁴⁵ Cyndi Danko & Terri Merlino, *Keeping What Works: How the GSEs are Protecting Homeowners, Taxpayers, and the Industry*, FANNIE MAE: PERSPECTIVES BLOG (May 20, 2024),

policy only insures the depreciated value of a structure.⁴⁶

B. In an RCV Homeowner Policy, How Are Coverage Limits Determined?

When a homeowner purchases an RCV policy, the insurer typically will “help” a homeowner select coverages and coverage limits.⁴⁷ The selection of coverage will depend on some of the characteristics of the home.⁴⁸ This information may be collected in person, over the phone, or through a website,⁴⁹ typically through one to two dozen questions (“pre-fills”).⁵⁰ Some of the pre-fills

<https://www.fanniemae.com/research-and-insights/perspectives/gses-protecting-homeowners-taxpayers-and-industry> [https://perma.cc/J6R8-M5YT]. In March 2026, Fannie Mae and Freddie Mac modified their guidelines to permit ACV insurance for roofs. Letter from Fannie Mae, to All Fannie Mae Single-Family Sellers/Servicers, Lender Letter (LL-2026-03): Updates to Project Standards & Property Insurance Requirements (Mar. 18, 2026), <https://singlefamily.fanniemae.com/media/44986/display> [https://perma.cc/736Z-E7M5]; Bulletin from Freddie Mac, to Freddie Mac Sellers and Servicers, Selling and Servicing Updates (Mar. 18, 2026), https://guide.freddiemac.com/ci/okcsFattach/get/1010529_7 [https://perma.cc/NZG9-QLAK].

⁴⁶ *What’s the Difference Between Actual Cash Value Coverage and Replacement Cost Coverage*, NAT’L ASS’N OF INS. COMM’RS (Jan. 2, 2025) [hereinafter *Difference Between ACV and RC Coverage*], <https://content.naic.org/article/whats-difference-between-actual-cash-value-coverage-and-replacement-cost-coverage> [https://perma.cc/R2MQ-DWE2] (“If you have *actual cash value (ACV) coverage*, your policy will pay the cost to repair or replace your home or personal property based on its value, considering its age and wear and tear (depreciation).”).

⁴⁷ NAT’L ASS’N OF INS. COMM’RS, *supra* note 19, at 4, 9.

⁴⁸ *Id.* at 7.

⁴⁹ See Kenneth S. Klein, *Minding the Protection Gap: Resolving Unintended, Pervasive, Profound Homeowner Underinsurance*, 25 CONN. INS. L.J. 34, 78–80 (2018); NAT’L ASS’N OF INS. COMM’RS, *supra* note 19, at 8.

⁵⁰ See VERISK, GET RELIABLE REPLACEMENT COSTS FOR EVERY PROPERTY IN YOUR PORTFOLIO 4, 6–7 (2022), <https://www.verisk.com/493b1a/siteassets/media/downloads/underwriting/360value/get-reliable-replacement-costs-for-every-property-in-your-portfolio.pdf> [https://perma.cc/KY6T-WF2N] (“Its advanced algorithm chooses the most accurate, up-to-date information . . . to populate each field. . . . Flexible, one-stop, web-based system[:] You can easily integrate the web-based 360Value replacement-cost estimation system into virtually any underwriting environment. . . . User proficiency in no time[:] 360Value is easy to learn and use. Agents, underwriters, and others involved in the underwriting process can become proficient in no time. . . . Speed and reliability.”); see also Trish Hopkinson, *Property Characteristics that Influence Replacement Cost Estimates*, VERISK (Sep. 7, 2016), <https://www.verisk.com/blog/property-characteristics-that-influence-replacement-cost-estimates/> [https://perma.cc/4HQQ-PK8J] (identifying nine primary property characteristics—including square footage, construction type, exterior wall type, roof type, number of stories, and foundation type—and 16 secondary characteristics that influence residential replacement cost estimates); Anthony O’Donnell, *Verisk Expands 360Value Prefill to Speed Residential Replacement Cost Estimation*, INS. INNOVATION REP. (Mar. 21, 2016), <https://iireporter.com/verisk-expands-360value-prefill-to-speed-residential-replacement-cost-estimation/> [https://perma.cc/GTK3-B7QE] (reporting that Verisk’s expanded 360Value property prefill draws on claims and underwriting data from approximately 90 million

will concern objective qualities such as the age of the home, the square footage, and the address.⁵¹ Some will be about subjective features, such as whether the quality of the kitchen is “custom” versus “premium.”⁵² The entire process may take 15 minutes or less.⁵³ Sometimes someone from the insurer will perform a visual inspection of the home to confirm information; sometimes not.⁵⁴

This process will result in a quote providing a point-of-sale reconstruction cost estimate (POS RCE) to completely rebuild the home in the event of a total loss.⁵⁵ The homeowner then will be prompted to select what coverage they wish to buy.⁵⁶ The coverage for repairing or rebuilding the dwelling typically is denominated “Coverage A—Dwelling” (Coverage A).⁵⁷ But in all but a GRC policy, Coverage A will only provide the necessary funds for repairing or rebuilding a damaged or destroyed home up to a coverage limit.⁵⁸ Depending on

residential structures to populate up to 67 building characteristic fields); *Determining Reconstruction Costs*, CORELOGIC (July 13, 2016), <https://www.corelogic.com/intelligence/determining-reconstruction-costs/> (on file with the Lewis & Clark Law Review) (“In the past decade, the estimating process that an agent, call center or on-line tool used has progressed from requiring the homeowner to provide all of the details about the home to incorporating online data resources that pre-fill information about the home.”).

⁵¹ See, e.g., CUSTOM SOFTWARE SOLUTIONS, INC., *RCT Express* (YouTube, May 21, 2015), <https://www.youtube.com/watch?v=Q3EEC8fpUxg> [<https://perma.cc/6A3M-4KMB>]; *Underwriting and Rating: 360Value for Personal Property*, VERISK, <https://www.verisk.com/products/360value-personal/> [<https://perma.cc/Z9QA-WTTG>] (last visited Mar. 29, 2026) (providing pre-fill items and characteristics); VERISK, *supra* note 50, at 4.

⁵² See FOREMOST INS. GRP., *360VALUE REPLACEMENT COST ESTIMATOR 4*, <https://www.foremostagent.com/pdf/360Value-Job-Aid.pdf> [<https://perma.cc/BQU5-V6CA>] (last visited Mar. 28, 2026); VERISK, *supra* note 50, at 5; Klein, *supra* note 49, at 75–76.

⁵³ See *Risk Evaluation Solutions*, CORELOGIC, <https://www.corelogic.com/insurance/risk-evaluation-solutions/> (on file with the Lewis & Clark Law Review) (last visited July 16, 2024) (“In today’s digitized world, consumers expect an easy interaction when shopping for property insurance.”).

⁵⁴ See NAT’L ASS’N OF INS. COMM’RS, *supra* note 19, at 9 (“An agent might visit your home to take a photo or ask you for other information (such as the distance from the nearest fire department and the general condition of your home.”).

⁵⁵ *How Much Homeowners Insurance Do I Need?*, INS. INFO. INST., <https://www.iii.org/article/how-much-homeowners-insurance-do-you-need> [<https://perma.cc/4K4C-7L5Z>] (last visited Mar. 28, 2026) (“[Y]our insurer will provide a recommended coverage limit for the structure of your home.”); see also NAT’L ASS’N OF INS. COMM’RS, *supra* note 19, at 9 (advising homeowners that an insurance agent or contractor “might be able to help you estimate the cost to rebuild your home” and that the agent will “usually ask for a description of your house” including location, square footage, age, and construction type).

⁵⁶ See NAT’L ASS’N OF INS. COMM’RS, *supra* note 19, at 4.

⁵⁷ *Residential Insurance: Homeowners and Renters: “What Is Covered By Homeowners Insurance?”*, CAL. DEP’T OF INS. (May 2024), <https://www.insurance.ca.gov/01-consumers/105-type/95-guides/03-res/res-ins-guide.cfm> [<https://perma.cc/DN26-RD4G>].

⁵⁸ See Cassidy Horton, *What Is Guaranteed Replacement Cost Coverage?*, NERDWALLET

internal decisions about underwriting, an insurer might limit the discretion of the homeowner to select—and of the agent/broker/producer to offer—Coverage A limits above or below the estimate.⁵⁹

The homeowner often will be given the option to purchase an Extended Replacement Coverage (ERC) endorsement, which expands the available Coverage A by a stated percentage if the cost of reconstructing a home exceeds Coverage A limits.⁶⁰ Some insurance policies include an ERC endorsement automatically if the property is insured at 100% of POS RCE.⁶¹ Colorado requires ERC endorsements, and requires the percentage of ERC to be at least 50% of Coverage A.⁶²

The homeowner may be given the option to purchase an endorsement for the happenstance that, because of changes in building ordinances or laws, the rebuilt home will require design aspects that were not part of the lost home (a building code upgrade (BCU) endorsement).⁶³ Some insurance policies include this

(Mar. 20, 2024, at 05:45 PDT), <https://www.nerdwallet.com/insurance/homeowners/learn/guaranteed-replacement-cost?> [<https://perma.cc/5C53-4GYL>] (explaining the difference between GRC policies and regular replacement cost coverage policies); *see also* *What Is Dwelling Insurance Coverage?*, ALLSTATE (June 2023), <https://www.allstate.com/resources/home-insurance/dwelling-insurance> [<https://perma.cc/E8V9-3K3P>] (explaining that dwelling coverage pays to repair or rebuild a home's structure up to the policy's coverage limit).

⁵⁹ *See, e.g.*, CAL. DEP'T OF INS., REPORT OF THE TARGETED MARKET CONDUCT EXAMINATION OF THE USAA GROUP (NAIC GROUP #0200) FOLLOWING THE WILDFIRES OF 2015 AND 2017, at 26 (2020), https://interactive.web.insurance.ca.gov/apex_extprd/?p=151:1 (enter “USAA” into the ‘Company Name’ field; enter “09/01/2020” into the ‘Posted Date From’ field; enter “10/01/2020” into the ‘Posted Date To’ field; then press “Go”; click the “Download” icon next to the only file entry that shows up) [<https://perma.cc/5QFT-GXJL>] (showing that a homeowner can select coverage as little as 80% of the RCE); *see also* Nancy Germond, *Back to Basics—What is Coinsurance and How Do I Describe it to My Clients?*, WIS. INDEP. AGENT, Oct. 2022, at 16, 16–17 (explaining that coinsurance provisions in property insurance policies require the insured to maintain coverage equal to a specified percentage of replacement value, with coverage falling below that threshold resulting in proportional reductions to claim payments).

⁶⁰ NAT'L ASS'N OF INS. COMM'RS, *supra* note 41, at 10.

⁶¹ *See, e.g.*, CAL. DEP'T OF INS., REPORT OF THE TARGETED MARKET CONDUCT EXAMINATION OF THE CSAA INSURANCE EXCHANGE (NAIC GROUP #15539) AND THE CSAA FIRE AND CASUALTY INSURANCE COMPANY (NAIC #10921) FOLLOWING THE WILDFIRES OF 2015 AND 2017, at 5 (2020), https://interactive.web.insurance.ca.gov/apex_extprd/?p=151:1 (enter “CSAA” into the ‘Company Name’ field; enter “09/01/2020” into the ‘Posted Date From’ field; enter “10/01/2020” into the ‘Posted Date To’ field; then press “Go”; click the “Download” icon next to the only file entry that shows up) [<https://perma.cc/ZLB3-A6K2>]; CAL. DEP'T OF INS., *supra* note 59, at 5.

⁶² COLO. REV. STAT. § 10-4-110.8(6)(a)(I) (2025).

⁶³ *See* NAT'L ASS'N OF INS. COMM'RS, *supra* note 41, at 8; Scott G. Johnson, *Insurance Coverage for Building Code Upgrades*, 44 TORT TRIAL & INS. PRAC. L.J. 1031, 1032 (2009) (describing “building code upgrades”); *see also* Schwarcz, *supra* note 5, at 1292–93 (analyzing the role of building code upgrade coverage in homeowners' insurance policies and noting

endorsement automatically.⁶⁴ California requires automatic inclusion of a BCU endorsement⁶⁵ and Colorado requires that insurance companies offer BCU coverage.⁶⁶

The policy (and sometimes the quote) may contain warnings to the homeowner about the adequacy of coverage. It may warn them that the quality of the POS RCE depends upon the accuracy of the answers describing the features of the home.⁶⁷ It may also warn them that the estimate is just an estimate and that if the homeowner is in doubt about the adequacy of coverage, then they should contact their insurer, a real estate agent, or a builder.⁶⁸ Finally, it may warn them not to confuse the cost of buying a home with the cost of building a home; that these are different and often unrelated values.⁶⁹

To visualize the warnings that might be found in an insurance policy, it perhaps is useful to look at some concrete examples of actual policy language. What these exemplars illustrate is language simultaneously encouraging a consumer to fully insure, encouraging the consumer's trust in the expertise of the insurance company, and arguably shifting responsibility for underinsurance onto the consumer.⁷⁰

variation in how carriers address the issue); NAT'L ASS'N OF INS. COMM'RS, *supra* note 19, at 5 (explaining additional coverage that “pays for the extra expense to rebuild your home in compliance with building codes and other ordinances or laws that didn't exist when your home was originally built”).

⁶⁴ See, e.g., CAL. DEP'T OF INS., *supra* note 61, at 17; CAL. DEP'T OF INS., *supra* note 59, at 5.

⁶⁵ CAL. INS. CODE § 10103(a)(5) (West 2025).

⁶⁶ COLO. REV. STAT. § 10-4-110.8(6)(a)(I).

⁶⁷ See, e.g., Exhibit B to Complaint at 71, *Friedberg v. United Servs. Auto. Ass'n*, No. 2023-CV-31187 (Colo. Dist. Ct. 2023).

⁶⁸ See, e.g., *id.* at 67; NAT'L ASS'N OF INS. COMM'RS, *supra* note 19, at 10 (“If you have questions about your insurance policy, contact your insurance agent or company.”).

⁶⁹ See, e.g., NAT'L ASS'N OF INS. COMM'RS, *supra* note 19, at 4 (warning that “replacement cost and market value are *not* the same”).

⁷⁰ Schwarcz, *supra* note 5, at 1266–67, 1315 (“[T]he data presented . . . when considered in combination with some of the more troubling individual [insurance policy] terms . . . do raise the concern that individual carriers are exploiting consumer ignorance to ratchet back coverage. . . . If insurers were really attempting to appeal to different types of consumers, then, at the very least, one would not expect for them to refuse to inform consumers about the particularities of their product at the point of sale.”).

Here are images of four excerpts from a 2007 policy in California:⁷¹

Figure 1: “Make sure you’re not under-insured.”

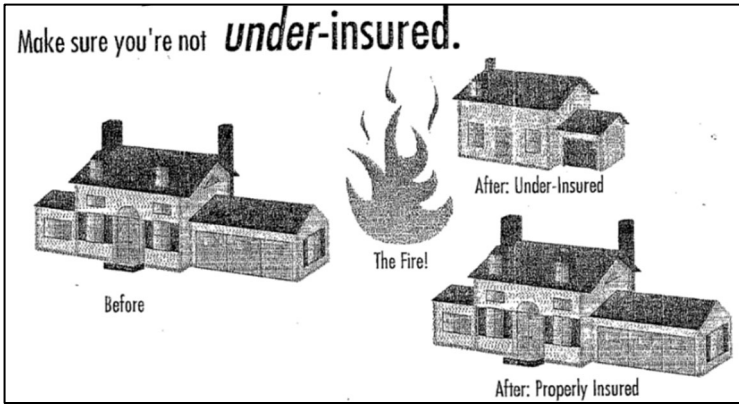


Figure 2: “We want to help you choose the amount of coverage that is right for you.”

We want to help you choose the amount of coverage that is right for you. That's why we're making the extra effort to provide you with specific information about *your* house. Using the information in this notice, you can make sure the limit of insurance you choose for your home takes into account the construction, characteristics, and special features of your home.

The information we have on record about your home is important because with each renewal offer, we use it to calculate a reconstruction cost estimate.

You can use the estimate as a guide to help you choose the amount of coverage you want for your home. If you don't have enough coverage, you could be under-insured. And if your house were totally destroyed, that could mean being unable to pay for complete reconstruction.

We can get you back where you belong . . . *if* you're properly insured.

And keep in mind: with Farmers, you have a personal agent to help you with your insurance program.

⁷¹ Administrative Rulemaking File for Cal. Code Regs. tit. 10, § 2695.183, at 424–26, Ass'n of Cal. Ins. Cos. v. Jones, No. B248622 (Cal. Ct. App. 2015).

Figure 3: “It is your responsibility to choose the Coverage A limit that is right for you.”

We recommend that you contact [REDACTED] your Farmers® agent, at [REDACTED] to discuss your reconstruction estimate and make sure your home's special features and any improvements you have made are taken into account. Your agent can also explain any unfamiliar terms used in the estimate. The information used to estimate labor and material costs is periodically updated to keep pace with changes in normal market conditions. However, reconstruction cost estimating programs can neither anticipate abnormal market conditions nor keep up with rapidly changing costs. The reconstruction cost estimate can serve as a guide, but it is your responsibility to choose the Coverage A limit that is right for you. The Coverage A limit in your policy is the amount of insurance on your home.

Figure 4: For questions, “please call your Farmers agent.”

If you have questions about anything in this notice or would like to discuss your coverage, please call your Farmers® agent. Thank you for choosing Farmers. We appreciate your business.

Here are images of two excerpts of language from a 2021 policy in Colorado:⁷²

Figure 5: The coverage amount “may not be sufficient.”

The coverage amount listed on your attached declaration page is only an estimate of the replacement cost value of your insured property. It may not be sufficient to replace your property in the event of a total loss. If you have concerns about the estimated replacement cost amount used to derive your coverage, you should take an opportunity to discuss this with us to ensure your property has enough coverage in the event of a total loss.

Figure 6: “Only you can decide if this is enough coverage.”

CHARACTERISTICS OF YOUR HOME

Our mission at USAA is to help protect your financial security. One way we do this is by helping you determine if you're adequately covered in the event of a loss. We can calculate the minimum rebuilding cost of your home based on your home characteristics, but only you can decide if this is enough coverage. Our estimates are based on average construction costs and labor costs for geographic areas and may not reflect the unique features of your home or the area you live in.

On the back of this page, you'll find your home characteristics. If any of the information is incorrect, the rebuilding cost may be affected, so please revise any inaccuracies by:

- Logging on to usaa.com, selecting your policy and then Home Characteristics, or
- Calling us at 210-531-USAA (8722), our mobile shortcut #8722 or 800-531-8722.

⁷² Exhibit B to Complaint, *supra* note 67, at 67, 71.

And here are images of two excerpts of language from a 2017 policy in California:⁷³

Figure 7: “It is up to you to choose the coverages and limits that meet your needs.”

Your Coverage Amount....

The limit of liability for this structure (Coverage A) is based on an estimate of the cost to rebuild your home, including an approximate cost for labor and materials in your area, and specific information that you have provided about your home. It is up to you to choose the coverages and limits that meet your needs. We recommend that you purchase a coverage limit at least equal to the estimated replacement cost of your home. Replacement cost estimates are available from building contractors and replacement cost appraisers, or, your agent can provide an estimate from a third-party vendor using information you provide about your home. We can accept the type of estimate you choose as long as it provides a reasonable level of detail about your home. State Farm® does not guarantee that any estimate will be the actual future cost to rebuild your home. Higher limits are available at higher premiums. Lower limits are also available, which if selected may make certain coverages unavailable to you. We encourage you to periodically review your coverages and limits with your agent and to notify us of any changes or additions to your home.

Figure 8: “Avoid Being Underinsured”

AVOID BEING UNDERINSURED: Insuring your home for less than its replacement cost may result in your having to pay thousands of dollars out of your own pocket to rebuild your home if it is completely destroyed. Contact your agent, broker, or insurance company immediately if you believe your policy limits may be inadequate.

THE RESIDENTIAL DWELLING COVERAGE LIMIT: The coverage limit on the dwelling structure should be high enough so you can rebuild your home if it is completely destroyed. Please note:

- The cost to rebuild your home is almost always different from the market value.
- Dwelling coverage limits do not cover the value of your land.
- The estimate to rebuild your home should be based on construction costs in your area and should be adjusted to account for the features of your home. These features include but a not limited to the square footage, type of foundation, number of stories, and the quality of the materials used for items such as flooring, countertops, windows, cabinetry, lighting and plumbing.
- The cost to rebuild your home should be adjusted each year to account for inflation.
- Coverage limits for contents, separate structures, additional living expenses and debris removal are usually based on a percentage of the limit for the dwelling. If your dwelling limit is too low, these coverage limits may also be too low.

You are encouraged to obtain a current estimate of the cost to rebuild your home from your insurance agent, broker, or insurance company or an independent appraisal from a local contractor, architect, or real estate appraiser. If you do obtain an estimate of replacement value, and wish to change your policy limits, contact your insurance company. While not a guarantee, a current estimate can help protect you against being underinsured.

DEMAND SURGE: After a widespread disaster, the cost of construction can increase dramatically as a result of the unusually high demand for contractors, building supplies and construction labor. This effect is known as demand surge. Demand surge can increase the cost of rebuilding your home. Consider increasing your coverage limits or purchasing Extended Replacement Cost coverage to prepare for this possibility.

Regardless of version, the broad message of such language aligns with the frequent advertising message of insurers: you should want full and adequate insurance. For example, here is a screenshot of a State Farm advertisement sending this message:⁷⁴

⁷³ Exhibit 2 to First Amended Complaint, Auerbach v. State Farm Gen. Ins., No. SCV-263270 (Cal. Super. Ct. 2022).

⁷⁴ *Determine Your Homeowners Insurance Coverage*, STATE FARM, <https://statefarm-sites-dev-b75a.adobecqms.net/insurance/home-and-property/homeowners/determine-home-insurance-coverage> [<https://perma.cc/KQ4G-SEE3>] (last visited Oct. 27, 2025).

Figure 9: “Determine your homeowners insurance coverage.”

Determine your homeowners insurance coverage

From market value to replacement cost, you’ve got a lot to consider when determining the right coverage amount for your home.

Consider insuring your home for at least 100% of estimated replacement cost

Unless you’re Nostradamus, it’s impossible to predict what the exact cost will be to replace your home in the future. It’s important to have enough coverage to account for unforeseen circumstances. So, aim to purchase an amount of coverage at least equal to the estimated replacement cost.

When an insurer encourages the homeowner to fully and adequately insure, the insurer rarely, if ever, simply leaves the matter wholly on the homeowner to fend for themselves. An insurer explicitly setting a homeowner adrift would risk them seeking a different insurer. Instead, the insurer typically emphasizes that it has the tools and knowledge to help the homeowner identify adequate coverage.⁷⁵

All of this discussion about warnings in advertisements and policies comes with a caveat: Reading such warnings in isolation may obscure that textual warnings

⁷⁵ See, e.g., *Is Your Home Insured to Its Replacement Cost?*, TRAVELERS, <https://www.travelers.com/resources/home/insuring/is-your-home-insured-to-its-replacement-value> [<https://perma.cc/24JG-UDEQ>] (last visited Oct. 13, 2025) (“[I]f your home isn’t insured to its full replacement cost, your homeowners policy may not cover the full cost for you to rebuild it in the event of a covered loss. . . . Here are some steps that you can take: Talk to your agent or insurance representative about the dwelling coverage on your homeowners insurance policy; Talk to your agent or insurance representative about the tools they have to help estimate your home’s replacement cost. . . . Making sure that your home is insured to its full estimated replacement cost is another way to help protect your home and the things you’ve worked hard to build. Learn more about Travelers homeowners insurance products, or if you’re ready to take the next step, click here to get a quote or find an agent.”); *How Much Homeowners Insurance Coverage Do I Need?*, FARMERS INS., <https://www.farmers.com/home/homeowners/how-much-do-i-need/> [<https://perma.cc/SU5N-G9HJ>] (last visited Mar. 28, 2026) (“Calculating rebuilding costs may prove complicated. A Farmers agent can run a ‘replacement cost estimator’ that takes the relevant variables you provide into consideration.”); *Homeowners Insurance*, USAA, https://www.usaa.com/inet/wc/insurance_home_condo?akredirect=true [<https://perma.cc/WU5E-TSMQ>] (last visited Oct. 13, 2025) (“You should insure your home for the estimated cost to rebuild, not what someone would pay to buy it. The dwelling coverage amount may be more or less than the market value of your home, depending on things like location and reconstruction costs. We can help you determine your rebuild cost.”).

about the adequacy of coverage are not analogous to the yellow Energy Star labels on home appliances, which studies conclude consumers both notice and understand.⁷⁶ Consumers routinely fail to read their homeowner insurance contracts.⁷⁷ That perhaps is predictable, as homeowners often purchase homeowner insurance in the context of a home purchase.⁷⁸ The home buyer has a limited number of days to close escrow and several tasks to achieve to do it, only one of which is the purchase of insurance.⁷⁹ Complicating matters is the fact that the home purchaser may not receive the full insurance policy until many days after purchasing it.⁸⁰ The policy is often lengthy and written in largely inaccessible language, which

⁷⁶ See ENV'T PROT. AGENCY, ENERGY STAR AND OTHER CLIMATE PROTECTION PARTNERSHIPS: 2008 ANNUAL REPORT 20–21, 26 (2009), https://www.energystar.gov/ia/partners/annualreports/annual_report_2008.pdf [<https://perma.cc/2JCX-VEV2>]; 133 CONG. REC. 4503–04 (1987) (statement of Rep. Joe Barton) (“Experience shows that mandatory efficiency labels have successfully encourage [sic] consumers to purchase efficient products. At the same time, labels have allowed consumers the freedom of choice.”); see also Appliance Labeling Rule, 59 Fed. Reg. 34014, 34020–30 (July 1, 1994) (to be codified at 16 C.F.R. pt. 305) (amending EnergyGuide labeling requirements for household appliances to standardize energy consumption disclosures and facilitate consumer comparison of competing models at point of sale); Appliance Labeling Rule, 72 Fed. Reg. 6836, 6838–41 (Feb. 13, 2007) (to be codified at 16 C.F.R. pt. 305) (discussing results of FTC’s consumer research); FED. TRADE COMM’N, MATTER NO. P064201, ENERGY LABELING PUBLIC WORKSHOP 38–43 (2006), <https://www.ftc.gov/os/comments/energylabeling-workshop/060503wrkshoptnscript.pdf> [<https://perma.cc/383K-83P2>] (recording approval of appliance labeling by representatives of manufacturers Whirlpool and JVC); Robert F. Dyer & Thomas J. Maronick, *An Evaluation of Consumer Awareness and Use of Energy Labels in the Purchase of Major Appliances: A Longitudinal Analysis*, 7 J. PUB. POL’Y & MKTG. 83, 83, 89–92 (1988) (finding that consumer awareness of mandated energy-efficiency labels increased over time but that reliance on labels in actual purchasing decisions remained limited).

⁷⁷ See Daniel Schwarcz, Brenda J. Cude, Kyle D. Logue & German Marquez Alcala, *Read But Not Understood? An Empirical Analysis of Consumer Comprehension in Homeowners Insurance*, 112 VA. L. REV. (forthcoming 2026) (manuscript at 9 n.38).

⁷⁸ See generally Troy Segal, *Understanding the Escrow Process and Requirements*, INVESTOPEDIA (Jan. 12, 2025), <https://www.investopedia.com/mortgage/escrow-process-requirements/> [<https://perma.cc/MCT6-E2K8>] (explaining that buyers must purchase hazard insurance before closing); *American Housing Survey (AHS) Table Creator: 2017 National – Value, Purchase Price, and Source of Down Payment—Owner-Occupied Units*, U.S. CENSUS BUREAU, <https://www.census.gov/programs-surveys/ahs.html> (click “American Housing Survey Table Creator”; choose “National,” “2017,” and “Value, Purchase Price, and Source of Down Payment” from the “Table Criteria” dropdown; choose “None” and “None” from the “Column Variables” dropdown; last choose “Data Available for Owner Occupied Only,” “All” and “Estimates” under the “Filters” dropdown; finally click “Get Table”) [<https://perma.cc/5G8C-UWJX>] (last visited Mar. 29, 2026) (revealing that only 8.5% of owner-occupied homes were purchased outright, suggesting 91.5% of homes initially were purchased with some sort of mortgage).

⁷⁹ Segal, *supra* note 78.

⁸⁰ See Kara McGinley, *How Long Does it Take to Get Homeowners Insurance?*, POLICYGENIUS (Oct. 18, 2023), <https://www.policygenius.com/homeowners-insurance/how-long-does-it-take-to-get-homeowners-insurance/> [<https://perma.cc/MSG9-HPSG>].

of course makes it more likely the content will be unread or misunderstood.⁸¹ Disclosures and warnings about adequacy of coverage may be buried within otherwise obtuse policy language.⁸² As a result, even a careful consumer who reads their policy (assuming the policy contains clearly written warnings) might fail to recognize that it potentially transfers the risk of inadequate coverage.⁸³ Making matters yet worse, recent literature demonstrates that the more confident the consumer is about understanding the coverage language of a policy, the more likely they are to be wrong.⁸⁴ And then a similar dynamic will, of course, play out at each policy renewal.

The National Association of Insurance Commissioners (NAIC) suggests to homeowners:

You should choose a coverage limit that is based on the estimated cost to rebuild your home—not its purchase price or current market value. . . . Insuring your home for less than the cost to rebuild it means you may have to pay thousands of dollars out of pocket to rebuild your home if it is destroyed. That is why it is so important to be sure your insurance policy provides enough coverage.⁸⁵

As discussed in greater detail later in this Article, a supermajority of homeowners, regardless of whether their focus is sharp or superficial, do seek to fully insure or even over-insure.⁸⁶ And the primary factor driving what choice the homeowner makes is the advice and counsel of the insurer.⁸⁷ Adverse selection—meaning the homeowners who perceive the greatest risk purchase the greatest coverage—does not appear to be a factor.⁸⁸

⁸¹ Schwarcz et al., *supra* note 77 (manuscript at 13–15).

⁸² See Susanna Kim Ripken, *Predictions, Projections, and Precautions: Conveying Cautionary Warnings in Corporate Forward-Looking Statements*, 2005 U. ILL. L. REV. 929, 982 (2005).

⁸³ See Schwarcz, *supra* note 5, at 1318, 1326–28 (describing the difficulties that consumers face when trying to interpret their insurance policies).

⁸⁴ Schwarcz et al., *supra* note 77 (manuscript at 48).

⁸⁵ NAT'L ASS'N OF INS. COMM'RS, *supra* note 41, at 2.

⁸⁶ See Benjamin L. Collier & Marc A. Ragin, *The Influence of Sellers on Contract Choice: Evidence from Flood Insurance*, 87 J. RISK & INS. 523, 536 tbl. 3 (2020); George Hosfield, *New Consumer Home Insurance Research Reveals that U.S. Homeowners Are Willing to Pay Higher Premiums to Have the Right Coverage for Their Properties*, LEXISNEXIS RISK SOLUTIONS, <https://risk.lexisnexis.com/insights-resources/blog-post/home-insurance-consumer-insights-report> [<https://perma.cc/5PLR-RR3D>] (last visited Mar. 29, 2026) (discussing how “72% of homeowners are willing to pay more for the right insurance coverage”); see also discussion *infra* Section II.D.3 (explaining that homeowners rarely opt for underinsurance).

⁸⁷ Collier & Ragin, *supra* note 86, at 526–27, 553–54; Cookson et al., *supra* note 10, at 25–25 (“[H]omeowners set their dwelling coverage limits according to the replacement cost estimates suggested by insurance agents without realizing how widely suggested limits can vary across insurers.”).

⁸⁸ Cookson et al., *supra* note 10, at 24 (discussing “the hypothesis that adverse selection explains underinsurance”).

This conclusion—that homeowners are highly reliant on insurers to guide them—aligns with the apparent broad recognition within the industry that homeowners do not understand their insurance policies.⁸⁹ Of course, that homeowners do not understand their policies should raise concern about the impact or lack thereof of policy language warnings, no matter how clearly the insurer writes the text. Indeed, when CADOI investigated underinsurance in 2010, it reported, regarding insurer warnings about coverage:

The examined insurers each state that it is the responsibility of the policyholder to select appropriate coverage limits. However, the examinations revealed that regardless of the insurers' stated positions, the policyholder is relying upon the insurer's estimate (as calculated using the insurer's replacement cost estimation tool) to select Coverage A limits in a significant number of cases.⁹⁰

Simply put, there is no indication that most consumers understand that coverage may be inadequate, or that the risk of inadequacy may fall on the homeowner. Typically, homeowners simply accept whatever the insurer's replacement cost estimation tool calculates.

C. What Is This Replacement Cost Estimation Tool; or Put Another Way, Where Precisely Does the Estimate of Adequate Coverage Come From?

As touched upon above, to calculate a POS RCE (meaning the estimate used to inform the adequacy of Coverage A limits), every insurer uses an algorithm.⁹¹ One might think of this as a software tool. Almost every insurer purchases their POS RCE algorithm from one of two vendors: Verisk or CoreLogic.⁹² The Verisk

⁸⁹ See, e.g., INS. INFO. INST., *supra* note 39, at 7–12 (discussing common consumer misconceptions about homeowner insurance policies, including the belief that homeowner insurance typically covers flood damage); Gia Snape, *Two-Thirds of Insureds Don't Know What Their Homeowners' Policy Covers*, INS. BUS. MAG. (Dec. 2, 2022), [https://www.insurancebusinessmag.com/us/news/breaking-news/twothirds-of-insureds-don't-know-what-their-homeowners-policy-covers-survey-429402.aspx](https://www.insurancebusinessmag.com/us/news/breaking-news/twothirds-of-insureds-don-t-know-what-their-homeowners-policy-covers-survey-429402.aspx) [<https://perma.cc/7W2J-JBXA>]; *Survey: Most Americans Do Not Fully Understand Insurance Coverage... Yet 86% Say They Do*, INDEP. INS. AGENTS & BROKERS OF AM. (June 18, 2024), <https://www.independentagent.com/media/Pages/2024/Survey-Most-Americans-Do-Not-Fully-Understand-Insurance-Coverage.aspx> [<https://perma.cc/6NWB-EYN6>]; *Study Finds Only 30% of American Homeowners Know What Their Home Insurance Policy Covers*, BUS. WIRE (Nov. 24, 2020, at 08:30 EST), <https://www.businesswire.com/news/home/20201124005307/en/Study-Finds-Only-30-of-American-Homeowners-Know-What-Their-Home-Insurance-Policy-Covers> [<https://perma.cc/T3PB-8WY6>].

⁹⁰ Administrative Rulemaking File for Cal. Code Regs. tit. 10, § 2695.183, *supra* note 71, at 1030.

⁹¹ Klein, *supra* note 4, at 13–16; see *supra* Section I.B.

⁹² Klein, *supra* note 4, at 16. On March 24, 2025, CoreLogic “announced its global rebrand

product is 360Value.⁹³ The CoreLogic product is RCT Express, which is sometimes referred to as Marshall & Swift or MSB (both short for Marshall Swift/Boeckh, the prior owner and developer of the algorithm).⁹⁴ Verisk describes 360Value as providing a “true” replacement cost.⁹⁵ CoreLogic similarly describes RCT Express.⁹⁶ Peter Wells, the self-proclaimed inventor of the approach of these algorithms, describes them as “total component” cost estimating.⁹⁷

Both Verisk and CoreLogic try to predict and price-model a hypothetical construction contract of the insured home down to the number of “screws and nails” using localized wage and supplies costs, adjust that modeled price for possible demand surge pricing based on the likelihood that the home was lost in a catastrophe event,⁹⁸ and then generate a POS RCE of the cost to rebuild the insured home.⁹⁹

The ever-present challenge to Verisk and CoreLogic, however, is how to determine accurately and in detail the number of screws and nails, linear board feet of lumber, quality of finishes, identity of specialized trades, labor hours at what wage rates, profit, overhead, fees, etc., of the insured home.¹⁰⁰ A residential

to Cotality.” Press Release, Cotality, Meet Cotality™: CoreLogic Embraces a New Name and Bold Vision for the Future of the Property Industry (Mar. 24, 2025), <https://www.corelogic.com/press-releases/meet-cotality/> [<https://perma.cc/Q448-EHMA>]. To avoid confusion, this Article will continue to use the corporate name, CoreLogic.

⁹³ XACTWARE, PRICING METHODOLOGY SUMMARY 6 (2021), <https://eservice.xactware.com/esc/showme/PDF/2021/3312PricingMethodologySummary2a.pdf> (on file with the Lewis & Clark Law Review).

⁹⁴ Klein, *supra* note 4, at 13–16.

⁹⁵ VERISK, *supra* note 50, at 2 (“From underwriting to policy renewal, you can count on the 360Value® replacement-cost estimation system to generate reliable estimates for properties in your book of business. That’s because 360Value replacement cost estimates account for the costs needed to reconstruct a property to its original condition—down to the screws and nails. This component-based approach is what sets 360Value apart from other cost-estimating tools.”).

⁹⁶ See, e.g., Press Release, CoreLogic, RCT Express from CoreLogic Now Includes the Ability to Calculate Large Tract Home Reconstruction Costs (Sep. 24, 2019), <https://www.corelogic.com/press-releases/rct-express-from-corelogic-now-includes-the-ability-to-calculate-large-tract-home-reconstruction-costs/> (on file with the Lewis & Clark Law Review) (“RCT Express is a reconstruction estimating and risk assessment solution that offers an unprecedented view of structure risk to support the underwriting workflow in helping insurance carriers extend the right coverage and better protect policyholders.”); see also *Marshall & Swift Valuation: Access Accurate, Defensible Replacement Costs*, COTALITY, <https://www.cotality.com/products/marshall-swift> [<https://perma.cc/7ZT3-EFNY>] (last visited Mar. 29, 2026).

⁹⁷ E-mail from Peter M. Wells to author (Mar. 1, 2023, at 13:00 PT) (on file with author).

⁹⁸ VERISK, *supra* note 50, at 2.

⁹⁹ See XACTWARE, *supra* note 93, at 2; *Risk Evaluation Solutions*, *supra* note 53.

¹⁰⁰ Scott Amussen & Mike Fulton, *A Balancing Act: Homeowners Writers Strive for Underwriting Efficiency Without Sacrificing Reliable Replacement-Cost Estimates.*, BEST’S REV., Nov. 2010, at 40, 41–42.

construction is a highly complex project. Predicting price is more art than science, and the true price of building a home is whatever it costs a qualified general contractor to do it.¹⁰¹ Predicting that price with any kind of accuracy requires enormous time, expertise, and attention to detail.¹⁰²

At point-of-sale, little time, expertise, or attention to detail can or will be brought to the challenge of accurately modeling the exact price of rebuilding the insured home. The business model of insurance will not support an insurer paying a producer (an agent or broker) to garner the expertise and devote the time to POS RCEs that would be necessary to produce an accurate point-of-sale insurance quote.¹⁰³ To illustrate the matter concretely, consider the 2003 Cedar Fire, which destroyed 312 homes in the San Diego neighborhood Scripps Ranch.¹⁰⁴ It was heartbreaking and tragic. But there are 12,000 homes in Scripps Ranch.¹⁰⁵ And there has been no wildfire loss in the neighborhood before or since.¹⁰⁶ Time, expertise, and attention to detail make sense in adjusting 312 large loss claims. It makes no sense in quoting 12,000 insurance policies annually. And the proof that it makes no sense is that no insurer does it.¹⁰⁷

Both Verisk and CoreLogic recognize that time, expertise, and attention to detail are the key to an accurate POS RCE. This is the problem that the pre-fills (the dozen to two dozen identified characteristics of the home) are meant to solve. The pre-fills are place-marker variables that Verisk and CoreLogic have identified as supporting an educated guess about the line items of a hypothetical contract for the construction of the insured home.¹⁰⁸

¹⁰¹ See XACTWARE, *supra* note 93, at 2, 4.

¹⁰² See generally MARK WHATLEY, XACTIMATE: THE HISTORY & THE FUTURE (2018), https://s3.amazonaws.com/getinsights-live/wp-content/uploads/z2018/02/12155334/Xactimate_History_Future_White_Paper_v49-1.pdf [<https://perma.cc/SG7U-4JAY>] (tracing Xactimate's development as the dominant property claims estimation platform and identifying architectural features of the software that may produce systematically low valuations).

¹⁰³ Klein, *supra* note 49, at 74.

¹⁰⁴ SCRIPPS RANCH CIVIC ASS'N, 2003 CEDAR FIRE 20TH ANNIVERSARY 5–7 (2023), <https://www.scrippsranch.org/wp-content/uploads/2024/05/SRCA-SRFSC-20th-Anniversary-Cedar-Fire-v2.pdf> [<https://perma.cc/9NLF-CMMZ>].

¹⁰⁵ *Scripps Ranch*, S.D. CASTLES REALTY, <https://sandiegocastles.com/neighborhoods/scripps-ranch> (on file with the Lewis & Clark Law Review) (last visited Feb. 19, 2025).

¹⁰⁶ *Does Scripps Miramar Ranch Have Wildfire Risk?*, FIRST ST., https://firststreet.org/neighborhood/scripps-miramar-ranch-ca/58535_fsid/fire [<https://perma.cc/25QB-XNDB>] (last visited Jan. 27, 2026); City News Serv., *Scripps Ranch to Reflect on 2003 Cedar Fire that Tore Through Community*, NBC S.D. (Oct. 26, 2023, at 11:41 PT), <https://www.nbcsandiego.com/news/local/scripps-ranch-to-reflect-on-2003-cedar-fire-that-tore-through-community/3338448/> [<https://perma.cc/SGE7-9EGT>].

¹⁰⁷ CAPE Prop. Intel., *The Underinsurance Problem: Root Causes and an AI Solution for a Way Forward*, MOODY'S (Sep. 14, 2022) <https://capeanalytics.com/resources/the-underinsurance-problem/> [<https://perma.cc/R3QC-8HMM>].

¹⁰⁸ See, e.g., VERISK, *supra* note 50, at 44; O'Donnell, *supra* note 50; CORELOGIC, RCT

D. *How Could Underinsurance Happen?*

There are a variety of factors that could contribute to pervasive, unintended, and profound underinsurance. The patent possible factors are: (1) building costs inflation during the policy year; (2) demand surge after a catastrophe causing exceptional cost spikes; (3) changes in building codes adding expense to the rebuild of the destroyed home; (4) homeowners choosing to underinsure to control premiums; (5) problems with the algorithms used to estimate adequate coverage; and (6) the incentives of insurers when estimating adequate coverage. What follows is a further discussion of each of these factors. The takeaway is that endogenous, insurer-side factors predominate as explanations of underinsurance.

1. *Building Costs Inflation*

The cost of building materials and labor has an inflation rate that is independent of general consumer price inflation (CPI).¹⁰⁹ In short, fiscal quarter-to-quarter building costs almost inevitably rise, and the rate of building costs inflation often exceeds general inflation.¹¹⁰ For this reason, the POS RCE in a policy should be updated every policy year at renewal.¹¹¹

This dynamic is known to the vendors of the POS RCE algorithms.¹¹² These vendors track building costs down to micro-localized markets and allow insurers to

EXPRESS: ADMINISTRATOR TRAINING MANUAL VERSION 4.3, at 1 (2016), <https://rctcan1.msboxpress.net/RCT43Help/2/Content/RCT%204.3%20Admin%20Training%20Manual.pdf> [https://perma.cc/7E7M-436X].

¹⁰⁹ See Ed Zarenski, *Construction Inflation & PPI 2025 Updated 10-17-25*, CONSTR. ANALYTICS (Oct. 17, 2025), <https://edzarenski.com/2025/02/21/construction-inflation-2025-2-21-25/> [https://perma.cc/D4G9-UPDA] (noting that long-term construction cost inflation—driven by material, labor, and contractor margin effects—is typically much higher than and largely independent from the general CPI); *Underwriting and Rating: 360Value for Personal Property*, *supra* note 51.

¹¹⁰ See *Q3 Economic Outlook: P&C Replacement Costs Expectations for 2025*, INS. INFO. INST. (Aug. 19, 2025), https://www.iii.org/sites/default/files/images/chart_of_the_week_08192025.jpg [https://perma.cc/3WLE-P2PG]; *Reconstruction Cost Analysis*, VERISK, <https://www.verisk.com/resources/campaigns/360value-quarterly-cost-updates/reconstruction-cost-analysis/> [https://perma.cc/XL9G-QPG3] (last visited Mar. 29, 2026); *Construction Claims Bulletin: Report*, CORELOGIC, <https://www.corelogic.com/intelligence/reports/construction-claims-bulletin/> (on file with the Lewis & Clark Law Review) (last visited Feb. 14, 2025) (“To keep our client informed of current market trends, CoreLogic© has curated a monthly bulletin of regional construction cost insights that are reflected in the CoreLogic Pricing Database.”).

¹¹¹ See, e.g., *What You Need to Know About Replacement Cost vs. Market Value*, STATE FARM (Sep. 26, 2022) <https://www.statefarm.com/simple-insights/residence/replacement-cost-vs-market-value> [https://perma.cc/CC7Z-YUXA] (“Replacement costs can change over time, so you should review your homeowners policy annually to make sure its coverage meets your needs. . . . For maximum protection, consider a policy that includes an inflation clause that automatically adjusts to account for changes in construction costs.”).

¹¹² See, e.g., *Reconstruction Cost Analysis*, *supra* note 110; *Construction Claims Bulletin: Report*,

update policies in real time at renewal; indeed, this functionality is part of what the vendors sell when they sell their point-of-sale algorithms.¹¹³

Further, if the POS RCE is accurate at inception and the insurer annually updates it at policy renewal to account for localized building costs inflation, then the maximum contribution of building costs inflation to underinsurance is the total of the inflation occurring from the first day of the policy year through the date of the loss.¹¹⁴ The consequence should be that changes in building costs are not likely a frequent and material contributor to underinsurance in RCV policies that are updated annually.¹¹⁵

For these reasons, it is unlikely that normal building costs inflation is often a significant factor in underinsurance.¹¹⁶

supra note 110 (“To keep our client informed of current market trends, CoreLogic© has curated a monthly bulletin of regional construction cost insights that are reflected in the CoreLogic Pricing Database.”).

¹¹³ Press Release, Verisk, Verisk Insurance Solutions Introduces 360Value Renewal Insight to Help Homeowners Insurers Achieve Insurance to Value Through the Life of the Policy (Aug. 9, 2016), <https://www.verisk.com/company/newsroom/verisk-insurance-solutions-introduces-360value-renewal-insight—to-help-homeowners-insurers-achieve-insurance-to-value-through-the-life-of-the-policy/> [<https://perma.cc/5H4P-AXKT>]; VERISK, *supra* note 50, at 3 (“[R]e-running in-force business at the property level can provide the most accurate estimated replacement costs at renewal. It’s the gold standard in maintaining ITV—and peace of mind for you and your customers.”); *CoreLogic: How Underwriters Can Minimize the Coverage Gap*, MARKETSCREENER (Mar. 29, 2021), <https://www.marketscreener.com/quote/stock/CORELOGIC-INC-6275906/news/CoreLogic-How-Underwriters-Can-Minimize-the-Coverage-Gap-32946056/> [<https://perma.cc/UMW3-9WUK>] (“Accurate and relevant property characteristics can also be utilized in the policy renewal process. During these renewals, many insurers will often apply inflation factors for their price adjustments. This is significantly less effective than doing a full recalculation of the policy.”); *see also Marshall & Swift Valuation: Access Accurate, Defensible Replacement Costs*, *supra* note 96 (“Marshall & Swift continuously updates cost data with expert insights and market research, providing consistent, accurate valuations and reliable replacement cost comparisons. . . . Our costing data is continually researched. Depending on the Marshall & Swift product you choose, you’ll see costs updated monthly, quarterly, or annually.”).

¹¹⁴ This conclusion does not account for exogenous economic policy changes, such as tariffs, that might cause spikes in building costs. *See Will Trump Tariffs Harm Home Affordability?*, COTALITY (Feb. 10, 2025), <https://www.cotality.com/insights/articles/will-trump-tariffs-harm-home-affordability?> [<https://perma.cc/L9PJ-P5KK>].

¹¹⁵ *See* Cookson et al., *supra* note 10, at 20–21 (“Our data reveals that the overwhelming majority of policyholders update their coverage over time, either by requesting more coverage or by accepting the updated coverage A suggestion of their insurer at annual renewal. In particular, only 4.9% of policies that were renewed at least once since origination had an unadjusted coverage A limit.”); Press Release, Verisk, *supra* note 113.

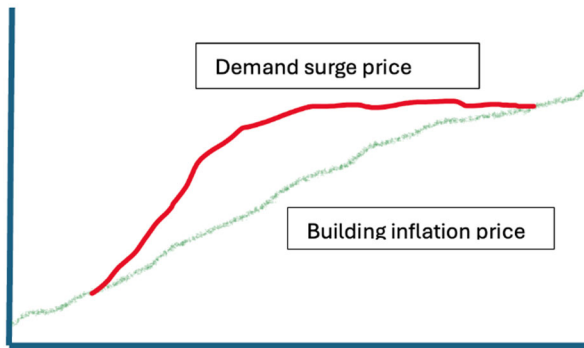
¹¹⁶ *But see* Chris Davis, ‘A Logistical Nightmare’: Why Insurers Can’t Predict Final Claim Costs Anymore, INS. BUS. (Feb. 13, 2025) <https://www.insurancebusinessmag.com/us/news/claims/a-logistical-nightmare-why-insurers-cant-predict-final-claim-costs-anymore-524656.aspx>

2. Demand Surge

Of course, sometimes building costs inflation is not normal. “Demand surge” is the abnormal price surge of the cost of reconstruction in the wake of a natural disaster.¹¹⁷

The phrase, demand *surge*, implies a transience. In other words, a homeowner and insurer might have the option to wait out the surge pricing until the surge recedes. But unlike a surging ocean wave, residential construction prices may never recede to pre-catastrophe levels. Rather, prices may surge, stabilize, and eventually be reabsorbed by normal building costs inflation. It might look something like this:

Figure 10: Building Cost Price Visualization¹¹⁸



Indeed, while a classical definition of demand surge describes it as temporary,¹¹⁹ there is little to no evidence in the market that once residential construction prices surge, they ever meaningfully recede.¹²⁰

The work of CoreLogic predicts that almost regardless of the year, location, or type of catastrophe event, demand surge expresses as a cost increase of 15%–30% and

[<https://perma.cc/MB8L-3WVW>] (discussing how “skyrocketing building costs and massive delays” have made it “nearly impossible” for insurers to predict final building costs).

¹¹⁷ *Demand Surge*, IRMI, <https://www.irmi.com/term/insurance-definitions/demand-surge> [<https://perma.cc/G77R-C25A>] (last visited Mar. 29, 2026).

¹¹⁸ Created by author for purposes of this Article.

¹¹⁹ AIR WORLDWIDE, DEMAND SURGE PERSPECTIVE ON EUROPEAN EXTRATROPICAL CYCLONES 5 (2021) https://www.air-worldwide.com/siteassets/Publications/White-Papers/private/documents/demand_surge_perspective_on_european_etc2.pdf [<https://perma.cc/MP2L-WCL2>].

¹²⁰ See, e.g., Sebastian Obando, *5 Years After COVID Hit, Contractors Still Wait for Prices to Come Down*, CONSTR. DIVE (Mar. 11, 2025), <https://www.constructiondive.com/news/covid-impact-construction-prices-materials/742087/> [<https://perma.cc/T46Z-3DFW>].

lasts 6–12 months.¹²¹ The actuarial consulting firm, Milliman, puts the range at 20%–30%.¹²² Olsen and Porter review the literature and describe demand surge as a cost that is “an additional 20% or more” than the normal price increase associated with inflation.¹²³ After the 2021 Marshall Fire in Colorado, demand surge was 22%.¹²⁴

Anecdotally, one can test these broad conclusions about demand surge by looking for and comparing two post-loss replacement cost estimates (XACT ESTs¹²⁵) performed by an insurer on the same house—one in the immediate wake of the loss and a second many months later. I have identified a pair of such exemplars. For a home lost in the 2017 North Bay fires in California, the difference between the two XACT ESTs was 16.7%.¹²⁶ For a home lost in the 2021 Marshall Fire, the difference between the two XACT ESTs was 19.2%.¹²⁷

The examples and the research align. Demand surge appears to be anywhere from 15% to 30%, often residing at between about 20% and 25% regardless of the year of the event, type of the event, or location of the event.¹²⁸

Any rational insurer should consider demand surge when calculating a POS RCE. Most destroyed homes are destroyed by a catastrophe event.¹²⁹ My study of

¹²¹ Guy Kopperud, *How Demand Surge After Natural Disasters Impacts the Cost and Timing of Recovery*, CORELOGIC (Oct. 28, 2019), <https://www.corelogic.com/intelligence/how-demand-surge-after-natural-disasters-impacts-the-cost-and-timing-of-recovery/> (on file with the Lewis & Clark Law Review).

¹²² Kimberly Guerriero, Anne Kallfish & Aaron Koch, *A Tale of Two Catastrophes: Demand Surge and Inflation Put Property Insurers in a Bind*, MILLIMAN (Jan. 10, 2022), <https://www.milliman.com/en/insight/a-tale-of-two-catastrophes-demand-surge-and-inflation-put-property-insurers-in-a-bind> [https://perma.cc/7YPZ-SABE].

¹²³ See Anna H. Olsen & Keith A. Porter, *What We Know About Demand Surge: Brief Summary*, 12 NAT. HAZARDS REV. 62, 62 (2011).

¹²⁴ Cookson et al., *supra* note 10, at 12–13.

¹²⁵ This acronym is used because while in theory there are different algorithms for doing a post-loss replacement cost estimate, in reality the industry standard and overwhelming choice for the insurer is Xactimate. See VERISK, PRICING RESEARCH METHODOLOGY 3–4 (2023), <https://www.verisk.com/4a2266/siteassets/media/downloads/property-estimating/pricing-research-methodology.pdf> [https://perma.cc/8PKL-TXQ5].

¹²⁶ Attorneys have granted author permission to publish these figures; the underlying source documents are on file with author but cannot be shared because they contain confidential identifier information.

¹²⁷ Attorneys have granted author permission to publish these figures; the underlying source documents are on file with author but cannot be shared because they contain confidential identifier information.

¹²⁸ See *supra* notes 121–23 and accompanying text.

¹²⁹ *Spotlight on: Catastrophes—Insurance Issues*, INS. INFO. INST. (Feb. 28, 2025), <https://www.iii.org/article/spotlight-on-catastrophes-insurance-issues> [https://perma.cc/3SNJ-CJRN] (“In the United States, over the 20-year period, 1997 to 2016, events involving tornadoes, including other wind, hail and flood losses associated with tornadoes made up 39.9 percent of

the 2018 and 2019 California data, for example, indicates that roughly 90% of homes destroyed by fire were destroyed by wildfire.¹³⁰ This means that adequate insurance should consider that if a home must be rebuilt, then the home likely must be rebuilt in a demand surge environment. Döhrmann, Gürtler, and Hibbeln find, “With respect to the determination of economic capital, it should be noted that particularly if tail events (like great catastrophes) occur, considering or not considering the Demand Surge effect can be the difference between insolvency and solvency for an insurance company.”¹³¹ Olsen and Porter phrase it as “the difference between survival and ruin.”¹³²

An insurer can use catastrophe modeling to predict the likelihood of the reconstruction of a destroyed home inflating due to demand surge. In California, for decades, “regulations have required insurance companies to apply a catastrophe factor to insurance rates based on historical wildfire losses.”¹³³ And insurers’ catastrophe modeling is now part of California rate filings for increased premiums.¹³⁴ All of this is to say that insurers can and do take demand surge into

total catastrophe insured losses, adjusted for inflation. Hurricanes and tropical storms were a close second largest cause of catastrophe losses, accounting for 38.2 percent of losses, followed by other wind/hail/flood (7.1 percent) and winter storms (6.7 percent). Terrorism and fires, including wildland fires, accounted for 5.9 percent and 2.0 percent of catastrophe losses, respectively. Civil disorders, water damage and utility services disruption combined represented about 0.2 percent of losses.”); *see* Guerriero et al., *supra* note 122 (discussing why insurers should care about demand surge after major catastrophe events).

¹³⁰ Klein, *supra* note 4, at 47, 51 n.217.

¹³¹ David Döhrmann, Marc Gürtler & Martin Hibbeln, *Insured Loss Inflation: How Natural Catastrophes Affect Reconstruction Costs*, 84 J. RISK & INS. 851, 877 (2017).

¹³² Olsen & Porter, *supra* note 123, at 62.

¹³³ *See* Press Release, Cal. Dep’t of Ins., In a California “First,” Commissioner Lara Announces Enforcement of Regulation to Expand Insurance Coverage Across State (Dec. 13, 2024), <https://www.insurance.ca.gov/0400-news/0100-press-releases/2024/release062-2024.cfm> [<https://perma.cc/DBU6-AVZA>].

¹³⁴ *See id.* (“Homeowners and businesses will see greater availability, market stability, and recognition for wildfire safety through use of catastrophe modeling. . . . [O]nce a model has undergone a pre-application required information determination (PRID), insurance companies can utilize that model in a rate filing listing their commitments to write more policies.”); Press Release, Cal. Dep’t of Ins., Commissioner Lara Issues Landmark Regulation to Expand Insurance Access for Californians Amid Growing Climate Risks (Dec. 30, 2024), <https://www.insurance.ca.gov/0400-news/0100-press-releases/2024/release065-2024.cfm> [<https://perma.cc/FRQ5-MFZP>] (“*Reliable rates*: The regulation goes hand-in-hand with forward-looking wildfire catastrophe models that can better predict future rates. Under the current system of historical data, insurance consumers are paying balloon premiums and rate spikes after major wildfires, without increased availability. *Prevents ‘model-shopping’*: ‘Model shopping’ describes when insurance companies choose one model that produces higher rates for consumers, and another that lowers their reinsurance costs. To prevent model shopping, the regulation requires insurance companies utilize the same model for both. This promotes more consistent approaches to assessing risks, and balances the scales for consumers.”).

account during underwriting. And both Verisk and CoreLogic seek to take demand surge into account in calculating POS RCEs.¹³⁵ Indeed, in California, all homeowner policies are required to inform the consumer of demand surge, and to describe purchasing ERC as a mechanism to protect against it.¹³⁶

The consequence should be that in policies either with GRC coverage, with RCV coverage in at least the amount of the POS RCE, or with both RCV and ERC, if demand surge expresses at levels seen in prior events, then it should not be the explanation of underinsurance. Consistent with this conclusion is the research of Cookson, Gallagher, and Mulder, which finds that after the 2021 Marshall Fire in Colorado:

Although the distributions of pre-fire and post-fire underinsurance differ, it is striking to note that the average coverage ratios are nearly identical across both measures at 87.4% pre-fire and 87.3% post-fire. A frequently cited cause of underinsurance is sudden increases in construction costs. In our data, this

¹³⁵ VERISK, *supra* note 125, at 5; *Understanding the Difference Between Market Value and Replacement Cost Estimates*, XACTWARE, <https://www.xactware.com/en-us/solutions/property-valuations/360value/market-value-replacement-cost-overview/> (on file with the Lewis & Clark Law Review) (last visited July 4, 2016) (“*Question*: What factors can influence changes in the market value and replacement cost estimate of a home? *Answer*: . . . Changes in replacement cost estimates are influenced by many factors that impact property reconstruction costs. These include: . . . Catastrophic events [that] [o]ften result in a sudden surge in demand for reconstruction activity [and] [m]ay impact supply or production of building materials.”); Trish Hopkinson, *Hurricanes Drive Demand Surge in Reconstruction Costs*, VERISK (Nov. 7, 2017), <https://www.verisk.com/insurance/visualize/hurricanes-drive-demand-surge-in-reconstruction-costs/> [<https://perma.cc/GH22-Z3HC>]; *Store-Specific Demand Surge from Severe Weather*, VERISK, <https://www.verisk.com/insurance/products/respond-weather-analytics-to-predict-demand/store-specific-demand-surge-algorithms/> [<https://perma.cc/F5GK-D7QD>] (last visited Mar. 29, 2026); *CoreLogic Introduces Desktop Platform to Pinpoint Natural Hazard Risk, Tax Data*, PROPERTYCASUALTY360 (Nov. 3, 2011, at 05:40 PT), <https://www.propertycasualty360.com/2011/11/03/corelogic-introduces-desktop-platform-to-pinpoint-natural-hazard-tax-data/?slreturn=20250203-33705> [<https://perma.cc/RRV7-2WW8>]; *Property Insurance Underwriting Software*, CORELOGIC, <https://www.corelogic.com/insurance/underwriting-automation-solutions/underwritingcenter/> (on file with the Lewis & Clark Law Review) (last visited July 2, 2024) (“Comprehensive property data and analytics help make informed business decisions. These insights into digestible, easy-to-interpret reports that include risk identification, hazard eligibility, and scoring to provide a full property overview.”); *Explaining to Homeowners Reconstruction Costs Versus Other Valuations*, CORELOGIC (Feb. 6, 2019), <https://www.corelogic.com/intelligence/explaining-to-homeowners-reconstruction-costs-versus-other-valuations/> (on file with the Lewis & Clark Law Review).

¹³⁶ CAL. INS. CODE § 10102 (West 2025) (“The disclosure required by Section 10101 . . . shall contain the following language: . . . *DEMAND SURGE*: After a widespread disaster, the cost of construction can increase dramatically as a result of the unusually high demand for contractors, building supplies, and construction labor. This effect is known as demand surge. Demand surge can increase the cost of rebuilding your home. Consider increasing your coverage limits or purchasing Extended Replacement Cost coverage to prepare for this possibility.”).

rise was largely absorbed by extended replacement cost provisions. Hence, policyholders were underinsured on average, not because of cost inflation, but because they purchased an insufficient amount of coverage A.¹³⁷

For these reasons, it seems unlikely that demand surge is a major factor causing the frequency of underinsurance.

3. *Changes in Building Ordinances or Laws*

Both RCV and GRC cover reconstruction of the destroyed home. By the time of reconstruction, however, there may have been changes in building ordinances or laws that make reconstruction of the home non-compliant, resulting in the cost of compliant construction becoming more expensive, and in turn contributing to underinsurance.

The actual impact of changes in building ordinances or laws on underinsurance is opaque. There is no publicly reported, reliable data quantifying the impact of changes in building ordinances or laws on reconstruction. There is no post-loss algorithm that regularly isolates line items of reconstruction required by changes in building ordinances or laws. There apparently is no POS RCE algorithm that attempts to isolate either line items of reconstruction required by changes in building ordinances or laws or aspects of insured construction that no longer are code compliant. Indeed, I am not aware of any algorithm—either at point-of-sale or post-loss—that attempts to comprehensively identify and comply with localized requirements of building codes and ordinances.

The national prevalence of BCU endorsements in RCV policies is unknown. California requires RCV policies have BCU endorsements of at least 10% of Coverage A.¹³⁸ Colorado requires within RCV policies that BCU endorsements be equal to at least 20% of Coverage A.¹³⁹

Even within California and Colorado RCV policies, the impact of BCU endorsements on underinsurance is unknown. There is no data on how often insurers conclude the endorsement applies, what triggers it, or, when it is triggered, how the cost of reconstruction aspects caused by changes in building ordinances or laws is calculated.

There simply is no public-facing data or information to conclude anything about whether changes in building codes, or the way insurers respond to changes in building codes, likely are (or are not) a frequent and material contributor to underinsurance.

¹³⁷ Cookson et al., *supra* note 10, at 15.

¹³⁸ CAL. INS. CODE § 10103(c). Aggregated data CADOI has produced to author (described and analyzed at length in Sections II.B and C) describes that across 20,590 RCV homeowner policies reporting a fire claim of any size in years 2021–2023, the coverage provided by BCU endorsements averaged 38.83% of Coverage A. This percentage seems suspect.

¹³⁹ COLO. REV. STAT. § 10-4-110.8(6)(a)(I) (2025).

4. Homeowner Factors

Underinsurance can occur from a homeowner's decisions. If a homeowner is price sensitive, then they have an incentive to consider knowingly underinsuring. Some economists posit that a purely rational homeowner should intentionally underinsure.¹⁴⁰ And, of course, as premiums rise some homeowners will consider whether they can afford full coverage. Whether from price sensitivity, pure rationality, or lack of wealth, one might posit that homeowners choosing lower coverage accounts for a lot of underinsurance.

Research finds to the contrary. Homeowners are not frequently choosing to underinsure, regardless of hypotheses about why they might do so. The work of Collier and Ragan finds that, given a choice, homeowners only will underinsure for flood 20% of the time.¹⁴¹ When homeowners do underinsure for flood, they do so because the insurer told them to do so.¹⁴²

And homeowners likely underinsure for fire less frequently than they do for flood. Flood insurance policies do not give a wide range of options to reduce premiums

¹⁴⁰ See Klein, *supra* note 49, at 50 (citing Jan Mossin, *Aspects of Rational Insurance Purchasing*, 76 J. POL. ECON. 553, 558 (1968)); Vernon L. Smith, *Optimal Insurance Coverage*, 76 J. POL. ECON. 68, 68 (1968); see also George G. Szpiro, *Optimal Insurance Coverage*, 52 J. RISK & INS. 704, 704, 707–09 (1985) (deriving conditions under which deductibles and partial coverage represent the optimal insurance contract structure for risk-averse consumers); Artur Raviv, *The Design of an Optimal Insurance Policy*, 69 AM. ECON. REV. 84, 85, 90 (1979) (“[T]he Pareto optimal insurance policy involves a deductible and coinsurance of losses above the deductible.”); Christian Gollier, *Optimal Insurance Design: What Can We Do With and Without Expected Utility?*, in GEORGES DIONNE, HANDBOOK OF INS. 97–115 (2000) (arguing that if information is adequate and symmetrical, the optimal insurance for a risk adverse purchaser may be full insurance, depending upon various factors, such as the type of deductible). *But see* Eric J. Johnson, John Hershey, Jacqueline Meszaros & Howard Kunreuther, *Framing, Probability Distortions, and Insurance Decisions*, 7 J. RISK & UNCERTAINTY 35, 36 (1993) (“There is abundant evidence, although much of it is anecdotal, that consumers do not make these choices rationally.”). That said, policy language may limit the autonomy of a purely rational homeowner. Many policies prohibit a homeowner from selecting RCV coverage that is less than 80% of the POS RCE. See *What Do RCV and ACV Mean on an Insurance Claim?*, LEGALCLARITY (Mar. 8, 2025), <https://legalclarity.org/what-do-rcv-and-acv-mean-on-an-insurance-claim/> [<https://perma.cc/SL7P-5LQA>]; see also Julia Kagan, *Coinsurance Formula for Home Insurance: Definition, Examples*, INVESTOPEDIA (May 4, 2025), <https://www.investopedia.com/terms/c/coinsurance-formula.asp> [<https://perma.cc/Q8U6-SDWY>] (defining the coinsurance formula as the ratio of insurance carried to insurance required, multiplied by the loss amount, and noting that homeowners must typically insure to at least 80% of replacement cost to avoid proportional claim reductions); Germond, *supra* note 59, at 16–17 (explaining that coinsurance provisions require policyholders to maintain coverage at a specified percentage of replacement value, with shortfalls triggering proportional reductions in claim payments).

¹⁴¹ Collier & Ragin, *supra* note 86, at 536 tbl. 3.

¹⁴² See *id.* at 553–54 (discussing how some insurers “systematically advise” buying “the maximum program limit,” “suggest rounding up from the replacement cost in percentage terms,” or “recommend rounding up in dollar amounts”).

other than reducing Coverage A.¹⁴³ By contrast, fire insurance policies give a price sensitive homeowner flexibility to raise deductibles and reduce other coverages.¹⁴⁴ Cookson and his co-authors find that just like flood insurance, in the handful of instances when homeowners do underinsure for fire, the insurance companies themselves are the predominant explanatory factor contributing to underinsurance.¹⁴⁵

There certainly must be some price point that forces large percentages of homeowners to reduce Coverage A to stay in their homes, but research has yet to find it. The work of CFA finds that among the very small percentage of *uninsured*, wealth may be a factor.¹⁴⁶ Cookson, Gallagher, and Mulder find, however:

Despite the positive relationship between underinsurance and wealth measures, it is striking to note that even among households with incomes above the sample median of \$180,000, 72% of policyholders were underinsured before the Marshall Fire. The prevalence of underinsurance across the wealth distribution suggests that additional factors, besides ability-to-pay, drive underinsurance.¹⁴⁷

For these reasons, homeowner choice is unlikely to be a frequent and important factor explaining underinsurance.

5. *Algorithm Vendor Factors*

Underinsurance may occur because of the influence of the POS RCE algorithms. As described above, two vendors of POS RCE algorithms dominate the market—Verisk and CoreLogic.¹⁴⁸ There was a point in time when the predecessor to CoreLogic (MSB) was the only product on the market, essentially holding a monopoly position.¹⁴⁹ The CoreLogic/MSB monopoly position apparently is no more, and indeed Verisk claims it is now the predominant vendor.¹⁵⁰

How did Verisk achieve its self-described predominance? When Verisk entered the market with 360Value, Verisk competed by promising better accuracy, and it explained that promise by focusing on its Xactimate algorithm for calculating post-

¹⁴³ Klein, *supra* note 14, at 691; Collier & Ragin, *supra* note 86, at 524, 529–30.

¹⁴⁴ Klein, *supra* note 4, at 10–11.

¹⁴⁵ Cookson et al., *supra* note 10, at 18.

¹⁴⁶ See CORNELISSEN ET AL., *supra* note 14, at 13.

¹⁴⁷ Cookson et al., *supra* note 10, at 15 (finding over 94% of homeowners who lost their home in the 2021 Marshall Fire had GRC or RCV plus ERC). Conversely, a plurality of the uninsured predominantly are in that status because they could not afford insurance, and unsurprisingly that does correlate to wealth. LORO ET AL., *supra* note 21, at 69.

¹⁴⁸ See *supra* notes 92–96 and accompanying text.

¹⁴⁹ Elliot Spagat, *Insurance Calculator Questioned: Homeowners Discover Coverage Was Insufficient*, WASH. POST, July 24, 2004, 2004 WLNR 24455277 (reporting that Marshall & Swift software is used by about 95% of insurers).

¹⁵⁰ VERISK, *supra* note 50, at 3 (“360Value is the most widely used reconstruction cost estimator in the United States.”).

loss RCEs. In the words of Verisk, “The key to the accuracy and reliability of 360Value estimates [comes from] Xactimate. . . . Xactware’s industry-leading claims estimation solution.”¹⁵¹ 360Value uses “true component-based replacement cost estimates based on actual claims information. . . . This true component-based approach . . . is what sets 360Value apart from other cost-estimating tools.”¹⁵²

Verisk’s success leveraging Xactimate explains why, while there are two vendors of POS RCEs—only one of which has access to Xactimate data to do their work—it appears that Xactimate pricing influences both Verisk’s 360Value and CoreLogic’s RCT Express. And further support for this hypothesis is that in the fall of 2018, CoreLogic acquired another company, Symbility, apparently primarily, if not entirely, simply to gain access to similar claims-adjusted reconstruction data just as Verisk had.¹⁵³

With that thought in mind, let’s talk more about Xactimate estimates. Given the nature of pricing residential construction, Xactimate’s pricing accuracy (despite the implied promise of the name) cannot be exact. It will have an error rate. And the available data and literature seem to show that for reasons both intended and unintended, those errors do not break evenly high and low; rather, the errors appear to bias low.¹⁵⁴

Verisk itself describes why a low bias would not necessarily be problematic given the business ecosystem Xactimate is designed to operate within. Xactimate is marketed to insurers to use in adjusting claims, and in that environment to generate a defensible opening bid:

Verisk recognizes that individual costs required to repair or rebuild a structure can vary between structures due to differences in size, complexity, accessibility, and location. Additionally, prices charged by contractors and

¹⁵¹ VERISK, GET RELIABLE ESTIMATES FOR EVERY PROPERTY IN YOUR BOOK OF BUSINESS 3 (2016), <https://www.verisk.com/sitesassets/media/underwriting-v/resources/360value-overview.pdf> (on file with the Lewis & Clark Law Review); see XACTWARE, *supra* note 93, at 6. CoreLogic, by contrast, touts its over 90 years history as “the industry’s most extensive, up-to-date, and objectively validated replacement cost” valuation algorithm; producing valuations that are “triple-validated.” *Marshall & Swift Valuation: Access Accurate, Defensible Replacement Costs*, *supra* note 96.

¹⁵² VERISK, *supra* note 151, at 1. Verisk is quoted as asserting that its market share is proof that 360Value “functions at the highest level.” Susie Neilson & Megan Fan Munce, *A Broken System Is Keeping California Homes Underinsured: Millions Have No Idea They’re at Risk*, S.F. CHRON. (Apr. 2, 2025, at 04:00 PT), <https://www.sfchronicle.com/projects/2025/california-home-insurance-underinsured/> [<https://perma.cc/7U3F-N96C>].

¹⁵³ See Caitlin Hotchkiss, *CoreLogic’s Acquisition of Symbility Now Complete*, BETAKIT (Jan. 9, 2019), <https://betakit.com/corelogics-acquisition-of-symbility-complete/> [<https://perma.cc/KR5D-RJKS>].

¹⁵⁴ One Xactimate trainer has published a white paper detailing several aspects of the algorithm’s architecture that cause Xactimate, in the trainer’s experience, to bias low. See WHATLEY, *supra* note 102, at 1, 3, 8–9, 11, 14–15, 17.

suppliers vary based upon their company's size (overhead) and/or perceived quality of work and level of service. In the end, the correct price for any job is based upon an agreement between the purchaser and the provider: the price the purchaser is willing to pay and the provider is willing to work for.

Having cost information that is based on recently submitted prices, however, is an extremely valuable tool in creating appropriate repair estimates, providing a basis from which the estimator can then decide whether the price should be accepted or adjusted. This process significantly enhances the claims settlement process.

In addition, as many structures are unique, there are many items and tasks that are either so custom by nature or that occur so seldom that the research or reporting of a market price is not possible. As such, Verisk's published price list is not intended to provide costs for every potential item. Xactimate, therefore, provides users the full capability to create and/or modify any costs as needed to match the conditions of the specific job or their company.¹⁵⁵

Indeed, the Xactimate end-user license agreement states, "Price Data is intended to represent historical information and should be used as a baseline or place to begin creation of an estimate. We provide Price Data for informational purposes only. . . . You must ensure that estimates include pricing consistent with actual materials, equipment, labor pricing, etc."¹⁵⁶

Understanding this dynamic explains both why Xactimate might bias low and why Verisk might not correct for it. Think about it this way: If Xactimate generated an initial XACT EST that had a normal error distribution, then homeowners/contractors would immediately accept the errors that offered too much money to rebuild, while many times negotiating in response to errors that offered too little money to rebuild. As a consequence, if underwriting similarly set premiums based on trying to accurately predict reconstruction costs, then claims adjusting negotiations would on average pay claims at a higher cost than underwriting assumed in setting premium. That would not appear to be a profitable design for insurers to buy or for Verisk to sell. Rather, this describes an incentive architecture for Xactimate to bias low. Which one might posit is why, in essence, Verisk suggests in its literature that Xactimate can operate as a cost containment tool when adjusting claims.¹⁵⁷

¹⁵⁵ VERISK, *supra* note 125, at 8.

¹⁵⁶ *Xactware Solutions, Inc. License Agreement*, VERISK (July 11, 2025), <https://www.verisk.com/privacy-policies/xactware-eula/> [<https://perma.cc/B64Y-798J>].

¹⁵⁷ See *Xactimate: Property Claims Estimating Software*, VERISK, <https://www.verisk.com/products/xactimate/> [<https://perma.cc/WE3F-K632>] (last visited Mar. 29, 2026) (explaining how the Xactimate product saves time and resources while also improving customer satisfaction). While Xactimate is the self-described industry-standard, calculating an Xactimate post-loss is not

But the low bias can be problematic in a point-of-sale setting where there is no insight, nuance, or sophistication about the business model of adjusting claims, neither the producer nor the homeowner likely has expertise about cost of construction, neither the producer nor the homeowner has strong incentive to fight for a higher premium, neither the producer nor the homeowner may have any reason to question the POS RCE, and there is some possibility that there will be no conversation at all about the adequacy of the insurance quote. In this environment, if one migrates a post-loss claims cost containment tool into a point-of-sale coverage-limits-estimating context, then one should expect that it contains costs, meaning it drives the POS RCE down.

Verisk seems to know this. As Verisk says, 360Value allows an insurer to “[m]atch the front end to the back end” because “[c]onsistency across your underwriting and claims means no surprises for underwriters or policyholders in the event of a total loss. 360Value uses the same reconstruction cost data as the industry-leading Xactimate.”¹⁵⁸ This language appears to implicitly acknowledge that insurers would operate unprofitably if XACT ESTs resulted in claims adjusting above POS RCEs. This language also appears to implicitly acknowledge that homeowners expect Coverage A limits based on POS RCEs to be adequate to rebuild a destroyed home.

To concretely illustrate how profound the slippage may be between a POS RCE and an XACT EST, consider the anecdotal example of a home that was destroyed in the December 2021 Marshall Fire in Colorado. The XACT EST calculated the cost of reconstructing the home as \$2,200,524.22.¹⁵⁹ Just six months pre-loss, at annual policy renewal, the POS RCE was \$1,731,000.00.¹⁶⁰

This all suggests that the POS RCEs contribute to underinsurance and probably contribute regardless of whether the algorithm vendor is Verisk or CoreLogic. And indeed, this conclusion is one of the core findings of a 2010 CADOI Market Conduct Examination.¹⁶¹

This conclusion also harmonizes with the market experience of another

inevitable. Apparently after the Eaton and Palisades fire, for example, the number of impacted properties was so high that several insurers did not perform an Xactimate. VERISK, *supra* note 2, at 9.

¹⁵⁸ VERISK, *supra* note 151, at 8.

¹⁵⁹ Attorneys have granted author permission to publish these figures; the underlying source documents are on file with author but cannot be shared because they contain confidential identifier information. As mentioned above, this figure will be, by design, understated.

¹⁶⁰ Attorneys have granted author permission to publish these figures; the underlying source documents are on file with author but cannot be shared because they contain confidential identifier information. This figure is, by design, over-stated, as it includes demand surge pricing (which would not yet have expressed just ten days after the fire).

¹⁶¹ Administrative Rulemaking File for Cal. Code Regs. tit. 10, § 2695.183, *supra* note 71, at 1029–30.

vendor of a POS RCE algorithm, e2Value. e2Value's POS RCE is predicated on a different logic than pre-fills entirely dependent on total component cost calculations.¹⁶² As a result, it produces higher POS RCEs.¹⁶³ To date, e2Value has not gained significant market share with its POS RCE.¹⁶⁴

Finally, consider the CoreLogic license agreement, which notifies end users:

MSB DOES NOT GUARANTEE OR WARRANTY THE ACCURACY AND COMPLETENESS OF THE SOFTWARE OR PUBLICATION. MSB DOES NOT INDEPENDENTLY VERIFY THE COMPLETENESS, ACCURACY OR AUTHENTICITY OF THE MSB DATA, MSB PROPRIETARY INFORMATION, PUBLIC INFORMATION OR THIRD PARTY INFORMATION CONTAINED IN THE SOFTWARE OR PUBLICATION.¹⁶⁵

Verisk similarly describes 360Value estimates “as an advisory tool” that should not solely determine coverage limits; a Verisk representative is quoted in the media as stating, “I never use the word ‘accurate,’ because the reality is there are all these other variables.”¹⁶⁶ At least one internal Verisk study in 2019 reportedly concluded that the accuracy of foundation shape information, for example, was wrong half the time.¹⁶⁷

All this analysis suggests that POS RCEs bias low, and consumers (without knowing this) rely on POS RCEs to set Coverage A. For these reasons, I postulate that POS RCE algorithms are a likely significant factor contributing to underinsurance.

6. *Insurer Factors*

As I have written before, “[i]nsurers are neither charities nor churches.”¹⁶⁸ Insurers do not give a homeowner money just because the homeowner needs it. Insurers do not give homeowners money because in some ephemeral sense it is the right thing to do. Rather, insurers are for-profit businesses that order their practices in response to regulatory incentives to realize profit.¹⁶⁹ That incentive architecture can be a factor contributing to underinsurance.

As discussed in one of my earlier articles, the accuracy of replacement cost estimates—whether point-of-sale or post-loss—depends on the expertise of the

¹⁶² The theory of e2Value's algorithm is that communities which are close enough to each other that they may have identical sources of materials and labor nonetheless will not have the same cost of building the same house. See Klein, *supra* note 49, at 64.

¹⁶³ See *id.* at 81–82.

¹⁶⁴ *Id.* at 58–59.

¹⁶⁵ *Marshall & Swift License Agreement*, COTALITY, <https://www.cotality.com/legal/marshall-swift-license-agreement> [<https://perma.cc/96R3-B5P6>] (last visited Mar. 29, 2026).

¹⁶⁶ Neilson & Munce, *supra* note 152.

¹⁶⁷ *Id.*

¹⁶⁸ Klein, *supra* note 49, at 97.

¹⁶⁹ Klein, *supra* note 14, at 681.

user and lots of detailed inputs.¹⁷⁰ An XACT EST will be scores of pages long, with thousands of line items input by a highly trained adjuster.¹⁷¹ But a producer selling or renewing insurance cannot and will not put in the time to become an expert, nor the hours to generate an accurate quote.¹⁷² So a POS RCE relies on a much more crimped list of pre-fill data than an XACT EST. Here is an example from a 2021 Colorado insurance policy:¹⁷³

Figure 11: “Characteristics of Your Home”

CHARACTERISTICS OF YOUR HOME

YEAR BUILT: 1985
 *TOTAL SQUARE FOOTAGE: 1729
 NUMBER OF STORIES: 1.0

*Total Square Footage:
 Includes: Additions and Finished Attic Space
 Excludes: Basements and Built-in or Attached Garages

GENERAL SHAPE AND STYLE: STANDARD
 EXTERIOR FINISHES & FEATURES: STANDARD
 INTERIOR FINISHES & FEATURES: STANDARD
 KITCHENS AND BATHS: ABOVE AVERAGE
 EXTERIOR WALL CONSTRUCTION: SIDING – VINYL
 FOUNDATION TYPE: BASEMENT
 ROOF TYPE: COMPOSITION – 3 TAB SHINGLE
 YEAR ROOF INSTALLED/REPLACED: 2017
 GARAGE OR CARPORT TYPE/STYLE: ATTACHED/BUILT-IN – 2 CAR
 FLOOR COVERING MATERIALS: SHEET VINYL, CARPET,
 TILE – CERAMIC
 NUMBER OF BATHROOMS: 3 QUARTER 1, FULL 1
 FIREPLACES: 1

Today, both California law and Colorado law would require more, but nothing like an XACT EST.¹⁷⁴ And this more crimped set of details, such as it is, comes from

¹⁷⁰ Klein, *supra* note 4, at 14–15.

¹⁷¹ See WHATLEY, *supra* note 102, at 2, 15.

¹⁷² *Under-Insured?—Part 3*, TEXAN INS.: BLOG (Jan. 23, 2012) <http://www.texasinsurance.com/client-service/blog/entryid/2860/under-insured-part-3> [<https://perma.cc/LA8Y-Y66Y>] (“One way an agent can keep the price down is aim low in valuing houses. The goal, they say, is to keep premiums down to keep customers from going to competitors, and sometimes even a few dollars can make a difference. Sadly, many agents are just plain lazy! Too lazy to gather all the necessary information to accurately determine the cost to rebuild a home.”); see also JERRY RAMSAY & BRIAN HEFFERNAN, UNDERINSURANCE: A CONSUMER FRAUD, NOT AN AGENT ERROR OR OMISSION 1–2, 8–10, <https://uphelp.org/wp-content/uploads/2021/01/underinsurancelaws.pdf> [<https://perma.cc/M7LS-4KS9>] (explaining that, in “many cases, the insurance industry would be tickled if the trier of fact were to find that an agent was merely ‘negligent’ as opposed to finding misrepresentation or fraud” while providing reasons why agents would make concerted efforts to underinsure homes, including keeping customers from going to competitors).

¹⁷³ Exhibit B to Complaint, *supra* note 67, at 72.

¹⁷⁴ See CAL. CODE REGS. tit. 10, § 2695.183(a) (2025); COLO. REV. STAT. § 10-4-110.8(8) (2025).

either an untrained producer or homeowner, or both, neither of whom are schooled in what drives reconstruction costs.¹⁷⁵ As a result, descriptions of home characteristics as pre-fills can be essentially rote data input. It should be no shock if, in this ecosystem, the POS RCE turns out to be wildly inaccurate.

Lower POS RCEs equate to lower coverage and lower collected premium. One might ask, what incentive is there for an insurer to act in a way that results in lower insured values and so lower premiums collected? The short answer has come from the General Counsel to the Independent Agents and Brokers of the West, who explained in a written statement to CADOI:

[I]nsurers . . . have an economic incentive to underestimate replacement costs. Simply put, the lower the replacement cost valuation, the lower the premium. And the lower the premium, the more likely an insurer is to sell its policies in a highly competitive marketplace. . . . Insurers . . . understand that total losses are very rare—a fact that makes this line of insurance generally very profitable for insurers, and also generally insulates all parties from the consequences of underestimating total replacement cost.¹⁷⁶

In other words, better for an insurer to underinsure and take its chances, if necessary, in court, than to spend the time and money to get accurate POS RCEs which likely will raise premiums and cost business.¹⁷⁷ Simply put, an insurer will live with underinsurance and lower premium if it is profitable to do so.¹⁷⁸

Market behaviors confirm that each insurer has come to the same conclusion: an insurer likely cannot operate profitably by training producers to spend many hours to gather, analyze, and input the necessary detail about a house to confidently generate an accurate POS RCE. We know this conclusion because no insurer has done so.¹⁷⁹ Conversely, if POS RCEs were both easy to do and accurate, then no insurer would devote the resources they do devote to XACT ESTs, yet they all do. Put crudely, it appears that an insurer that routinely did a full-on XACT EST to reach a POS RCE would not be an insurer for long, and an insurer that routinely did the equivalent of only a 360Value or RCT Express as an XACT EST would similarly not be an insurer for long.¹⁸⁰

¹⁷⁵ Neilson & Munce, *supra* note 152.

¹⁷⁶ Administrative Rulemaking File for Cal. Code Regs. tit. 10, § 2695.183, *supra* note 71, at 1198.

¹⁷⁷ See Neilson & Munce, *supra* note 152.

¹⁷⁸ See, e.g., *id.* (“Jeff Dailey, the former CEO of Farmers Insurance Group, indicated in a 2018 deposition that his company was more concerned about the time it took to run an estimate than the number it produced. The work required to ensure estimates were accurate, he said, would annoy customers and drive away business. ‘It wouldn’t surprise me that we tried to make an intelligent trade-off between what needed to be asked to get an accurate estimate and where we were sort of bleeding into ruining the experience for the customer,’ Dailey said.”).

¹⁷⁹ See *id.* (describing replacement-cost algorithms used by insurers that let agents “generate estimates without ever setting foot onto the properties”).

¹⁸⁰ I know of no study of whether insurer incentive architecture is different for very high-

The result will be a high incidence of unwitting and undiscovered underinsurance. And, of course, underinsurance is the result even if insurers are doing POS RCEs well.¹⁸¹ But they often are not. The CADOI has performed multiple Market Conduct Examinations documenting how insurers doing POS RCEs inaccurately has further contributed to underinsurance.¹⁸²

Exacerbating matters is insurer behavior post-loss. Biswas, Hossain, and Zink find that when a homeowner was negotiating their claim after their home was destroyed, 40% of the time the insurer was able to leverage asymmetry of sophistication to negotiate a payment to the homeowner of substantially less than the insurer's calculation of incurred loss.¹⁸³ Within this 40% will be instances where

value homes. It is possible that for these homes, both the insurer and homeowner are more motivated to have confidence in the adequacy of reconstruction coverage, and that therefore POS RCEs are more accurate.

¹⁸¹ See Neilson & Munce, *supra* note 152 (“Though Farmers knew its use of the tool was causing customers to be underinsured, the company did not disclose that to agents, court records show. Instead, it continued to seek ways to automate more of the estimation process—and Verisk helped. In 2019, Hopkinson, the 360Value head, provided a memo to Farmers suggesting ways it could ‘increase the speed of calculating a replacement cost,’ including by directing its agents to rely exclusively on prefilled data for middling-quality or ‘common’ homes. Such a change, she acknowledged, would have to include ‘an acceptance of a lower reliability of the replacement cost value.’”).

¹⁸² CAL. DEP’T OF INS., *supra* note 61, at 11; CAL. DEP’T OF INS., *supra* note 59, at 17–19; CAL. DEP’T OF INS., REPORT OF THE TARGETED MARKET CONDUCT EXAMINATION OF THE ALLSTATE INSURANCE GROUP FOLLOWING THE WILDFIRES OF 2015 AND 2017 (NAIC GROUP #0008), at 16 (2021), https://interactive.web.insurance.ca.gov/apex_extprd/f?p=151:1 (enter “Allstate Indemnity Company” into the ‘Company Name’ field; enter “07/01/2021” into the ‘Posted Date From’ field; enter “08/01/2021” into the ‘Posted Date To’ field; then press “Go”; click the “Download” icon next to the only file entry that shows up) [<https://perma.cc/QU2B-VQFY>]; CAL. DEP’T OF INS., REPORT OF THE TARGETED MARKET CONDUCT EXAMINATION OF THE STATE FARM GENERAL INSURANCE COMPANY FOLLOWING THE WILDFIRES OF 2015 AND 2017 (NAIC #25151), at 20, 25 (2022), https://interactive.web.insurance.ca.gov/apex_extprd/f?p=151:1 (enter “State Farm” into the ‘Company Name’ field; enter “01/01/2023” into the ‘Posted Date From’ field; enter “01/08/2023” into the ‘Posted Date To’ field; then press “Go”; click the “Download” icon next to the only file entry that shows up) [<https://perma.cc/L93Q-56MX>].

¹⁸³ Siddhartha Biswas, Mallick Hossain & David Zink, *California Wildfires, Property Damage, and Mortgage Repayment* 18, 22–23 (Fed. Rsrv. Bank Phila. Working Paper No. 23-05, 2023) (“In an effort to reduce costs, insurers commonly send initially low settlement offers that cover only the ACV. . . . Households may accept these offers because of a lack of information or unwillingness to enter the required negotiation process to secure a higher settlement based on the property’s individual damages.”); *accord Wildfire Risk 2025: Priced Out and Burned Out*, COTALITY (Aug. 18, 2025), <https://www.cotality.com/insights/articles/wildfire-risk-report-2025> [<https://perma.cc/7VJM-A3YC>] (“Cotality found that typical payouts in fire-hit Los Angeles neighborhoods do not cover rebuild estimates, leaving six-figure gaps that many families cannot absorb.”).

even payment of 100% of available coverage would have been insufficient to reconstruct the destroyed home.¹⁸⁴

For these reasons, insurer factors likely often are a significant factor in explaining the frequency and depth of underinsurance.

II. TRUTH: THE EMPIRICAL EVIDENCE OF PERVASIVE, UNINTENDED, PROFOUND UNDERINSURANCE

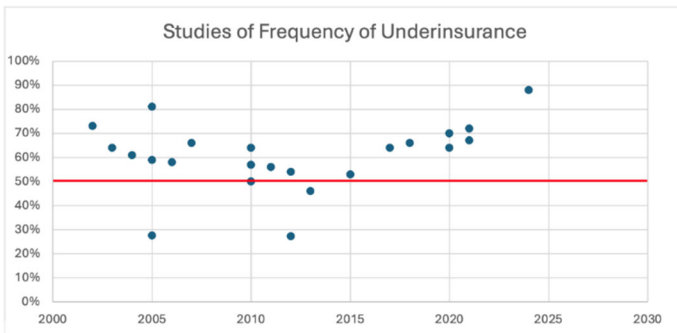
A. *Prior Underinsurance Literature*

There have been studies, both formal and informal, of the frequency of homeowner underinsurance nationally and internationally, by state and by catastrophe event. What is missing is a robust data set supporting broad and deep analysis about the frequency, ubiquity, average depth, and causes of underinsurance.

Many of these studies can be marginalized as too localized, too informal, or too opaque. Most lack transparency as to methodology. Some lack methodological rigor. Some analyze small cohorts. Some are looking at a single event, or a single region, or a single moment in time. There is no consensus of how to measure loss, or identify a destroyed home, or consideration of whether a homeowner intended to underinsure. Most studies either do not look for possible explanations of underinsurance or focus on a narrow set of possible explanations. None try to look at all possible explanations.

And yet, the studies collectively tell a story, because they are the opposite of a normal distribution of underinsurance and over-insurance. Rather, graphing the results of all the studies reported above describes a strong suggestion of a persistent underinsurance crisis, regardless of where it occurs, when it occurs, or why it occurs.

Figure 12: Studies of Frequency of Underinsurance¹⁸⁵



¹⁸⁴ Biswas et al., *supra* note 183, at 3–4.

¹⁸⁵ Created by author for the purposes of this Article. The vertical axis is the percent of homes underinsured; the horizontal line demarcates 50%, which is where a normal distribution would break evenly above and below the line.

In 2005, in the wake of the 2003 Canberra fires, the Australian Securities & Investment Commission reported on two studies of the frequency of underinsurance, one putting it at 27.5% of destroyed homes and the other at 81%.¹⁸⁶ There is no explanation of methodology or the wide difference in conclusions. The underlying data is not public facing.

In 2007, Wells reported the frequency and depth of underinsurance in the United States as:

Table 1: Wells' Underinsurance Findings¹⁸⁷

Year	% U.S. Homes	% Undervaluation (average)
2002 and prior	73	35
2003	64	27
2004	61	25
2005	59	22
2006	58	21

Wells does not disclose his methodology or his data.

In a series of 12-month and 24-month post-event surveys of disaster event survivors, the non-profit United Policyholders asked about the frequency of homeowners not having enough insurance and sometimes asked by how much they were short. Results found underinsurance frequency of 18%–72% with average depth of \$77,000–\$375,000; one survey was of survivors of the San Bruno gas explosion, with all other surveys performed of survivors of wildfires in a variety of states occurring in years 2007–2025.¹⁸⁸ Except in the most recent of its surveys, for the most part, United Policyholders does not disclose the details of the survey methodology.

In 2010, CADOI commenced an examination of four insurers who together constituted 50% of the homeowner insurance market in California.¹⁸⁹ CADOI

¹⁸⁶ AUSTL. SEC. & INVS. COMM'N, REP. 54, GETTING HOME INSURANCE RIGHT: A REPORT ON HOME BUILDING UNDERINSURANCE 15 (2005), https://download.asic.gov.au/media/1348214/underinsurance_report.pdf [<https://perma.cc/7M26-PZPH>].

¹⁸⁷ WELLS, *supra* note 40, at 46.

¹⁸⁸ *Data Collection Surveys: Roadmap to Recovery Surveys*, UNITED POLICYHOLDERS: OPEN SURVEYS & RESULTS, <https://uphelp.org/media/surveys/> [<https://perma.cc/M2HR-FJZE>] (last visited Mar. 29, 2026).

¹⁸⁹ Administrative Rulemaking File for Cal. Code Regs. tit. 10, § 2695.183, *supra* note 71, at 1029–30.

examined 188 policies.¹⁹⁰ In 126 of these, the Coverage A limit matched the figure produced by the insurer's tool.¹⁹¹ In 81% of these 126, the Coverage A limit was lower than the cost to rebuild (underinsurance).¹⁹² "When factoring in any extended replacement cost coverage that applied, [57%] continued to be underinsured for the total loss."¹⁹³ CADOI reached the conclusion these were "representative figures . . . at each insurer and across the four exams."¹⁹⁴ CADOI did not disclose its methodology or the underlying data.¹⁹⁵

On April 26, 2022, the Colorado Division of Insurance (CODOI) released its report of underinsurance in the Marshall Fire, which analyzed 951 total loss claims (8% with GRC, 9% with only RCV, and 83% with both RCV and ERC)¹⁹⁶ and found:

- "At a rebuild cost of \$250 per square foot, a total of 344 (36%) policies are underinsured. At \$300 per square foot, 523 (55%) policies are underinsured. At \$350 per square foot, 639 (67%) are underinsured."¹⁹⁷
- "At \$250 per square foot, for the 344 policies, the average amount of underinsurance per policy is estimated at \$98,967. At \$300 per square foot, for the 523 policies, the average amount of underinsurance per policy is estimated at \$164,855. At \$350 per square foot, for the 639 policies, the average amount of underinsurance per policy is estimated at \$242,670."¹⁹⁸

CODOI did not disclose its methodology.

In 2024, Amornsiripanitch, Biswas, Orellana-Li, and Zink studied NFIP insureds and found, "among homes with positive expected flood losses and an optimal demand for flood insurance coverage, 88 percent are underinsured by an average of \$7,208."¹⁹⁹

¹⁹⁰ *Id.* at 1029.

¹⁹¹ *Id.*

¹⁹² *See id.*

¹⁹³ *Id.*

¹⁹⁴ *Id.*

¹⁹⁵ In response to a Public Records Act request, CADOI reported an archival record of data, and methodology was not retained.

¹⁹⁶ *Division of Insurance Releases Initial Estimates of Underinsurance for Homes in the Marshall Fire*, COLO. DEP'T OF REGUL. AGENCIES, COLO. DIV. OF INS. (Apr. 26, 2022), <https://doi.colorado.gov/news-releases-consumer-advisories/division-of-insurance-releases-initial-estimates-of> [<https://perma.cc/23CK-MMNN>].

¹⁹⁷ *Id.*

¹⁹⁸ *Id.*

¹⁹⁹ Natee Amornsiripanitch, Siddhartha Biswas, John Orellana-Li & David Zink, *Flood Underinsurance* 9 (Fed. Rsv. Bank Phila. Working Paper No. 24-23, 2024).

In 2024, Cookson, Gallagher, and Mulder analyzed CODOI data on underinsurance after the 2021 Marshall Fire in Colorado, analyzing 3089 policies, and finding among households with incomes above the sample median of \$180,000, assuming a rebuild price of at least \$350 per square foot, at least 72% of policyholders were underinsured.²⁰⁰

What remains missing from the literature is any single, robust data set supporting broad and deep analysis about the frequency, ubiquity, average depth, and causes of underinsurance. That is the data this Article provides, and the contribution it makes.

B. Data

This Article presents a novel data set of close to 80,000 homeowner fire loss insurance claims, large and small, catastrophe event and not, spanning six years. The gross data set covers essentially every California fire loss insurance claim of any size made by a homeowner of an owner-occupied home against a homeowner policy or a dwelling policy during 2018–2023.

Pursuant to California Insurance Code § 929, the CADOI biannually collects wildfire risk data by requiring each admitted insurer with at least \$10 million or more in written California premium to report to the Insurance Commissioner on its residential property experience data for the previous two years for policies written in California.²⁰¹ CADOI denominates the data collection as the Department’s biennial Personal Property Experience (PPE) data call.²⁰² The response to the PPE data calls, measured by total premiums earned, represents approximately 99% of the NAIC Line 04 (Homeowners) insurance market.²⁰³

Insurers include the following information by individual policy in their reports:

- (1) Fire- or wildfire-incurred losses, if any, reported by property coverage category and the date of the loss.
- (2) The public protection class or its equivalent, if utilized by the insurer.
- (3) The specific numerical or other fire risk score and source of fire risk score, if applicable.
- (4) Premium.
- (5) ZIP Code.²⁰⁴

²⁰⁰ Cookson et al., *supra* note 10, at 1, 11, 15.

²⁰¹ CAL. INS. CODE § 929(a)(1) (West 2025). In 2026, the threshold will change to \$12,000,000. *Id.* § 929(a)(2).

²⁰² CAL. DEP’T OF INS., WILDFIRE RISK REPORT FORMAT AND METHODOLOGY (2025) <https://www.insurance.ca.gov/01-consumers/200-wrr/WildfireRiskInfoRpt.cfm> (click “Format of the Report and Methodology”) (on file with the Lewis & Clark Law Review).

²⁰³ CAL. DEP’T OF INS., WILDFIRE RISK INFORMATION REPORTING 2 (2022), <http://www.insurance.ca.gov/0250-insurers/0800-rate-filings/upload/Wildfire-Risk-Information-Reporting-for-2018-and-2019-SB-824.pdf> [<https://perma.cc/XY2D-TXEF>].

²⁰⁴ CAL. INS. CODE § 929(b) (West 2025).

Insurer reports filed on April 1, 2020, included data for calendar years 2018 and 2019; insurer reports filed on April 1, 2022, included data for calendar years 2020 and 2021; and insurer reports filed on April 1, 2024, included data for calendar years 2022 and 2023.²⁰⁵

In response to four Public Records requests,²⁰⁶ CADOI produced aggregated data²⁰⁷ of 74,070 fire loss claims under “Homeowners (HO) type policies, which cover 1–4 dwelling-units in which the owner lives in one or more units (e.g., ISO HO-1, 2, 3, 5, 8, or equivalent),” isolating “incurred losses,” whether the claims were “CAT” or “non-CAT,” the year of loss, the number of claims, the type Coverage A and other coverages available for reconstruction of the dwelling, and the ratio of incurred loss to coverage. CADOI also produced aggregated data of 5,709 fire loss claims under “Dwelling Owner-Occupied (DO) type policies, which cover 1–4 dwelling-units in which the owner lives in one or more units (e.g., ISO DP-1, 2, 3 or equivalent)”²⁰⁸ isolating year of loss and the type of Coverage A.

While California FAIR Plan policies²⁰⁹ are a type of DO policy and comprise a large percentage of the data on DO policies, confidentiality provisions in the law prevent CADOI from disaggregating FAIR Plan policies from aggregated data on DO policies.²¹⁰

To have a sense of the possible impact of the exclusion of FAIR Plan policies from an analysis of underinsurance, consider: You, Kousky, and Ajita have found that rising premiums have expanded the market share of FAIR Plan policies in wildfire-

²⁰⁵ CAL. DEP’T OF INS., *supra* note 202.

²⁰⁶ See sources cited *supra* note 13. All CADOI data produced pursuant to these requests and examined in this Article is on file with author.

²⁰⁷ California Insurance Code prohibits CADOI from releasing insurer-specific information. CAL. INS. CODE § 929.1.

²⁰⁸ See CAL. DEP’T OF INS., *supra* note 202. DO policies include homes insured under the California FAIR Plan, which CADOI cannot disaggregate due to confidentiality provisions in the law.

²⁰⁹ The California FAIR Plan provides wildfire insurance for California homeowners unable to find insurance in the traditional markets. See *About the California FAIR Plan*, CAL. FAIR PLAN PROP. INS., <https://www.cfpnet.com/about-fair-plan/> [<https://perma.cc/YJ3J-N845>] (last visited Mar. 30, 2026).

²¹⁰ See CAL. INS. CODE § 1215.8 (recognizing that information reported to the Insurance Commissioner, including insurer filings and related data, is proprietary and trade secret, must be kept confidential, and is not subject to public disclosure absent insurer consent or a determination that public interests require publication); see also CAL. DEP’T OF INS., FACT SHEET: SUMMARY ON RESIDENTIAL INSURANCE POLICIES AND THE FAIR PLAN 4 fig. 3 (2025), <https://www.insurance.ca.gov/01-consumers/200-wrr/upload/CDI-Fact-Sheet-Summary-on-Residential-Insurance-Policies-and-the-FAIR-Plan-v-011325-2.pdf> [<https://perma.cc/G3PC-B33L>] (presenting policy counts for admitted and FAIR Plan policies in aggregated tables rather than disaggregated insurer data).

prone neighborhoods.²¹¹ Yet while insurance through the FAIR Plan has been rising since 2018, it remains (at last report) well below 5% of residential policies in the overall market.²¹² Of all California residential fire claims of any size in years 2018–2023, only 7.16% were DO policies:

Table 2: California Residential Fire Claims: HO v. DO Policies²¹³

Experience Year	<i>n</i> HO Policies	<i>n</i> DO Policies	% claims that are not HO Policies
2018	24,057	1,149	4.56%
2019	12,644	726	5.43%
2020	16,309	1,537	8.61%
2021	8,850	1,098	11.08%
2022	6,821	770	10.14%
2023	5,389	429	7.37%
TOTAL	74,070	5,709	7.16%

In the third PPE data call, CADOI refined some of its instructions and definitions, as well as the gross number of years insurers are asked to report on.²¹⁴ For data validation purposes CADOI asked insurers to include data for 2021 in response to the third PPE data call as a common year with the second PPE data call.²¹⁵

CADOI defines “Incurred Losses” as “the total amount of paid losses and case loss reserves, . . . gross of subrogation recoveries, and exclud[ing] incurred but not reported (IBNR) losses and loss adjustment expenses.”²¹⁶ This can change over time until a claim is closed. All losses are evaluated as of January 31 of the reporting year.²¹⁷

²¹¹ You et al., *supra* note 10, at 10.

²¹² CAL. DEPT. OF INS., FACT SHEET: SUMMARY ON RESIDENTIAL INSURANCE POLICIES AND THE FAIR PLAN 2 (2025), <https://www.insurance.ca.gov/01-consumers/200-wrrt/upload/CDI-Fact-Sheet-Summary-on-Residential-Insurance-Policies-and-the-FAIR-Plan-v-011325-2.pdf> [<https://perma.cc/S2NH-U85R>]. *But see Key Statistics & Data*, CAL. FAIR PLAN PROP. INS., <https://www.cfpnet.com/key-statistics-data/> [<https://perma.cc/BQE2-F4FW>] (last visited Mar. 30, 2026) (“As of December 2025, the California FAIR Plan’s total [policies in force] is 668,609 reflecting a 4% increase since September 2025 (prior fiscal year-end) and a 146% increase since September 2022 (Fiscal Year End 2022).”).

²¹³ This table uses data from the third PPE data call for year 2021 (on file with author).

²¹⁴ CAL. DEP’T OF INS., *supra* note 202.

²¹⁵ E-mail from Micah Mumper, Rsch. Data. Specialist, Cal. Dep’t of Ins., to author (June 20, 2025, at 10:50 PDT) (on file with author) (“Consequently, insurers reported data from 2021 in third PPE data call as a common year with the second PPE data call for data validation purposes.”).

²¹⁶ CAL. DEP’T OF INS., *supra* note 202.

²¹⁷ *Id.*

In other words, for calendar years 2019 and 2023, CADOI has reported incurred loss as of one month after the close of the calendar year; for calendar years 2018, 2020, and 2022, CADOI has reported incurred loss as of 13 months after the close of the calendar year; and for calendar year 2021, CADOI also has reported incurred loss both as of one month and as of 25 months after the close of the calendar year.

In the first three PPE data calls, CADOI has not instructed insurers how to calculate case loss reserves for purposes of reporting incurred loss, nor has CADOI requested insurers to report how they have done so. The Casualty Actuarial Society defines case loss reserves as:

[T]he sum of the values assigned to specific known claims whether determined by claims adjusters or set by formula. Adjusters' estimates are the aggregate of the estimates made by claims personnel for individual claims, based on the facts of the particular claims. Formula reserves are reserves established for groups of claims for which certain classifying information is provided. Formula reserving may be applied to individual claims or to aggregations of claims with similar characteristics through use of average claim values or factors applied to representative statistics (for example, premiums in force or earned premiums).²¹⁸

In each of the first three PPE data calls, CADOI instructed insurers to report Coverage A “excluding any additional structure coverage (e.g., extended replacement cost coverage or other structures).”²¹⁹ “In some instances,” building code upgrade (BCU) cost and debris removal cost “is included in Coverage A and others it is in addition to Coverage A.”²²⁰ Insurers in the third PPE data call separately reported BCU coverage.²²¹

In the two initial PPE data calls, CADOI instructed insurers to “report the most recent amount of coverage available at the end of the policy period or the end of calendar year (whichever is first).”²²² As a consequence, reported Coverage A “was not necessarily the amount of coverage at the time of the loss” because Coverage A might have been “adjusted downward after the loss occurred but may not have been a total

²¹⁸ *Statement of Principles Regarding Property and Casualty Loss and Loss Adjusted Expense Reserves*, in 1995 CASUALTY LOSS RESERVE SEMINAR, 2A: BASIC TRACK I CONSIDERATIONS IN EVALUATING RESERVES (1995), https://www.casact.org/sites/default/files/old/clrstrans_1995_2a.pdf [<https://perma.cc/9FAT-NK3H>]; see also PROGRESSIVE INS., GENERAL LOSS RESERVING METHODOLOGY 4 (2024), https://s202.q4cdn.com/605347829/files/doc_financials/2021/sr/December/Loss-Reserve-Report-2024.pdf [<https://perma.cc/39R3-SPMX>] (describing Progressive's methodology for calculating loss reserves).

²¹⁹ CAL. DEP'T OF INS., *supra* note 202.

²²⁰ E-mail from Luciano Gobbo, Cal. Dep't of Ins., to author (Nov. 9, 2022, at 11:45 PT) (on file with author).

²²¹ E-mail from Carla Bare, Senior Legal Analyst, Cal. Dep't of Ins., to author (May 30, 2025, at 09:24 PT) (on file with author).

²²² CAL. DEP'T OF INS., *supra* note 203, at 4.

loss if the coverage amount remained unchanged.”²²³ In the third PPE data call, CADOI has instructed insurers to report the amount of coverage in-force “at the beginning of the calendar year, or the first day the policy was in-force, if the policy was written after the first day of the calendar year.”²²⁴ In other words, CADOI has reported end-of-year Coverage A for years 2018, 2019, and 2020, start-of-year Coverage A for years 2022 and 2023, and both start-of-year and end-of-year for year 2021.

The initial PPE data calls defined catastrophic (CAT) events:

[A]n ‘event whose losses are very large and very infrequent such that their inclusion in a normal rate level review exercise would severely distort the estimation of future expected losses.’ When classifying claims as catastrophic, insurers were asked to use the definition from Verisk’s Property Claim Services as ‘an event [that] is likely to cause more than \$25 million in damage in the United States and affect a significant number of policyholders and insurers.’ Otherwise, insurers categorize claims using their internal catastrophe load classification used in ratemaking (10 CCR § 2644.5).²²⁵

In the third PPE data call, CADOI instructed insurers to categorize as CAT any claims arising from or related to any and all fires for which a state of emergency has been declared by the Governor of California must be classified as catastrophic.²²⁶ In all three PPE data calls, “the remaining losses not designated as CAT losses are coded as non-catastrophic (non-CAT) losses.”²²⁷

C. Methodology

The ambition of this Article²²⁸ is to isolate the set of insured homes that are destroyed by fire,²²⁹ and to identify within that set the frequency of underinsurance,

²²³ E-mail from Luciano Gobbo, *supra* note 220.

²²⁴ CAL. DEP’T OF INS., *supra* note 202.

²²⁵ *Id.* (footnotes omitted) (first quoting MICHAEL A. WALTERS, CATASTROPHE RATEMAKING 2 (2007), https://www.casact.org/sites/default/files/2021-10/5_WaltersJune2007.pdf [<https://perma.cc/2Y6A-7R3R>]; then quoting VERISK, EVERYTHING YOU NEED TO KNOW ABOUT PCS: A FULL GUIDE TO CATASTROPHE AND NONCATASTROPHE INSURANCE INDUSTRY LOSS REPORTING 5 (2024), <https://www.verisk.com/49403a/siteassets/media/pcs/pcs-consolidated-methodology-paper.pdf> [<https://perma.cc/5PF6-UE72>]).

²²⁶ *Id.*

²²⁷ *Id.*

²²⁸ The author thanks and acknowledges CADOI staff, Luciano Gobbo, Micah Mumper, and Esteban Mendoza, for their patient assistance with aggregating and disaggregating data. The author thanks and acknowledges Professor Theodore Klastorin, University of Washington, for his patient assistance with analyzing the data.

²²⁹ Some insurers internally code destroyed homes as TL (“total loss”). The prevalence of that internal coding may be high, but it is unknown. TL coding is neither public facing nor collected by CADOI.

the average depth of underinsurance, and the primary factors causing underinsurance. CADOI's disaggregation of homeowner policies by type of coverage advances these ambitions.²³⁰

CADOI disaggregates policies between actual cash value coverage (P_A), replacement cost value coverage (P_R), replacement cost value coverage with ERC (P_E), or guaranteed replacement coverage (P_G). There are important distinctions between these types of policies:

- (1) In P_A policies, Coverage A ($C(P_A)$) limits are the depreciated value of the dwelling. For this reason, a destroyed home with a P_A policy always will have an incurred loss (IL) greater than $C(P_A)$, meaning the home always is definitionally underinsured. There is no reason to run a POS RCE for a P_A policy.
- (2) Conversely, a destroyed home with a P_G policy can never be underinsured, much less unintentionally underinsured. A home with a P_G policy has full coverage no matter the cost. P_G policies will still have a stated coverage amount for Coverage A ($C(P_G)$), as this is the basis of pricing premium, but the stated amount will not serve as a coverage limit. And for this reason, it can be assumed that P_G policies will always have $C(P_G)$ in the amount of the POS RCE, as there is no incentive for either insurer or homeowner for $C(P_G)$ to be higher (it drives up premium without increasing coverage) or lower (it compromises underwriting by mismatching premium to risk).
- (3) Likewise, and for the same reasons, it can be assumed that in P_E policies, Coverage A ($C(P_A)$), in any statistically significant sense, is always identical to the amount of POS RCE.²³¹ If homes with PE policies are destroyed, then these homeowners may or may not be underinsured. But when homeowners have P_E policies, if their homes were destroyed and they were underinsured, then they were unintentionally underinsured.
- (4) For homeowners with P_R policies, matters are much more ambiguous. These homeowners may or may not have Coverage A ($C(P_R)$) in the amount of the POS RCE; and if $C(P_R)$ is not equal to the POS RCE, then it might be higher or it might be lower. For these homeowners, if their home is destroyed, then they may or may not be underinsured. And if they are underinsured, then this may or may not be intentional.

²³⁰ For data discussed in this Section, see sources cited *supra* note 13.

²³¹ Some homeowners may be so risk adverse that they both wish to maximize Coverage A and maximize ERC, but to assume there is a statistically significant frequency of such homeowners requires us to reject entirely the body of research that most homeowners have no depth of understanding of their insurance policies and select coverage almost entirely based on the insurer's recommendation.

The data across all years and all fire claims of any size describes that nine out of ten ISO HO-1, 2, 3, 5, 8, or equivalent policies (*HO* policies) are P_E policies, with almost all other policies being P_R policies.

Table 3: Frequency of Coverage A Coverages²³²

Year	n <i>HO</i> policies	% P_A	% P_R	% P_E	% P_G
2018	24,057	0.80%	8.82%	88.67%	1.71%
2019	12,644	0.25%	11.14%	86.46%	2.16%
2020	16,309	0.37%	9.14%	89.48%	1.00%
2021	8,850	0.35%	5.95%	92.36%	1.33%
2022	6,821	0.38%	5.86%	91.95%	1.80%
2023	5,389	0.39%	6.62%	90.66%	2.32%
Total	74,070	0.49%	8.51%	89.36%	1.64%

Within P_E policies, the most common level of ERC endorsement is 150% (meaning the coverage available to reconstruct a destroyed home is Coverage A x 1.5), with ERC at 150%, 125%, and 120% constituting 82.17% of all P_E policies.

Table 4: Frequency of ERC Coverage²³³

ERC %	% of P_E policies
200%	4.82%
175%	0.12%
150%	37.13%
135%	0.46%
130%	0.26%
125%	31.02%
120%	24.02%
110%	1.67%

²³² This table uses data from the third PPE data call for year 2021 (on file with author).

²³³ This table uses data from the third PPE data call for year 2021 (on file with author).

1. *Methodology for Identifying Destroyed Homes*

In the absence of insurer reports on claims insurers identified as destroyed homes, this Article recognizes that homes harmed by fire either might be damaged or destroyed, and explores whether there is a percentile, within *HO* policies, incurred loss (IL) expressed as a percentage of Coverage A describes destroyed homes (*TLs*), as opposed to expensive repairs. Focus is restricted to P_E or P_G policies because these are the only policies that one can confidently conclude do not have any retention of risk by the homeowner, which would distort the interpretation of ratios of loss to coverage. The hypothesis is that while within claims arising in non-catastrophe circumstances (non-CAT), the ratios of IL to Coverage A will be normally distributed, in claims arising in catastrophe circumstances (CAT), the normal distribution of IL to Coverage A will be disrupted and therefore will make visible the percentile when almost all losses are rebuilds, rather than a material mix of rebuilds and expensive repairs.

This hypothesis rests on an assumption, which is that in any statistically meaningful sense, when a home is harmed in a wildfire, it will (in informal terms) either be “up” or “down.” There will be no expensive repairs, because in a wildfire, once a home is fully engaged by fire, the firefighters must abandon the house.²³⁴

CalFire data confirms this assumption. In the language of CalFire, a home is “destroyed” when the damage exceeds 50%, at which point “[t]he building will have to be torn down and rebuilt.”²³⁵ One might think of the analogy of “totaling” a damaged car for insurance purposes, which is when the cost of repair will exceed the cost of buying a new car.²³⁶ Applying CalFire definitions, “Affected” homes (1%–9%) have intact roofs but some cosmetic harm, primarily if not entirely to the exterior of the home.²³⁷ “Minor” damage (10%–25%) does not affect the structural integrity of the home but the building is not habitable because of, for example, nonstructural damage to drywall and insulation.²³⁸ “Major” damage (26%–50%) is

²³⁴ See U.S. FIRE ADMIN., RISK MANAGEMENT PRACTICES IN THE FIRE SERVICE 47–48 (2018), https://www.usfa.fema.gov/downloads/pdf/publications/risk_management_practices.pdf [<https://perma.cc/8JHJ-EACE>].

²³⁵ NICK WALLINGFORD, CAL. DEP’T OF FORESTRY & FIRE PROTECTION, CAMP INCIDENT DAMAGE INSPECTION REPORT CABTU 016737, at 4 (2018), <https://www.nist.gov/system/files/documents/2020/11/16/2018%20Camp%20Incident%20DINS%20Final%20Report.pdf> [<https://perma.cc/2FWX-FMGQ>] (“Complete failure to major components (foundation, walls, roof, etc.). Two or more walls destroyed and roof substantially damaged. Only the foundation remains. The building will have to be torn down and rebuilt.”).

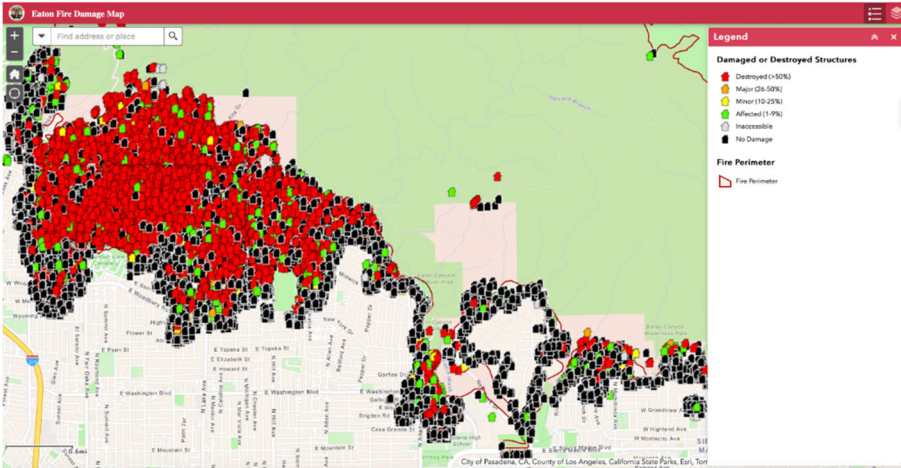
²³⁶ See *What Happens When Your Car is Totaled?*, PROGRESSIVE, <https://www.progressive.com/answers/what-happens-when-car-is-totaled/> [<https://perma.cc/EHN8-NUTY>] (last visited Mar. 30, 2026).

²³⁷ WALLINGFORD, *supra* note 235, at 4.

²³⁸ *Id.* The definition of “Minor” damage implies that smoke damage to homes is often minor. That premise increasingly is emerging and is possibly profoundly flawed. See Blacki

a structure that requires “extensive repairs.”²³⁹ As the following graphic illustrates using the example of the 2025 Eaton Fire, in a wildfire, in any statistically meaningful sense, virtually all homes either have no damage or are destroyed.

Figure 13: 2025 Eaton Wildfire Damage Map²⁴⁰



As the legend indicates, and as can be seen by readers of this Article not viewing it in gray scale, red is “Destroyed,” black is “No Damage,” green is “Affected,” orange is “Minor” damage, and yellow is “Major” damage.²⁴¹ Obviously, a supermajority of homes were destroyed. And there is nothing unique about the Eaton Fire. For example, in the 2018 Camp Fire that destroyed Paradise, California, of the 19,531 structures with impacts ranging from “Affected” to “Destroyed,” 18,804 (96.28%) were destroyed, 27 (0.14%) suffered major damage, 101 (0.52%) suffered minor damage, and 509 (2.61%) were affected.²⁴² In any statistically meaningful sense, homes either were up or down, with no in-between.

Applying the ‘up or down’ assumption, the following figures describe the distribution of CAT and non-CAT fire claims in years 2018–2021 (the first two

Migliozzi, Rukmini Callimachi & K.K. Rebecca Lai, *Unsafe to Inhabit: The Toxic Homes of L.A.*, N.Y. TIMES (June 24, 2025), <https://www.nytimes.com/interactive/2025/06/24/realestate/los-angeles-fires-toxic-homes.html> [<https://perma.cc/NX5K-ZANM>].

²³⁹ See WALLINGFORD, *supra* note 235, at 4.

²⁴⁰ *Eaton Fire Damage Map*, LA CNTY. RECOVERS, <https://recovery.lacounty.gov/eaton-fire/> (last visited Oct. 15, 2025) [<https://perma.cc/H4W5-6E4B>].

²⁴¹ *Id.*

²⁴² WALLINGFORD, *supra* note 235, at 7. In a wildfire, in contrast to a single home fire, once a home is “fully engaged,” firefighters have to abandon the fight in deference to saving human lives elsewhere in the impacted area. U.S. FIRE ADMIN., *supra* note 234, at 63.

PPE data calls), as measured by the ratio IL:Cov A in *HO* policies that are either *P_E* or *P_G* policies, and excluding policies where IL:Cov A < 70% (the assumption being that below 70%, repairs certainly will begin to appear). In the figures, the vertical axis is the number of claims, and the horizontal axis is the ratio of IL to Coverage A.

Figure 14: Distribution of 2018–2021 Non-CAT Claims as a Percentage of Coverage A

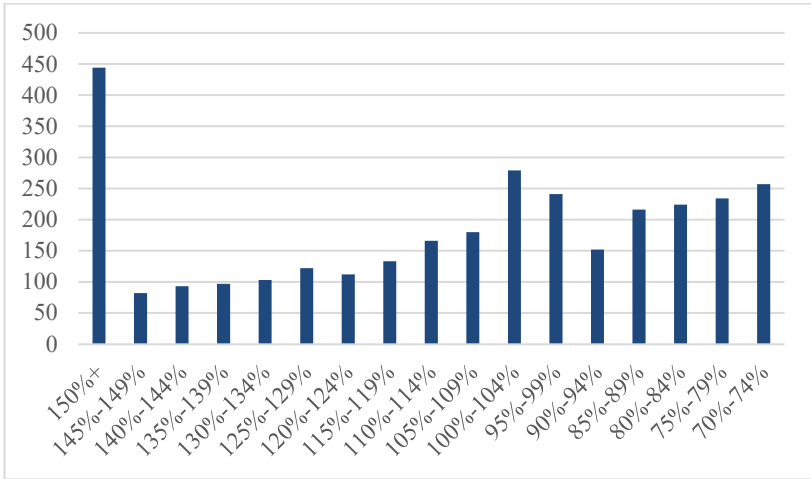
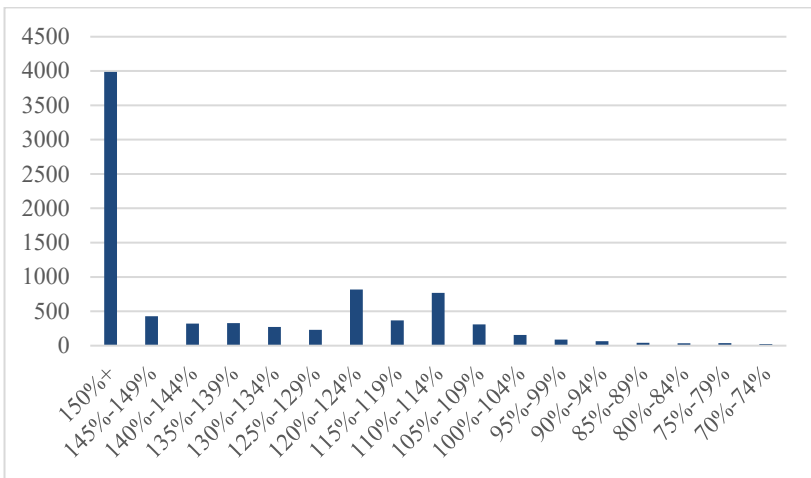


Figure 15: Distribution of 2018–2021 CAT Claims as a Percentage of Coverage A



Recognizing the possible distortive effect on the graphic of the sheer number of CAT claims in 2018, and the predominance of those claims resulting in IL:Cov A > 150%, the following figures remove those variables.

Figure 16: Distribution of 2019–2021 CAT Claims as a Percentage of Coverage A

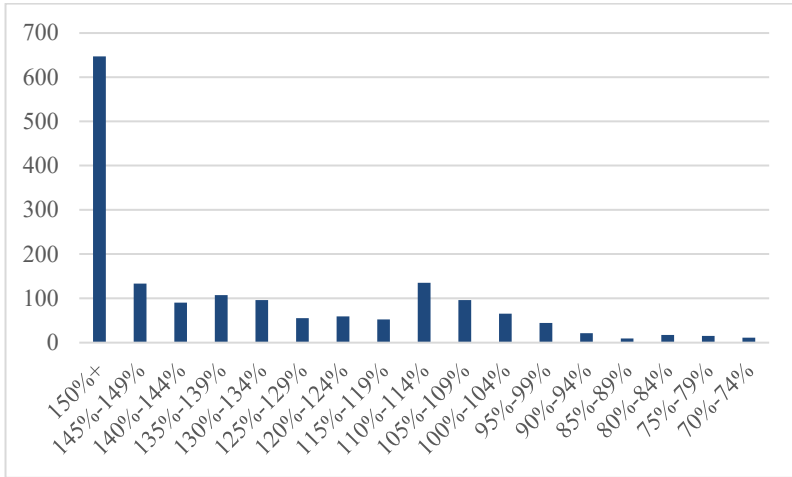
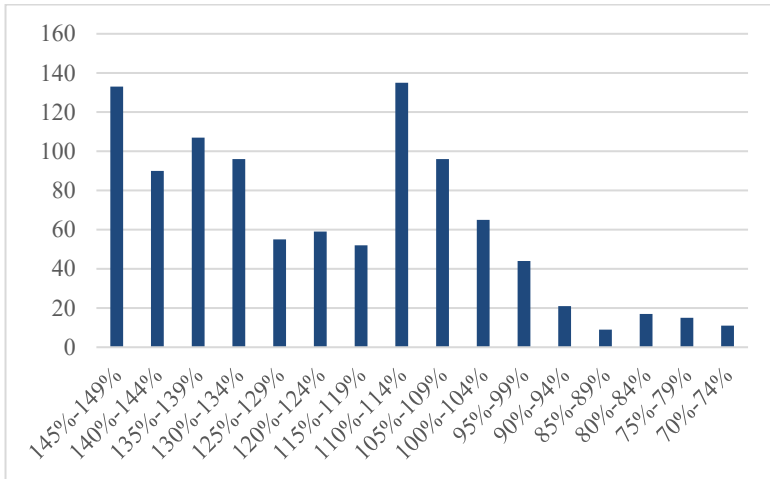


Figure 17: Distribution of 2019–2021 CAT Claims as a Percentage of Coverage A



The following figures describe the distribution of CAT and non-CAT fire claims in years 2021–2023 (the third PPE data call), as measured by the ratio IL:Cov A in *HO* policies that are either P_E or P_G policies, and excluding policies where IL:Cov A < 70% (the assumption being that below 70%, repairs certainly will begin to appear). Again, in the figures, the vertical axis is the number of claims, and the horizontal axis is the ratio of IL to Coverage A.

Figure 18: Distribution of 2021–2023 Non-CAT Claims as a Percentage of Coverage A

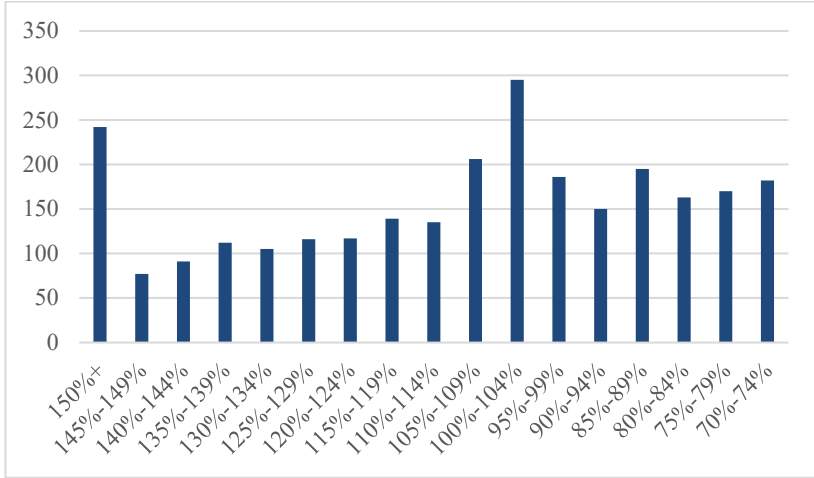
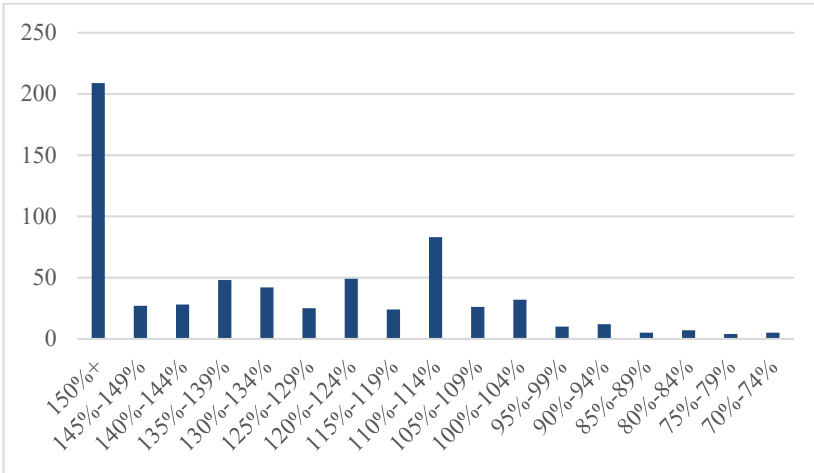
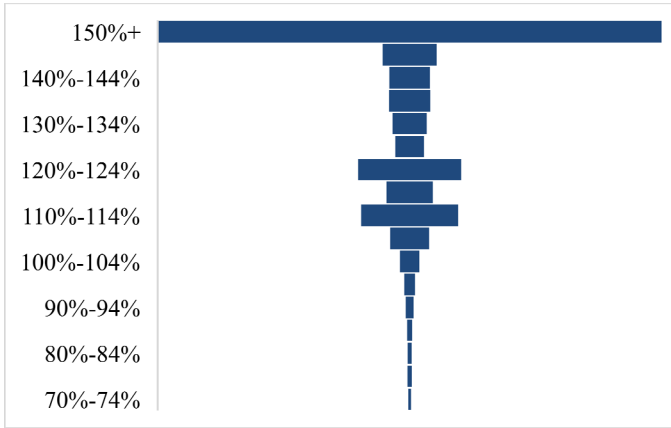


Figure 19: Distribution of 2021–2023 CAT Claims as a Percentage of Coverage A



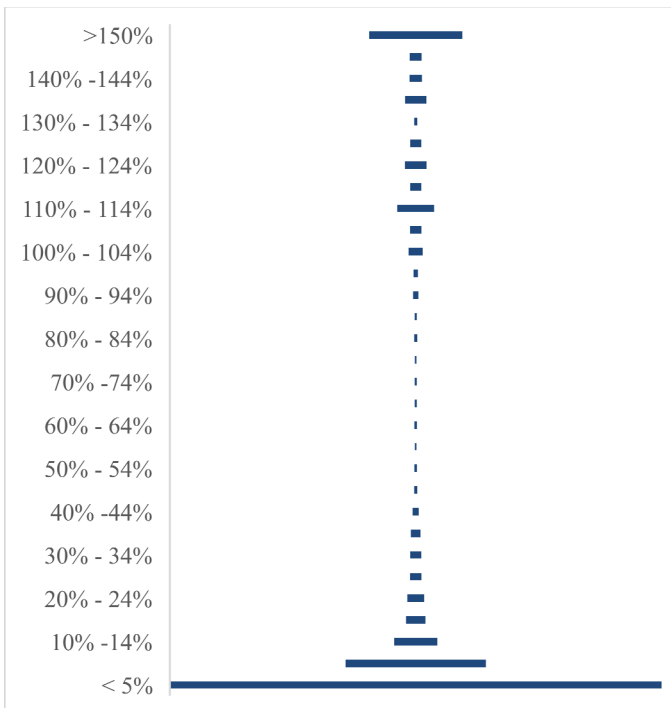
All these figures suggest that total losses (*TLs*) can be defined as claims, within *HO* policies that are either P_E or P_G policies, where $IL:Cov A > 90\%$. While this definition remains somewhat arbitrary in choosing $>90\%$ as the threshold as opposed to $>95\%$, $>85\%$, or $>80\%$, a sensitivity study suggests that the incidence of different thresholds would not materially change conclusions about the frequency and depth of unintended underinsurance and the factors causing it. In this figure, the vertical axis is the ratio of *IL* to Coverage A, and the width of each horizontal line represents the number of claims in that band.

Figure 20: Frequency of IL:Cov A by Percentile, CAT Claims, 2018–2021, P_E and P_G Policies



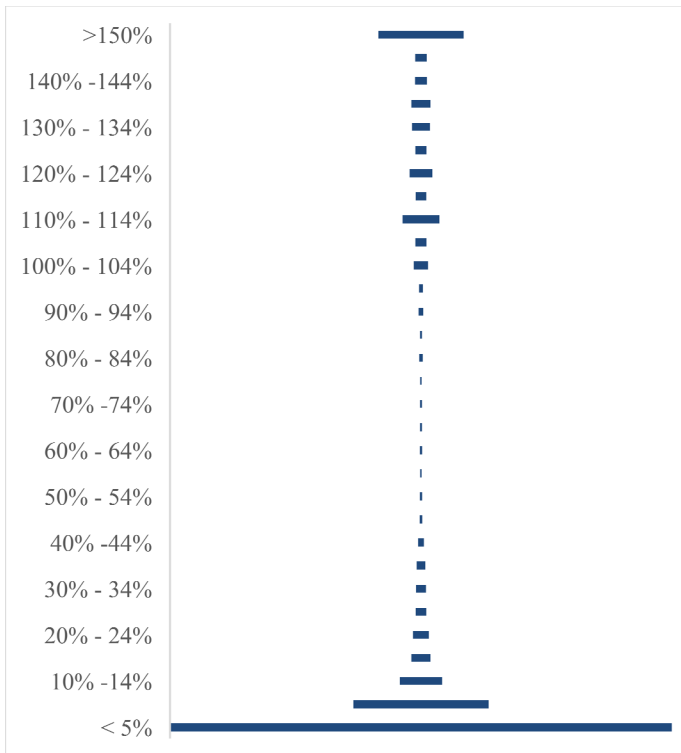
Focusing on the more refined data from the third PPE data call, and additionally fully populating the tranches of claims, both replicates the probable validity of the “up or down” assumption and reinforces the defensibility of the 90% threshold.

Figure 21: Frequency of IL:Cov A by Percentile, CAT Claims, 2021–2023, P_E and P_G Policies



This formula may slightly overstate the frequency of *TLs*. All P_A policies and some P_R policies have Coverage A limits below the POS RCE. This creates the possibility that within these policies, a damaged but repairable home can be repaired for close to or even more than Coverage A limits. A sensitivity study including P_R policies suggests that the threshold should be either at 90% or 80%.

Figure 22: Frequency of IL:Cov A by Percentile, CAT Claims, 2021–2023, P_R , P_E and P_G Policies



This Article opts for the 90% threshold because it is comfortably supportable when focusing on P_E and P_G policies, and remains supportable, albeit somewhat more arbitrarily so, even when including P_R policies.²⁴³ By contrast, opting for the 80% threshold on the basis of inclusion of P_R policies may undermine confidence

²⁴³ See Brad Collier, *Finding Your Limit and Why It Matters*, DEANS & HOMER (Apr. 1, 2022), <https://www.deanshomer.com/industry-insights/finding-your-limit-and-why-it-matters> [<https://perma.cc/QUG5-TAZ7>] (noting that coinsurance provisions require insureds to carry limits equal to specified percentages (e.g., 80%, 90%, 100%) of replacement cost to avoid reduced claim payout, illustrating that a 90% replacement-cost threshold is an accepted benchmark in property insurance analysis).

because an unknown portion of P_R policies are intended to be inadequate coverage. It does bear noting that in years 2021–2023, P_R policies constituted 6.12% of the data set, $\langle P_E, P_G, \text{ and } P_R \text{ policies} \rangle$.

2. *Methodology for Identifying the Frequency, Depth, and Predominant Causes of Underinsurance of Destroyed Homes*

- To identify the number of underinsured TLs the formula is:

$$\text{No. of underinsured } TLs = n[P_A | IL > C(P_A)] + n[P_R | IL > C(P_A)] + n[P_E | IL > (C(P_E) + \text{ERC})]$$

- To identify the frequency of underinsurance of TLs , the formula is:

$$\text{Percentage of underinsurance of } TLs = \frac{\text{No. of underinsured } TL \text{ claims}}{\sum_{i=A,R,E,G} n(P_i)}$$

Within TLs , the total dollars of underinsurance can be isolated by policy category where the total dollar amount of underinsurance for policy type i is denoted by $UI\$(P_i)$. The total amount of underinsurance is then simply defined as $\sum_{i=A,R,E,G} UI\$(P_i)$, from which the average depth of underinsurance can be determined. The same calculations can be done to isolate the frequency and average depth of underinsurance by policy type.

The frequency with which homeowners wanted full insurance and believed they had it can be calculated in a range. It is assumed that purchasers of P_G or P_E policies wanted, were willing to pay for, and thought they had full insurance. But some unknown percentage of purchasers of P_R policies will have believed that as well. Expressed as a range, on the low end, the percentage of homeowners who wanted full insurance and thought they had it is the percentage of all homeowner policies that are P_G or P_E policies. On the high end, it is the percentage of all homeowner policies that are P_G , P_R , or P_E policies.

The impact of homeowner behaviors on underinsurance is isolated by identifying the frequency and average depth of unintended underinsurance.

Within TLs , the impact of demand surge on rebuilding destroyed homes is quantified by ratio, meaning the average per claim IL in CAT claims versus IL in non-CAT events. This calculation isolates the impact of catastrophe on underinsurance.

The impact of POS RCEs on underinsurance can be seen by isolating P_G and P_E policies in which IL exceeds Coverage A, as these are policies in which we can be confident Coverage A is in the amount of the POS RCE.²⁴⁴ The number of these claims and the average shortfall of Coverage A as compared to IL will give insight as to the frequency, and average dollar shortfall, of the insurers' POS RCE being inadequate.

²⁴⁴ CADOI does not report (and may not collect from insurers) either the POS RCE the insurer utilized or the amount of the POS RCE for data of loss.

D. Findings

The data describes pervasive, unintended, profound underinsurance in California in years 2018–2023, with a significant (probably predominant) causal factor being POS RCEs.

1. *The Gross Landscape of Underinsurance*

Slightly more than seven out of ten of Californians, regardless of their type of HO policy, have less insurance coverage to rebuild a destroyed home than the insurer-reported incurred dwelling loss (“underinsurance”), and by on average slightly less than 20%.

The first and second PPE data calls describe underinsurance across years 2018–2021.

Table 5: Frequency and Average Depth of Underinsurance of Destroyed Homes, 1st and 2nd PPE Data Calls, 2018–2021

Year	<i>n</i> TL claims	<i>n</i> TL underinsured	% underinsured	Average % underinsured
2018	7,749	4,841	62.47%	31.67%
2019	490	191	37.98%	27.26%
2020	2,055	1,266	61.61%	19.45%
2021	1,096	533	48.63%	40.10%
TOTAL	11,390	6,831	59.97%	29.07%

This calculation may understate the frequency of underinsurance, as it does not identify what portion of the 40% of claims underpaid were underinsured.²⁴⁵

These figures contrast Coverage A (plus, when applicable, ERC) with incurred loss. A limitation on this data is that the first two PPE data calls instructed insurers to “report the most recent amount of coverage available at the end of the policy period or the end of calendar year (whichever is first).”²⁴⁶ As a consequence, reported Coverage A was “not necessarily the amount of coverage at the time of the loss” because Coverage A might have been “adjusted downward after the loss occurred but may not have been a total loss if the coverage amount remained unchanged.”²⁴⁷ In the third data call, CADOI instructed insurers to report “the amount of coverage in-force at the beginning of the calendar year, or the first day the policy was in-force, if the policy was written after the first day of the calendar year.”²⁴⁸ Further, in the

²⁴⁵ See Biswas et al., *supra* note 183, at 21–22.

²⁴⁶ CAL. DEP’T OF INS., *supra* note 203, at 4.

²⁴⁷ E-mail from Luciano Gobbo, *supra* note 220.

²⁴⁸ CAL. DEP’T OF INS., *supra* note 202.

first two PPE data calls, BCU coverage may or may not have been included in insurer-reported amounts of Coverage A, while in the third data call BCU coverage was always separately reported.²⁴⁹

The third PPE data call describes underinsurance across years 2021–2023.

Table 6: Frequency and Average Depth of Underinsurance of Destroyed Homes, 3rd PPE Data Call, 2021–2023, All *HO* Policies

Year	<i>n TL</i> claims	<i>n TL</i> underinsured	% underinsured (frequency)	Average % underinsured (depth)
2021	866	640	73.90%	19.70%
2022	515	356	69.13%	19.67%
2023	286	193	67.48%	15.62%
TOTAL	1,667	1,189	71.33%	19.02%

Contrasting the two lines for year 2021 exposes the influence of the changes in the reporting of Coverage A.

Table 7: Frequency and Average Depth of Underinsurance of Destroyed Homes, 2nd vs. 3rd PPE Data Calls, 2021, All *HO* Policies

Year	<i>n TL</i> claims	<i>n TL</i> underinsured	% underinsured	Average % underinsured
2021 (2nd PPE data call)	1,096	533	48.63%	40.10%
2021 (3rd PPE data call)	866	640	73.90%	19.70%

The differences in the gross number both of *TLs* and of underinsured *TLs* could be explained by either insurers reporting data on a different set of claims or shifts in the tranches of fire claims sorted by the ratio of incurred loss to coverage, or both. The consequence suggested is that the first and second PPE data calls overstated the gross number of *TLs* and understated the gross number of underinsured *TLs*. Correcting for these distortions increased the frequency of underinsurance and lowered the average depth of underinsurance.

The first two PPE data calls suggested an anomaly, to wit, that as claims matured (meaning the portion of the claim paid rose and the amount remaining on reserve lessened) the frequency of underinsurance spiked. Put another way, the data described insurers who were ubiquitously under-reserving and ultimately paying

²⁴⁹ E-mail from Micah Mumper, *supra* note 215.

over coverage. This is not described by the data from the third PPE data call, suggesting that the initial instructions on reporting Coverage A distorted the reliability of the data on the landscape of underinsurance.

For these reasons, this Article concludes that the most accurate description of the landscape of underinsurance is that across all years and across all forms of *HO* policies, whether a home is destroyed in a catastrophe or not, 71.33% of homeowners are underinsured for total reconstruction of their home, and by an average of 19.02%.

Confidence in the conclusion comes with limitations. CADOI collects data on “BCU” coverage but not on either amounts paid or reserved-attributed-BCU coverage, so it is unknown how conclusions may be distorted by changes in building codes or ordinances. Also, there is not clarity about how accurately insurer-reported, pre-rebuild, incurred loss predicts what it actually will cost to construct the destroyed dwelling. This uncertainty is unlikely to be resolved by collecting post-loss Xactimate estimates, because Xactimate is designed to estimate on the low side and no public-facing data explains how to correct for that built-in bias.

An open question remains as to why insurers would pay and/or reserve more than coverage. But insurer-reported incurred loss figures describe that insurers routinely do so.²⁵⁰ The implication is that insurers know that in a supermajority of instances, their *HO* policies are underinsuring.

2. *Catastrophe Amplifies But Does Not Explain Underinsurance*

The data describes that catastrophe amplifies both the frequency of underinsurance and depth of underinsurance but does not explain it. Among homes destroyed in a CAT event, 78.39% are underinsured, and when underinsurance happens the average depth of underinsurance is 24.76%. Among homes destroyed in a non-CAT event, 68.09% of destroyed homes are underinsured, and when underinsurance happened the average depth of underinsurance is 16.77%.

These percentages draw entirely from the third PPE data call. The initial PPE data calls describe broadly similar conclusions, but the specific percentages described in those two data calls reflect the same anomaly of the instructions regarding incurred loss appearing to undermine the confidence one can have in the results.²⁵¹

²⁵⁰ See Justin Goodman, *Incurred Losses Explained: Understanding Insurance Claims*, TOTAL CSR (June 20, 2025), <https://totalcsr.com/insurance-agency-blog/incurred-losses-explained/> [<https://perma.cc/S8AZ-SZCH>] (noting that incurred losses represent an insurer’s total expected financial obligation, including paid losses and reserves for reported and unreported claims, rather than just cash disbursements); Alicia Tuovila, *Loss Development: What It Is, How It Works*, INVESTOPEDIA (Apr. 5, 2025), <https://www.investopedia.com/terms/l/loss-development.asp> [<https://perma.cc/ZK7C-9UQM>] (explaining that insurer reserves and incurred loss estimates adjust over time using actuarial methods, leading reported incurred losses to change as more information becomes available).

²⁵¹ See *supra* text accompanying notes 218–27 (discussing changes in reporting instructions).

Those data are reproduced in Appendix A to this Article.

Below is the data from the third PPE data call:

Table 8: Frequency and Average Depth of Underinsurance of Destroyed Homes in non-CAT, 3rd PPE Data Call, 2021–2023, All *HO* Policies

Year	<i>n TL</i> claims	<i>n TL</i> underinsured	% underinsured	Avg % underinsured
2021	409	281	68.70%	14.61%
2022	458	310	67.69%	18.64%
2023	277	188	67.88%	16.03%
TOTAL	1,144	779	68.09%	16.77%

Table 9: Frequency and Average Depth of Underinsurance of Destroyed Homes in Catastrophe Events, 3rd PPE Data Call, 2021–2023, All *HO* Policies

Year	<i>n TL</i> claims	<i>n TL</i> underinsured	% underinsured	Avg % underinsured
2021	457	359	78.56%	24.73%
2022	57	46	80.70%	28.72%
2023	9	5	55.56%	8.09%
TOTAL	523	410	78.39%	24.76%

In other words, across years 2021–2023, in non-CAT events, destroyed homes quite stably had a two-thirds chance of being underinsured, even with an ERC endorsement. When underinsured, these homes predictably would be about 15% short. If the home was lost to wildfire, then both these figures jumped about 10%, give or take a couple of percentage points.

The delta between underinsurance in CAT and non-CAT events seems counter-intuitively small. It likely is an unintended, positive consequence of homeowners heeding warnings about price demand surge after a wildfire and purchasing ERC as a hedge. Destroyed homes in non-CAT events had Coverage A (exclusive of ERC) less than incurred loss 94.14% of the time and were short by on average 42.47%.

Table 10: Frequency and Average Depth of Underinsurance of Destroyed Homes in Non-CAT, 3rd PPE Data Call, 2021–2023, All *HO* Policies, If Calculated Exclusive of ERC Coverage

Year	<i>n TL</i> claims	<i>n TL</i> underinsured	% underinsured	Avg % underinsured
2021	409	392	95.84%	42.99%
2022	458	432	94.32%	44.31%
2023	277	253	91.34%	37.91%
TOTAL	1,142	1,077	94.14%	42.47%

In other words, the reason that homeowners do better if their home is destroyed in a one-off fire seems to be that they have hedged against a wildfire, and so inadvertently have corrected for the insurer's error in quoting inadequate coverage. If they had relied solely on Coverage A, even without a wildfire they would have been underinsured essentially every time, and by a lot. And of course, because of demand surge, in a wildfire these numbers would be worse.

It bears noting that these conclusions are subject to the same limitations as those of the prior subsection analyzing the gross landscape of underinsurance.

3. Homeowners Rarely Choose to Underinsure

The data suggests that underinsurance cannot be explained by homeowner choices. Applying the methodology described above across years 2018–2023, at least 82.48% of homeowners, and perhaps as high as 99.51%, purchasing *HO* policies wanted, were willing to pay for, and thought they had full and adequate insurance:²⁵²

Table 11: Frequency of Homeowners Seeking Over- or Full Insurance

Year	<i>n P_E + n P_G</i>	<i>n P_R</i>	Range floor	Range ceiling	<i>n All Policies</i>	% Range
2018	21,742	2,123	21,642	23,865	24,057	90.4%–99.2%
2019	11,205	1,408	11,205	12,613	12,644	88.6%–99.8%
2020	14,757	1,491	14,757	16,248	16,309	90.5%–99.6%
2021	8,292	527	7765	8,819	8,850	87.7%–99.65%
2022	6,395	400	5995	6,795	6,821	87.9%–99.62%
2023	5,011	357	4654	5,368	5,389	86.36%–99.6%
TOTAL	67,402	6,306	61,096	73,708	74,070	82.48%–99.51%

²⁵² Year 2021 is reported from the third PPE data call (on file with author).

Those efforts largely were ineffective. Using data only from the third PPE data call (for all of the reasons discussed above) among homeowners whose homes were destroyed and that can be identified with confidence as homeowners who wanted full insurance, and were willing to pay for full insurance, 69.60% were underinsured even after including ERC Coverage. Further, when underinsurance happened, the average depth of underinsurance was 20.55% of Coverage A + ERC Coverage.

Table 12: Frequency and Average Depth of Unintended Underinsurance of Destroyed Homes Thought to Be Adequately Insured

Year	<i>n</i> TL claims	<i>n</i> TL claims unintentionally underinsured	% TL claims unintentionally underinsured	Avg % per claim depth of TL claims unintentionally underinsured
2021	778	560	71.98%	19.84%
2022	458	313	68.34%	23.67%
2023	251	162	64.54%	15.94%
TOTAL	1,487	1,035	69.60%	20.55%

These percentages are understated, as this does not account for the unidentified percentage of homeowners with P_R policies who thought they did not need ERC, presumably because they understood the POS RCE to be accurate.

4. What About Demand Surge?

As described above,²⁵³ a body of prior research finds demand surge expresses in a 15%–30% range but typically expresses between about 20% and 25% regardless of year of event, type of event, or location of event. Analysis of data from the first PPE data call aligned with this conclusion. Using the methodology of comparing incurred loss in CAT events and non-CAT events within TLs ²⁵⁴ in P_E and P_G policies to perceive demand surge, demand surge in California in 2018 and 2019 was 23.8%.²⁵⁵ But data from the second and third PPE calls yields different results:²⁵⁶

²⁵³ See discussion *supra* Section I.D.2.

²⁵⁴ Identified as P_E policies with IL > 90% of Coverage A. Klein, *supra* note 4, at 48–51.

²⁵⁵ *Id.* at 52.

²⁵⁶ The analysis of the second and third PPE data calls included P_G policies.

Table 13: Demand Surge, 2nd PPE Data Call

Year	% Demand surge
2020	28.70%
2021	-5.02%
Total	15.38%

Table 14: Demand Surge, 3rd PPE Data Call

Year	% Demand surge
2021	-7.29%
2022	-2.13%
2023	57.19%
Total	-10.44%

The methodology analyzing the second and third PPE data calls differs from the analysis of the first PPE data call by including P_G policies.

Here is a recalculation of the numbers of the first PPE data call with the inclusion of P_G policies:

Table 15: Demand Surge, 1st PPE Data Call

Year	% Demand Surge
2018	15.84%
2019	16.05%
Total	15.95%

Years 2020 and 2021 were years when supply chains were disrupted by COVID.²⁵⁷ And COVID lockdown perhaps reduced the incidence of homes destroyed by fire in 2020.²⁵⁸ Here is what the calculations look like for just years 2022 and 2023:

²⁵⁷ See Xiwen Bai, Jesús Fernández-Villaverde, Yiliang Li & Francesco Zanetti, *The Causal Effects of Global Supply Chain Disruptions on Macroeconomic Outcomes: Evidence and Theory 4* (Nat'l Bureau of Econ. Rsch., Working Paper No. 32098, 2024) (pointing to the COVID pandemic as a possible cause of the reduced fires in the southeastern United States during 2020, but also noting that in the western United States, 2020 was a record-breaking year for fires).

²⁵⁸ BENJAMIN POULTER, PATRICK H. FREEBORN, W. MATT JOLLY & J. MORGAN VARNER, *COVID-19 LOCKDOWNS DRIVE DECLINE IN ACTIVE FIRES IN SOUTHEASTERN UNITED STATES*

Table 16: Demand Surge, 3rd PPE Data Call

Year	% Demand Surge
2022	-2.13%
2023	57.19%
Total	9.27%

So, what should we make of all these data? There appears to be no coherent pattern. Or the pattern may be obscured by treating California as a single dataset. Or it may be that California acts as a large, single construction costs market, meaning that demand surge from CAT events also surges reconstruction prices for non-CAT events. Or it may be that the methodology is flawed. Perhaps the best that can be said is that the suggestion from analysis of data from the first PPE data call was that it could add to understanding of demand surge, but data from the latter two PPE data calls put that suggestion into question. Stated another way, perhaps regarding demand surge we are where we started—there is a body of research describing demand surge as expressing in a 15%–30% range but typically between about 20% and 25%, and the PPE data calls do not describe a different conclusion.

Nonetheless, what the PPE data calls do advance is a conclusion that demand surge is not a predominant factor in underinsurance. Remember, the POS RCEs purport to perceive demand surge.²⁵⁹ And in addition whatever demand surge factor is embedded in POS RCEs for the possibility of demand surge, 90% of policies are P_E or P_G policies. About 98% of those policies are P_E policies; 98% of P_E policies have ERC of 120% or greater; three-quarters of P_E policies have ERC of 125% or greater; the most frequent level of ERC is 150% (approaching 40% of all P_E policies); and yet still a majority of properties in CAT events are underinsured. In other words, if the research on demand surge is accurate then almost no insured homes would be underinsured. But they are. Either the entirety of demand surge research is wrong, or demand surge is not a predominant driver of underinsurance.

5. *The Impact of POS RCEs on Underinsurance*

POS RCEs apparently are a predominant driver of underinsurance. Using the instructions for calculation of IL from the initial two PPE data calls, among homeowners where we can confidently say that Coverage A is no more or less than

1 (2021), <https://www.pnas.org/doi/epdf/10.1073/pnas.2105666118> [<https://perma.cc/47EA-ASP3>].

²⁵⁹ VERISK, *supra* note 125, at 5 (stating that price lists are updated frequently to account for demand surge).

the POS RCE, 94.31% of destroyed homes in years 2018–2021 had a POS RCE less than the incurred loss, and by on average 49.81% of Coverage A:

Table 17: Frequency and Average Depth Short of POS RCEs Predicting IL, 1st and 2nd PPE Data Calls

Year	<i>n</i> TLs	Freq. POS RCE < IL	Average % Depth	Avg. \$\$ shortfall
2018	7,087	97.23%	53.87%	\$202,364.31
2019	451	76.72%	29.83%	\$135,601.89
2020	1,937	92.36%	49.26%	\$245,187.84
2021	1,046	85.66%	44.16%	\$133,054.03
TOTAL	10,521	94.31%	49.81%	\$197,635.72

For the reasons previously discussed, the third PPE data call may be a more reliable source of accurate IL data.²⁶⁰

The third PPE data call describes that among homeowners where we can confidently say that Coverage A is no more or less than the POS RCE, 84.13% of destroyed homes in years 2018-2021 had a POS RCE less than the incurred loss, and by on average 31.14% of Coverage A.

Table 18: Frequency and Average Depth Short of POS RCEs Predicting IL, 3rd PPE Data Call

Year	<i>n</i> TLs	Freq. POS RCE < IL	Average % Depth	Avg. \$\$ shortfall
2021	1,259	88.88%	33.06%	\$123,464.14
2022	853	82.06%	32.65%	\$148,268.44
2023	553	76.49%	23.90%	\$100,463.22
TOTAL	2,665	84.13%	31.14%	\$126,868.97

²⁶⁰ See discussion *supra* Section II.B.

If these numbers are disaggregated by CAT and non-CAT, then average frequency and depth of error by POS RCEs is:

Table 19: Frequency and Average Depth Short of POS RCEs Predicting IL, 3rd PPE Data Call—CAT

Year	<i>n</i> TLs	Freq. POS RCE < IL	Average % Depth	Avg. \$\$ shortfall
2021	540	96.67%	40.59%	\$134,424.20
2022	66	95.45%	46.81%	\$185,366.22
2023	10	90.00%	30.90%	\$208,895.44
TOTAL	616	96.43%	41.06%	\$140,995.49

Table 20: Frequency and Average Depth Short of POS RCEs Predicting IL, 3rd PPE Data Call—Non-CAT

Year	<i>n</i> TLs	Freq. POS RCE < IL	Average % Depth	Avg. \$\$ shortfall
2021	719	83.03%	27.75%	\$113,880.98
2022	787	80.94%	31.44%	\$144,599.43
2023	543	76.24%	23.65%	\$98,106.00
TOTAL	2,049	80.64%	26.50%	\$121,791.67

These are among the starkest numbers in this entire Article. POS RCEs are inaccurate and low slightly over 84% of the time and by close to one-third.²⁶¹ Despite algorithm modelers including catastrophe modeling in their POS RCE calculations, if a home is destroyed by a CAT event, then POS RCEs are inaccurate and low over 95% of the time. If a home is destroyed by a non-CAT event, then POS RCEs are inaccurate and low slightly over 80% of the time. In CAT events, the depth or error averages over 40%. In non-CAT events, the average is over 25%. Year-by-year, these results are improving, but not dramatically. And these are the frequencies and depths that homeowners would be underinsured, assuming the accuracy of insurers' calculations of incurred loss, if homeowners accepted the insurers' estimate of full and adequate insurance.

6. Contextualizing Conclusions

There are limitations on this data. The data describes only California policies and in only six years. The definitions and instruction parameters for the data

²⁶¹ In accordance with these conclusions, e2Value studied close to 10,000 homes in the 91001 zip code (the Altadena neighborhood devastated by the 2025 Eaton Fire) and concluded that Coverage A as described in the CADOI data understated reconstruction value by approximately 35%. E-mail from Todd Rissell, CEO, e2Value, to author (Aug. 14, 2025, at 04:51 PT) (on file with author).

changes during those years. The definition of “incurred loss” is an imperfect place marker for the actual cost of rebuilding a destroyed home. In lieu of reported data, a place marker must be used to isolate total losses. There is no data on flood or wind events. The data does not allow isolation of, and in turn analysis of, California FAIR Plan claims. The findings depend on the accuracy of unverified, insurer self-reported, incurred loss figures. The findings of Biswas and their co-authors on underpayment suggest findings on the frequency of underinsurance may be understated. The data cannot perceive any price elasticity to rising premiums changing the frequency of unintended underinsurance post-2023. And the data does not identify claims by insurer and so there is no way to test for specific insurer experience heterogeneity or homogeneity. But for all that, the conclusions are bracing.

For all the limitations, the conclusions seem broadly accurate and perhaps understated. The data predicts that in a catastrophe, insured homes will be underinsured 78% of the time and by an average of 25%. One year after the Palisades and Eaton Fires, a survey of 675 households found “7% of total loss survey respondents reported they have enough insurance to cover the cost of replacing or rebuilding their home”; “69% . . . reported they *do not*”; and “24% . . . reported they *do not know* yet if they are underinsured.”²⁶² If the changes from the six-month, post-fires survey hold (households uncertain if they were underinsured dropped by 9%, resulting in a 2% increase in those adequately insured and a 7% increase in those inadequately insured²⁶³), then the rate of underinsurance ultimately will be closer to 88%. Total loss, underinsured households in the Eaton Fire were, on average, 36% short; total loss, underinsured households in the Palisades Fire were, on average, 46% short.²⁶⁴

III. CONSEQUENCES: POLICY IMPLICATIONS OF THE DATA

The prior Part of this Article suggests a nationwide underinsurance crisis. It appears that most people want, are willing to pay for, and think they have full and adequate insurance. It appears that they are wrong, and that they are short by a lot. And their insurance companies hold all the necessary information to know it, yet nothing is being done to remedy the situation.

Because the California data expose POS RCEs as the apparent dominant factor explaining the crisis, there is no reason to expect a materially different experience anywhere in the nation, or between insurers, or among flood losses the NFIP

²⁶² UNITED POLICYHOLDERS, 2025 LOS ANGELES WILDFIRES YEAR ONE INSURANCE & RECOVERY SURVEY REPORT 3, 5 (2026), <https://uphelp.org/wp-content/uploads/2026/03/UP-2025-LA-Wildfires-12-Month-Survey-Results-Final.pdf> [<https://perma.cc/UF67-25KW>].

²⁶³ *Id.* at 5.

²⁶⁴ *See id.*

insures,²⁶⁵ or among homeowners whose homes are destroyed in an event other than a catastrophe. Simply put, we are a nation of unwitting, underinsured homeowners who each are one bit of bad luck from learning so.

For the reasons detailed, the conclusions about the specific percentages could be wrong, and could imprecisely describe the experience in 2024–2025, or in the future. But one is inclined to ask: So what? There’s a crisis one way or the other.

In this environment of crisis, it is particularly troubling that institutions responsible for ordering rights between insurers and homeowners are making little headway toward solutions. The issue seems to be lacking rich data. This Article provides that data, and the suggestions in this Part address what should be done with it.

A. *The Misplaced Assumptions Underlying the Current Landscape of Underinsurance*

The national landscape of underinsurance is uneven, but the way matters play out for homeowners is almost uniformly poor.²⁶⁶

The only homeowner certain to be adequately insured is one holding a P_G policy.²⁶⁷ But consumers can’t seem to get P_G policies in places where they need it. For example, in 2020, Farmers Insurance ran a national television commercial, “Kernel Inferno,” promoting its Home Guaranteed Replacement Cost policies, from which one might infer that such policies were available nationwide.²⁶⁸ Yet in California, the data describes that among all homeowner policies in which there was a fire claim of any size, only 1.64% were P_G policies.²⁶⁹ Colorado’s study of homeowners whose homes were destroyed in the 2021 Marshall Fire found only 8% had P_G policies.²⁷⁰ The website NerdWallet rated homeowner insurers for Floridians concerned about wind damage from hurricanes. It described Chubb, one of only two insurers assigned its top rating, as offering “more than average” homeowner coverage because Chubb offers P_E policies (the coverage description of the other insurer, Amica, was “about average”).²⁷¹ It appears that the availability and take-up of P_G policies may be robust

²⁶⁵ Because the NFIP caps Coverage A at \$250,000, it is likely that homeowners insured for flood through NFIP policies are underinsured at a higher rate than they would be for fire under a standard HO-3 Special policy. See FEMA, *supra* note 36, at 3.2–3.3.

²⁶⁶ The frequency, severity, and nature of property and casualty claims can vary widely by state. See, e.g., VERISK, *supra* note 2, at 8; Klein, *supra* note 4, at 3–5 (noting that underinsurance disputes are usually resolved on an individual basis and usually favor the insurer).

²⁶⁷ See Horton, *supra* note 58.

²⁶⁸ FARMERS INS., *Farmers Insurance Policy Perks TV Spot, ‘Kernel Inferno’* (iSpot TV, Sep. 8, 2020), <https://www.ispot.tv/ad/nQdR/farmers-insurance-policy-perks-kernel-inferno> [<https://perma.cc/895Q-MEGP>].

²⁶⁹ See *supra* Table 3.

²⁷⁰ *Division of Insurance Releases Initial Estimates of Underinsurance for Homes in the Marshall Fire*, *supra* note 196.

²⁷¹ Sarah Schlichter, *The Best Home Insurance in Florida for 2025*, NERDWALLET (Sep. 8, 2025), <https://www.nerdwallet.com/article/insurance/home-insurance-florida>

in some states, just not in states where fires and hurricanes happen.²⁷² And, of course, because essentially all flood insurance policies are NFIP policies,²⁷³ homeowners at risk for flood almost never have P_G coverage.

The nature of legislation responding to the adequacy of coverage also may differ by state. A 2018 survey of state legislation of underwriting practices found 14 states that prohibited the policyholder, the insurer, and/or the agent from knowingly agreeing to over-insure, and roughly 20 states that had “valued policy” laws requiring that in the event of a total loss an insurer must pay the coverage limit of the policy whether the actual replacement cost reaches (or exceeds) this value or not.²⁷⁴

Two states—California and Colorado—currently have legislation and regulations specifically addressing POS RCEs. Both states start from the premise that an accurate POS RCE should be possible, and then both try to give minimum standards on how to do it.

California does not require an insurer to produce a POS RCE but identifies roughly (depending upon how one reads the regulation) 15 components a POS RCE must consider if the insurer does choose to do so.²⁷⁵ Colorado requires an insurer provide to a homeowner a POS RCE and requires that it consider a near identical (to California) set of components.²⁷⁶

California and Colorado should be commended for their proactive engagement with POS RCEs. Yet the positive impact of these approaches is very much an open question. The Colorado statute and regulation is (as of the time of writing) brand new. But it mimics the California regulation. The California regulation went into effect on June 27, 2011.²⁷⁷ While industry court challenges to the regulation were initially successful, the California Supreme Court reversed those challenges on January 23, 2017, rendering the regulations valid.²⁷⁸ In other words, California-compliant POS RCEs were being done by the time of the fire claims described in the aggregated California wildfire data for years 2018–2023. Plainly, doing compliant POS RCEs didn’t make a dent in underinsurance.

California and Colorado no doubt hoped to cure underinsurance. Nonetheless,

[<https://perma.cc/K827-3UQH>].

²⁷² The risk of these sorts of disasters is more ubiquitous than one might think. See *Wildfire Risk 2025: Priced Out and Burned Out*, *supra* note 183 (describing the many regions of the nation at high wildfire risk); accord Jiayi Xu, *2025 Realtor.com Housing and Climate Risk Report*, REALTOR.COM: NAT. DISASTERS RSCH. BLOG (Sep. 3, 2025), <https://www.realtor.com/research/climate-risk-2025/> [<https://perma.cc/W459-SEA3>].

²⁷³ See *supra* note 35 and accompanying text.

²⁷⁴ Klein, *supra* note 49, at 92.

²⁷⁵ CAL. CODE REGS. tit. 10, § 2695.183(a) (2025).

²⁷⁶ COLO. REV. STAT. § 10-4-110.8(8)(c) (2025); COLO. CODE REGS. § 702-5-1-26-5 (2025).

²⁷⁷ Administrative Rulemaking File for Cal. Code Regs. tit. 10, § 2695.183, *supra* note 71, at 2; Ass’n of Cal. Ins. Cos. v. Jones, 386 P.3d 1188, 1192 (Cal. 2017).

²⁷⁸ Ass’n of Cal. Ins. Cos. v. Jones, 386 P.3d 1188, 1188, 1195, 1204 (Cal. 2017).

when a homeowner finds themselves underinsured, they still often lose in court. This happens because courts, perhaps understandably, often focus on the warnings in individual policies, to the exclusion of any other evidence of what an insurer or homeowner did or did not know about the adequacy of the quoted coverage.²⁷⁹ In essence, courts apply a presumption that homeowners have read their policies and that properly worded documents can lead to consumers making choices that serve their needs and finances while avoiding surprises.²⁸⁰ The consequence of this presumption is that it excludes consideration of whether the insurer is simultaneously risk-shifting through contract language and failing to disclose what the insurer knows of the scope of the risk.

In earlier articles, I summarize the difficult, nationwide legal landscape homeowners face when bringing a claim of underinsurance.²⁸¹ Two trial court decisions concretely illustrate how the “presumed read” approach results in poor outcomes for homeowners.

In *Driver v. State Farm Fire & Casualty Co.*—a lawsuit involving one of the 2021 Marshall Fire burn-downs in Colorado—the court was asked to issue a protective order prohibiting discovery of the insurer’s experience in calculating replacement costs.²⁸² In other words, to restrict the factual record in an underinsurance dispute to specific insurance policy language and the bespoke negotiations between a single homeowner and their insurance company, excluding evidence of whether the insurer had broad, undisclosed (to the homeowner) experience with underinsurance and POS RCEs. Such a ruling is intuitively attractive to a court. There is a lot of case law presuming that parties to a contract have read the contract and often are bound by it.²⁸³ And so just five days after the effective date of Colorado’s regulation implicitly recognizing the pervasive market failures of POS RCEs, the court granted the protective order, holding, “insurance companies do not owe a duty of care to accurately estimate future replacement costs when offering a policy of insurance. Therefore, any questions regarding how [insurer] calculated what policy limit it would offer is of no consequence in this case and those questions are improper.”²⁸⁴ While this ruling may align with precedent, it misaligns with data.

²⁷⁹ *But see* Schwarcz et al., *supra* note 77 (manuscript at 54–55) (noting that some courts have refused to extend this doctrine to “contract language that typical consumers cannot understand”).

²⁸⁰ *Id.* (manuscript at 2–3).

²⁸¹ *See* Klein, *supra* note 4, at 32–41; Klein, *supra* note 49, at 82–83, 97.

²⁸² Order Granting in Part Defendants’ Motion for Protective Order as to Plaintiffs’ Proposed C.R.C.P. 30(b)(6) Deposition Topics, *Driver v. State Farm Fire & Cas. Co.*, No. 2024CV30161 (Colo. Dist. Ct. Jan. 6, 2025) [hereinafter Order Granting Protective Order].

²⁸³ *See, e.g., id.*; *Bartlett Grain Co. v. Sheeder*, 829 N.W.2d 18 (Iowa 2013) (holding that a party who signed written contracts was bound by their terms, including an arbitration clause, regardless of whether the party read the agreements).

²⁸⁴ Order Granting Protective Order, *supra* note 282.

The misalignment of doctrine and data can be devastating to homeowners. Consider *Barshinger v. State Farm Fire & Casualty Co.*, another Marshall Fire homeowner underinsurance lawsuit.²⁸⁵ The insurance policy was an RCV policy with ERC.²⁸⁶ In the Summary of Coverage, the insurer told the homeowners that if they had “concerns about the estimated replacement cost amount used to derive your coverage, you should take an opportunity to discuss this with us.”²⁸⁷ The policy documents stated, “In Colorado, there is potential for . . . total losses due to fires. . . . If you have questions or concerns regarding your insurance coverage, be sure to discuss them with your insurance agent or company representative.”²⁸⁸ The renewal notices said, “We recommend that you purchase a coverage limit equal to the estimate replacement cost of your home. . . . [Y]our agent can provide an estimate from Xactware, Inc. . . . We encourage you to periodically review your coverage and limits with your agent.”²⁸⁹ The insurer *admitted* that the homeowners told their insurance agent that they “wanted to purchase ‘adequate insurance coverage,’ meaning a policy that provided ‘100 percent replacement cost,’ and ‘would make Plaintiffs whole,’ ‘build them a house’ and give them money to build a house in the event of a total loss.”²⁹⁰ State Farm moved for summary judgment, despite admitting the conversations about 100% coverage for a total loss, arguing that there was no evidence that State Farm knew or should have known its POS RCE was understated.²⁹¹ The trial court entered summary judgment for the insurer on the intentional misrepresentation claim, finding, “There is no evidence that State Farm [or its agent] had information as to the value of the Plaintiffs home that was unknown or unavailable to Plaintiffs themselves,” and, “State Farm provided clear statements that homeowners should take action to determine for themselves whether or not the limits of the insurance policy offered was sufficient for their needs.”²⁹² These findings are at odds not only with the facts of the case (the policy told the homeowners, as many policies do, to contact the insurer with any coverage adequacy concerns, and that is what the homeowners did), but with what State Farm and every other insurers’ own portfolio experience describes about the adequacy of POS RCEs.

²⁸⁵ Combined Order on Motions for Summary Judgment Filed by Defendant State Farm Fire & Casualty Co. & Michelle Vanags at 1, *Barshinger v. State Farm Fire & Cas. Co.*, No. 2023CV31178 (Colo. Dist. Ct. Mar. 5, 2025) [hereinafter Combined Order for Summary Judgment].

²⁸⁶ First Amended Complaint and Jury Demand at 3, *Barshinger v. State Farm Fire and Cas. Co.*, No. 2023CV31178 (Colo. Dist. Ct. Mar. 5, 2025).

²⁸⁷ Combined Order for Summary Judgment, *supra* note 285, at 3.

²⁸⁸ *Id.* at 4.

²⁸⁹ *Id.* at 3.

²⁹⁰ *Id.* at 2–3.

²⁹¹ *Id.* at 6–7.

²⁹² *Id.* at 18.

There is nothing in the reported case law or literature suggesting these two decisions are outliers from the general approach of courts across the nation.

Simply put, courts are disconnecting creation of risk from responsibility for it. If one assumes that no court would hold that an insurer could know from its own experience that its estimates routinely biased low and nonetheless bear no consequences for failure to disclose that knowledge, then these cases concretely illustrate the consequence to homeowners from courts not considering data about POS RCEs, how they function, and how to read policy language in that context.

Or put another way, courts' failure to consider the broader context of underinsurance allows the "presumed read" defense comfortably to reside in a family of "usual" legal defenses as I summarized in a prior article:²⁹³ "it was only an estimate,"²⁹⁴ "[w]e did everything we could do,"²⁹⁵ "no one knows their home better than the homeowner,"²⁹⁶ "we told them that if they wanted more we would sell

²⁹³ Klein, *supra* note 4, at 3–5.

²⁹⁴ See, e.g., Administrative Rulemaking File for Cal. Code Regs. tit. 10, § 2695.183, *supra* note 71, at 87 ("We do not and cannot agree with your stated contention that the policy forms and disclosures, both those mandated and those actually provided, and all of which have been separately reviewed and approved by the Department, are in any way deficient, vague, or ambiguous. If anything, they are demonstrably quite the opposite, being repetitive and redundant to the point of belaboring the point that the determination of replacement cost for any home is at best, and even under ideal circumstances, only an estimate, not a guarantee."); *id.* at 1198 ("[N]o single formula or set of calculations yet devised can produce a replacement cost figure that will prove accurate in all cases. There are simply too many variations . . . to develop a single calculation that guarantees replacement cost has been accurately projected for a given home. . . . [I]t is probably not realistic to expect that such modelling will EVER produce a replacement cost calculation that is 100-percent accurate."); *id.* at 1240 ("[A]n estimate is exactly that—it is an estimate.").

²⁹⁵ See, e.g., *id.* at 371, 379 ("[O]ur estimated replacement cost is calculated using a component-based tool. Over 27 basic home characteristics are taken into consideration with over 150 options to accurately capture the interior and exterior details of a home. . . . Importantly, the [insureds] also expressly were given the option of choosing their dwelling coverage. . . . The decision regarding the limit applicable to Coverage A—Dwelling Protection is your decision to make, as long as you purchase at least the minimum limit [the insurer] specifies and meet certain other requirements."); *id.* at 1161–62 ("[I]n order to be able to offer various options, which would extend the coverage, that there's no way around the agent/broker providing some kind of estimate. Again, ultimately, it is the insured's choice, but there is just no way around that."); *id.* at 1198–99 ("[O]nly a local residential building contractor or appraiser is likely to have the detailed experience, information and expertise necessary to express an informed opinion on potential rebuilding costs in the event of a total loss in any specific area.").

²⁹⁶ See, e.g., *id.* at 1114 ("[I]t is the insured who has the greatest knowledge of what their property may or may not be worth.").

them more,”²⁹⁷ “it is the homeowner’s responsibility to select coverage,”²⁹⁸ “the estimate is no better than the information they told us about their home,”²⁹⁹ and “this all would have been fine (and usually is) but for the home being lost in a natural disaster causing a spike in costs.”³⁰⁰

In their paper *Read But Not Understood?*, Schwarcz, Cude, Logue, and Alcala comprehensively review the fictional foundation on which the “presumed read” doctrine rests.³⁰¹ Their work discusses the implications of the “no-reading” scholarship (finding that often homeowners never read their coverage clauses) to conclude that homeowners who do read coverage language do not understand it, to further conclude that the more confident a homeowner is that they do understand

²⁹⁷ See, e.g., *id.* at 163 (“[The insurer’s] estimated replacement cost based on the information collected is just that, only an estimate. The actual amount it will cost to replace a home cannot be known until after a loss has occurred. The decision regarding the limit applicable to Coverage A—Dwelling Protection is your decision to make, as long as you purchase at least the minimum limit [insurer] specifies and meet certain other requirements. Reducing your Coverage A—Dwelling Protection limit could reduce the premium amount you pay. Because this decision is yours to make, you may also want to consider increasing your coverage limit.”); *id.* at 1195 (“Broker-agents have no motivation to sell a lower amount of coverage than is needed to their customer. The implications that agents and insurers do anything less than try to work with the customer to meet their needs is a constant source of frustration felt by the industry.”).

²⁹⁸ See, e.g., *id.* at 1133 (“[I]t is the responsibility of the policyholder to make that decision, not just here, but in life in general, you have to be the informed consumer, the old caveat emptor concept.”); *id.* at 1198 (“Consumers are in a substantially better position than insurers or broker-agents to know . . . the value of what they own. It is for this reason that California case law long ago recognized the principle that the primary legal duty to select coverage limits falls upon the applicant for, or buyer of, insurance coverage.”).

²⁹⁹ See, e.g., *id.* at 469 (“You now complain that the coverage afforded by the policy is insufficient to rebuild the home. However, such is no fault of ours. At the time the policy was quoted, we used the construction price per square foot that was standard in the industry at the time for average construction in your area. We used the exact information you provided us concerning the home under your policy. We do not have the ability to alter coverage amounts once information is inputted into the system. While this is of little relevance in light of the fact you had never requested additional or increased coverage, it goes to show that we, as insurance agents, are not property appraisers or experts in the relevant construction costs in your area; our obligation is to procure the policy of insurance requested by you.”).

³⁰⁰ See, e.g., Spagat, *supra* note 148 (“You have such a demand surge in catastrophes like these that a contractor can charge \$300 (a square foot) when he charged \$150 the day before.”).

³⁰¹ See generally Schwarcz et al., *supra* note 77 (finding that providing consumers with policy excerpts frequently decreased understanding of the policy while increasing respondent confidence, such that the more certain homeowners were of their understanding, the more likely they were wrong); see also Kyle Logue, Daniel Schwarcz, & Brenda J. Cude, *The Value of Understandable Consumer Insurance Contracts*, 8 INT’L REV. FIN. CONSUMERS 1 (2023) (surveying existing literature on consumer comprehension of personal-lines insurance policies and proposing an empirical strategy for studying homeowners’ understanding of policy terms and coverage expectations).

the coverage clause the more likely they are wrong, and that the sophistication of the homeowner does not correlate to accurate comprehension.³⁰² Schwarcz and their co-authors recommend that courts cease unreflexively applying the “presumed read” doctrine.³⁰³

Schwarcz, Cude, Logue, and Alcala certainly are right. And adopting their proposal certainly will help. But it will still often leave legislators, regulators, and courts making decisions without considering the broader context and implications of an underinsurance crisis happening unnoticed in plain sight.

B. The Policy Responses Suggested by the Data

Market behaviors sometimes speak unmistakably. In the current regulatory, legislative, and jurisprudential landscape, it is unmistakable that it is in an insurer’s interest to maintain the status quo in pricing and selling Coverage A. The fact that no insurer is correcting POS RCEs and raising premiums is ample evidence that increased revenues in the form of capturing higher premiums and reducing litigation expenses does not outweigh the cumulative costs of lost business and higher average claims adjustments (either in settlement or judgment). If institutions regulating insurance do nothing, then *status quo ante* will be *status quo post*.

Thus far, this Article has untangled the misalignment of what the data describes on the one hand and what, on the other hand, institutions intuitively believe. Homeowners are buying insurance relying on the insurer to quote adequate coverage. Insurers are underquoting coverage most of the time and by a lot. Language in the quote or in the policy is not operating to disclose underinsurance to homeowners, nor giving homeowners the tools and information to do anything about it. And yet institutions are relying on policy language to leave homeowners holding the bag.

Given this situation, entire articles could be written about possible solutions, complete with an identification of a mosaic of pros and cons. Below is an overview of options.

The response could occur in courts. Courts could, considering the above-described data, apply no presumption that homeowners have read and understood their coverage language. The consequence would be that courts would stop treating underinsurance as a presumptively contract-allocated risk and instead treat it as a presumptively foreseeable (to the insurer) but undisclosed (to the homeowner) risk. This approach would reorder the mix of outcomes in litigation, but may not, to the satisfaction of regulators, legislators, insurers, or homeowners, reduce the frequency of litigation and the knock-on consequences on the

³⁰² Schwarcz et al., *supra* note 77 (manuscript at 3, 14, 28).

³⁰³ *Id.* (manuscript at 53–55).

adequacy, affordability, or availability of insurance.³⁰⁴

Alternatively, courts could stop treating policy language about estimates as arms-length negotiated contractual terms and instead evaluate such language as product warning labels (subject to an entire body of jurisprudence on the adequacy and efficacy of such labels).³⁰⁵ Again, this approach would reorder the mix of outcomes in litigation, but might not, reduce the frequency of litigation and the knock-on consequences on the adequacy, affordability, or availability of insurance.

The challenge to legislators and regulators is that changing the frequency of who wins and who loses in court matters to individual homeowners but is not systemic reform. Systemic reform happens at a statewide or federal level, and often through regulation and legislation.

³⁰⁴ This Article has been focused on adequacy. But a brief word must be said about availability and affordability. If an insurer is not operating profitably in a market, then the insurer has two possible responses—raise premium or reduce exposure. The most radical form of reducing exposure is to cease renewals. Either raising premium or reducing exposure will have obvious negative consequences on homeowners who are insureds of the insurer. But those will not be the only consumers suffering negative consequences. In a marketplace of fast-rising premiums, homeownership can become unattainable. *See* Fellowes-Granda et al., *supra* note 10. Simply put, underinsurance can reduce homeownership. *See* Biswas et al., *supra* note 183, at 18. Homeownership is legally favored and beneficial. *See generally* Nino C. Monea, *Legal Benefits of Homeownership*, 52 N.M. L. REV. 384 (2022) (cataloging the tax, tort, constitutional, and regulatory benefits that federal and state law confer on homeowners). The unattainability or loss of homeownership can have unanticipated consequences both on metrics of health and on metrics of racial justice. *See* Klein, *supra* note 14, at 726–27. Issues of property insurance affordability, adequacy, and availability should also impact the owners of multi-unit apartment buildings, and so predictably should result in fewer and more expensive apartments. As Biswas et al. document, homeowners paying off their loans rather than rebuilding is bad for banking. Biswas et al., *supra* note 183, at 18. And as the Board of Governors of the Federal Reserve note, gaps in homeowner insurance correlate to demographics including wealth, region, race, and whether the home is urban or rural. LORO ET AL., *supra* note 21, at 63, 67, 69. Indeed, an article in the Financial Times posits that rising insurance rates could trigger a financial crisis. Pilita Clark, *How the Next Financial Crisis Starts: The Climate Shocks that Could Trigger Wider Market Turmoil*, FIN. TIMES (June 25, 2025), <https://www.ft.com/content/9e5df375-650d-492e-ba51-fb5a34e6ddd6> [<https://perma.cc/46H3-3KMY>]. *See Nationwide Premiums*, AMS. FOR FIN. REFORM (2025), <https://ourfinancialsecurity.org/wp-content/uploads/2025/05/State-Insurance-Maps.pdf> [<https://perma.cc/RT86-D276>], for a useful tool tracking rising premiums.

³⁰⁵ *See* Daniel Schwarcz, *A Products Liability Theory for the Judicial Regulation of Insurance Policies*, 48 WM. & MARY L. REV. 1389, 1400 (2007); Jeffrey W. Stempel, *The Insurance Policy as Thing*, 44 TORT TRIAL & INS. PRAC. L.J. 813, 814, 816 (2009); Jeffrey W. Stempel, *The Insurance Policy as Social Instrument and Social Institution*, 51 WM. & MARY L. REV. 1489, 1491 (2010); *see also* Kenneth S. Klein, *When Enough is Not Enough: Correcting Market Inefficiencies in the Purchase and Sale of Residential Property Insurance*, 18 VA. J. SOC. POL'Y & L. 345, 377–82 (2011) (discussing the need to evaluate policy language in terms of product warning labels); Schwarcz et al., *supra* note 77 (manuscript at 53–55) (arguing for greater consumer protection in insurance litigation).

One systemic response is happening already in many states—they are trying to reduce the frequency of underinsurance by reducing the frequency of destroyed homes. This is done by promoting individual and community level resilience and mitigation.³⁰⁶ Yet research by RAND calls into question the “efficacy of relying on insurance to create incentives to mitigate the effects of natural and other hazards.”³⁰⁷ The most that can be known with confidence is that while the effort is worth taking, resilience and mitigation, either at the parcel or community level, are not a magic bullet. Recent work concluded, for example, that when fire gets into neighborhoods, trees and bushes are not the mechanism of the fire moving from home to home, and so trimming trees, clearing brush, and having clear margins around a house often won’t save a house.³⁰⁸ Similarly, if rising sea levels are high enough, nothing may save low-lying communities from hurricane and flood.³⁰⁹ Resilience and mitigation can help, but are not a solution in isolation.

If regulators and legislators accept the findings of this Article, then those findings point to ways to improve adequacy. One solution might be the approach that Colorado has taken. Under Colorado law, effective January 1, 2025:

Before issuance or renewal of a replacement-cost homeowner’s insurance policy whose dwelling limit is equal to or greater than the estimated replacement cost of the residence, the insurer shall make available to an applicant the opportunity to obtain extended replacement-cost coverage and law and ordinance coverage. At a minimum, the insurer shall offer law and

³⁰⁶ See, e.g., *Home Hardening Assistance*, CAL. WILDFIRE & FOREST RESILIENCE TASK FORCE, <https://wildfiretaskforce.org/home-hardening-assistance/> [<https://perma.cc/L2VD-NAVC>] (last visited Mar. 30, 2026); *STRENGTHEN ALA. HOMES*, <https://www.strengthenalabahomes.com/> [<https://perma.cc/3JTT-S7AG>] (last visited Mar. 30, 2026); Rita Vaughan Frost, *Using Community Hardening and Forest Resiliency to Mitigate Wildfire Harm*, NRDC (Feb. 1, 2024), <https://www.nrdc.org/bio/rita-frost/using-community-hardening-and-forest-resiliency-mitigate-wildfire-harm> [<https://perma.cc/FCW2-GFTW>]; Mohamed Abdelhafez, *Rising Seas: Challenges and Solutions for Coastal Communities*, COLO. STATE UNIV. (Apr. 16, 2024), <https://sustainability.colostate.edu/humannature/rising-seas-challenges-and-solutions-for-coastal-communities/> [<https://perma.cc/YZS2-TFBJ>].

³⁰⁷ LLOYD DIXON & JAMES M. ANDERSON, RAND, PUBLIC ATTITUDES TOWARD RISK-BASED PRICING AND RISK-SHARING IN INSURANCE 34 (2024), <http://www.rand.org/t/RRA2872-1> [<https://perma.cc/7JE5-ZUWN>].

³⁰⁸ See KIMIKO BARRETT, DAVID CALKIN, JACK COHEN, MARK FINNEY, STEPHEN PYNE & STEPHEN QUARLES, HEADWATERS ECONS., *REDEFINING THE URBAN WILDFIRE PROBLEM IN THE WEST* 19 (2024), https://headwaterseconomics.org/wp-content/uploads/2024/05/2024HE-Redefining_Urban_Western_Fires_FinalMay2024.pdf [<https://perma.cc/EDV2-33ES>] (“[D]ecades of wildfire research and post-fire analysis indicate the primary culprits of home loss during a wildfire are the much less conspicuous firebrands (embers) and low-intensity surface fires.”).

³⁰⁹ See generally JEFF GOODELL, *THE WATER WILL COME: RISING SEAS, SINKING CITIES, AND THE REMAKING OF THE CIVILIZED WORLD* (2017) (arguing that coastal communities face a choice between orderly retreat and eventual chaotic abandonment as sea-level rise accelerates).

ordinance coverage in an amount of insurance equal to twenty percent of the limit of the insurance for the dwelling and extended replacement-cost coverage in an amount of insurance that is at least fifty percent of the limit of the insurance for the dwelling. Information provided must be accompanied by an explanation of the purpose, terms, and cost of these coverages.³¹⁰

If the data this Article describes is predictive of Colorado's post-2024 experience, then on average, Colorado homeowners who have 50% ERC and 20% BCU may not experience underinsurance with heretofore historical frequency or depth. Colorado does not require homeowners to purchase additional coverages but anticipates that insurers will make disclosures encouraging them to do so, and that insurers will both write these disclosures clearly and place them prominently.³¹¹ Only time will tell whether Colorado's approach will result in homeowners buying these additional coverages. And in instances where underinsured homeowners did not opt for these additional coverages, there likely will be litigation about exactly what the insurer knew and what the insurer disclosed. But even with these caveats, the Colorado approach is a potentially effective one in ameliorating the ubiquity of profound, unintended underinsurance.

Another solution would be that legislators and/or regulators could use their regulatory powers to collect and make public facing within their jurisdictions each individual insurer's forensic experience with the adequacy of coverage of their insureds' destroyed homes. Once insurer-specific information is public facing, it will give plaintiff's attorneys all the necessary incentives to act as deputized attorneys general, suing any insurer who knew it was likely underinsuring a home but didn't disclose that to the homeowner. It may be that no one other than plaintiff's attorneys like litigation, but this would be merited—not frivolous—litigation pursuing insurers intransigently refusing to change how they use POS RCEs. One would hope that to avoid litigation, insurers would modify their behaviors.

Or regulators/legislators could take a *laissez faire* approach. Regulators and legislators could require insurers to provide a POS RCE in a P_R or P_E policy and allow insurers to calculate the POS RCE in any way the insurer wished, but by legislation or regulation deem the policy reformed to operate as a P_G policy if a destroyed home had inadequate coverage by more than a pre-determined percentage, such as 5% or 10%.³¹² However, this might not work, because re-insurers might not be willing to reinsure portfolios subject to automatic reformation into P_G policies. But if reinsurers still would reinsure, then adequacy would be solved, and first-party insurance underinsurance lawsuits would disappear.³¹³

³¹⁰ COLO. REV. STAT. § 10-4-110.8(6)(a)(I) (2025).

³¹¹ *Id.* § 10-4-110.8(6)(7).

³¹² Klein, *supra* note 49, at 109.

³¹³ One might wonder, isn't there a place for a free-market solution of a company that offered accurate POS RCEs for a fee? e2Value is such a company, and its lack of market

Finally, recent events have exposed another level of potential institutional responsibility and thus regulatory or litigation response to underinsurance. In February 2024, both Fannie Mae and Freddie Mac issued announcements making plain that mortgage lenders and servicers were expected to annually confirm that homes had P_R policies (as opposed to P_A policies) and operate on the assumption that P_R policies are full and adequate.³¹⁴ These announcements encountered lobbying resistance, and so were paused.³¹⁵ But if Fannie Mae and Freddie Mac did both adopt and enforce Selling and Servicing Guidelines unambiguously requiring that mortgaged properties be fully and adequately insured and that lenders and servicers are responsible for annually confirming that such insurance was in place, then one would expect underinsurance to quickly become a thing of the past.

Simply put, there are approaches that could re-order the insurance markets to enable insurers to offer adequate insurance profitably. The challenge of all these approaches, however, is affordability. It is impossible to simultaneously increase coverage, lower premium, and profitably operate a for-profit insurance company. The above approaches all would almost inevitably increase premiums. That any approach to resolving underinsurance will raise premiums frames the true challenge of homeownership and insurance in a time of climate change: current institutional responses place a priority on affordability over adequacy.

That inevitability creates a harsh choice for regulators who perceive lower-risk homeowners opposing price subsidization of higher-risk homeowners. Regulators'

penetration suggests this free-market solution isn't getting traction. See Klein, *supra* note 4, at 16 (finding "no evidence . . . that e2Value has made significant inroads into the market share dominance of Verisk and CoreLogic").

³¹⁴ *Selling and Servicing Notice Regarding Recent Clarifications of Lender and Servicer Responsibilities Related to Property Insurance*, FANNIE MAE (May 8, 2024), <https://singlefamily.fanniemae.com/media/39106/display> [<https://perma.cc/NSH3-T38L>] ("In February 2024, we issued *Selling Guide* Announcement SEL-2024-01 and *Servicing Guide* Announcement SVC-2024-01 to clarify various existing lender and servicer responsibilities related to monitoring and verifying property insurance coverage. The clarifications were made to long-standing policies in our Guides that are intended to ensure the borrower has sufficient property insurance coverage in the event of a loss."); *Selling Updates*, FREDDIE MAC (Feb. 7, 2024), <https://guide.freddiemac.com/app/guide/bulletin/2024-1> [<https://perma.cc/7DC8-LJEB>] ("Specifying that claims must be settled on a replacement cost basis and that insurance policies that provide for claims to be settled at actual cash value or limit, depreciate, reduce or otherwise settle losses for less than a replacement cost basis are not eligible. Specifying that the Seller/Servicer must verify the replacement cost value of the Mortgaged Premises as of the current insurance policy effective date and provide examples of acceptable replacement cost verification sources.").

³¹⁵ Danko & Merlino, *supra* note 45 ("In recent months, however, we have received feedback from industry participants about the ability of lenders and servicers to comply with our requirements to obtain a property's RCV. In an effort to be responsive to these concerns, on May 8, 2024, Fannie Mae and Freddie Mac issued a *Selling and Servicing Notice* and an *Industry Letter*, respectively, providing a temporary pause on the GSEs documenting non-compliance with these RCV policies.").

perceptions, however, may be inaccurate. Recent research by RAND finds, “many people are willing to pay considerable amounts to subsidize the insurance premiums of high-risk individuals,” because “many citizens view insurance as an institution that should spread risk.”³¹⁶

CONCLUSION

This Article analyzes an unprecedented dataset to address a series of profound questions about the likely frequency, depth, and cause of underinsurance among homes destroyed in the past, present, and future across the nation (even in the absence of a catastrophe): How many homeowners will be underinsured? How badly underinsured will they be? Why? Are only disaster victims likely underinsured? How much does disaster make underinsurance worse? What can courts, regulators, and legislators do about it?

The data suggests this is not a California problem, but a national problem, regardless of time or place. The data suggests this is not a wildfire problem, but rather a destroyed home problem, whether a one-off house fire in Texas or a hurricane-destroyed home in Florida.

All the above-delineated policy responses to underinsurance would almost certainly make insurance more expensive, with all the knock-on consequences that would entail. Insurers who cannot profitably sell insurance in a state will abandon the state. Do we best respond to rising premiums by enabling underinsurance and bearing the consequences of requiring full coverage, or by subsidizing coverage for those who can't afford it? There are no easy answers. But what these policy choices illustrate is that while underinsurance is pervasive and devastating, it is not inevitable.

³¹⁶ DIXON & ANDERSON, *supra* note 307, at 31 (finding that many Americans are willing to pay substantial amounts to subsidize high-risk individuals' insurance premiums and view insurance as a risk-spreading institution, contrary to the assumption of purely individualistic preferences); *id.* at 33 (“[L]ess than one-third of the population support rates that are fully risk-based.”).

APPENDIX A

The data from the first two PPE data calls describe that across years 2018–2021, among homes destroyed in a catastrophe, 64.48% were underinsured, and when underinsurance happened the average depth of underinsurance was 34.55% of Coverage A (or Coverage A + ERC, when pertinent), while across years 2018–2021, if the event was not a catastrophe, 43.73% of destroyed homes were underinsured, and when underinsurance happened the average depth of underinsurance was 26.61% of Coverage A (or Coverage A + ERC, when pertinent):

App. Table 1: Frequency and Average Depth of Underinsurance of Destroyed Homes in CAT Events, 1st and 2nd PPE Data Calls, 2018–2021

Year	<i>nTL</i> claims	<i>nTL</i> underinsured	% underinsured	Avg % underinsured
2018	7,132	4556	63.88%	32.81%
2019	68	36	52.94%	37.55%
2020	1,342	956	71.24%	39.97%
2021	374	201	53.74%	36.52%
TOTAL	8,916	5,749	64.48%	34.55%

App. Table 2: Frequency and Average Depth of Underinsurance of Destroyed Homes in non-CAT, 1st and 2nd PPE Data Calls, 2018–2021

Year	<i>nTL</i> claims	<i>nTL</i> underinsured	% underinsured	Avg % underinsured
2018	617	285	46.19%	13.60%
2019	422	155	36.73%	23.08%
2020	713	310	43.49%	26.28%
2021	722	332	45.98%	42.05%
TOTAL	2,474	1,082	43.73%	26.61%

APPENDIX B

Glossary of Terms and Acronyms

360Value	Verisk's POS RCE algorithm
ACV (P_A policy)	Actual Cash Value (an ACV policy only insures the depreciated value of a structure)
BCU	Building Code Upgrade (an endorsement for the happenstance that, because of changes in building ordinances or laws, the rebuilt home will require design aspects that were not part of the lost home)
C	Coverage amount of Coverage A
CADOI	California Department of Insurance
CAT	Claims arising in catastrophic circumstances (non-CAT are claims arising in non-catastrophic circumstances)
CFA	Consumer Federation of America
CODOI	Colorado Division of Insurance
Coverage A (Cov A)	Coverage for repairing or rebuilding a dwelling based on homeowner's POS RCE (in all but a GRC policy, Coverage A will only provide the necessary funds for repairing or rebuilding a damaged or destroyed home up to a coverage limit)
DO policies	Dwelling Owner-Occupied (DO) type policies, which cover 1–4 dwelling-units in which the owner lives in one or more units (e.g., ISO DP-1, 2, 3 or equivalent)
ERC (P_E policy)	Extended Replacement Coverage (an endorsement, which expands the available Coverage A by a stated percentage if the cost of reconstructing a home exceeds Coverage A limits)
FHFA	Federal Housing Finance Agency
GRC (P_G policy)	Guaranteed Replacement Cost (a destroyed home with GRC coverage will be reconstructed no matter the cost)
GSE	Government-Sponsored Enterprise
HO policies	Homeowners (HO) type policies, which cover 1–4 dwelling-units in which the owner lives in one or more units (e.g., ISO HO-1, 2, 3, 5, 8, or equivalent)
IL	Incurred loss
MSB	An acronym for Marshall & Smith/Boeckh, as well as the POS RCE it developed
<i>n</i>	Number

NAIC	National Association of Insurance Commissioners
NFIP	National Flood Insurance Program
PPE	Personal Property Experience
POS RCE	Point-of-sale reconstruction cost estimate to completely rebuild a home in the event of a total loss
RCV (P_R policy)	Replacement Cost Value (RCV coverage imposes upper limits on the coverage of dwelling reconstruction)
RCT Express	CoreLogic's POS RCE algorithm
TL	Total loss
UI\$	Total dollar amount of underinsurance
XACT EST	Post-loss replacement cost estimates to rebuild a home after a total loss
Xactimate	Verisk's algorithm for calculating XACT EST