[A broken system is keeping California homes underinsured. Millions have no idea they're at risk](https://uphelp.org/a-broken-system-is-keeping-california-homes-underinsured-millions-have-no-idea-theyre-at-risk/)

San Francisco Chronicle

Using faulty algorithms and flawed processes, the state's biggest insurance companies routinely underestimate what their clients will need to rebuild. For wildfire survivors, it's a gut punch at the worst possible time.

Mike Kubo had found only enough time to grab a few bags of dirty laundry when he and his family evacuated their home after hundreds of lightning bolts set the Santa Cruz Mountains ablaze.

Now, he was 20 miles away in the spare bedroom of his parents' mobile home with his wife, his daughter and their two cats. They huddled around Facebook on Kubo's laptop as a neighbor posted doorbell camera videos of the fire. Every few minutes, new footage appeared.

First, the fire swallowed homes across the road. Then flames engulfed the neighbor's white truck and yard.

Until that moment — on the night of Aug. 19, 2020 — Kubo had tried to convince himself that the fire would not reach his two-story Tudor house in rural Bonny Doon. But then the neighbor posted that his feed had gone dark.

"We were like, yeah, OK. That's it," Kubo said.

He and his family sat on the bed, crying.

One consoling thought reached him: At least he'd upped their insurance. Eventually, they would be made whole.

He was wrong. In the end, contractors would charge the Kubos $1.4 million to rebuild their home — roughly half a million dollars more than what their insurance would cover. The insurer, State Farm General, had vastly underestimated the cost of rebuilding when setting the coverage limit.

After every major California wildfire of the 21st century, families like the Kubos, who paid insurance companies for years, have learned that their policies wouldn't pay them enough to rebuild. This phenomenon, known as underinsurance, is typically attributed to inflation and the rapid surge in reconstruction costs following mass catastrophes.

But the primary driver of the problem is insurance companies' reliance on a fundamentally broken system to predict rebuilding costs, which leaves many fire victims without homes and slows the rebuilding of entire communities, a Chronicle investigation has found.

Most major insurers rely on software algorithms underpinned by faulty data to set coverage limits for their policyholders — despite knowing the tools routinely underestimate what their clients will need.

A critical element of virtually every homeowner's policy is the amount the insurer will pay to replace a destroyed home. This figure, called "Coverage A," is generally located in the first few pages of the contract. Insurers use complex algorithms called replacement cost estimators to come up with a coverage limit. Customers can ask for a higher dollar amount, but few have any idea if the figure will be adequate, and most simply accept the figure placed in their paperwork.

The leading estimator tool is 360Value, sold by the insurance analytics firm Verisk and used by insurers representing two-thirds of the U.S. market.

The Chronicle found that the data 360Value relies upon is frequently outdated and incomplete. Agents who use the tool rarely take the time to verify details. Thus, 360Value persistently understates the cost of rebuilding homes, often by hundreds of thousands of dollars.

At least four of California's largest home insurers — State Farm, Farmers Insurance Group, CSAA and USAA — have known for years about these critical gaps from lawsuits and government investigations. Yet all continue to use 360Value to set coverage limits for their policyholders, without telling customers of the program's known flaws.

USAA did not respond to repeated requests for comment. State Farm, Farmers and CSAA declined to be interviewed. Instead, they pointed the Chronicle to Rex Frazier, president of the Personal Insurance Federation of California, and Janet Ruiz, director of strategic communication for the Insurance Information Institute — both industry groups.

Frazier said the idea that insurance companies would intentionally act to underinsure their clients was "nonsense."

"It doesn't make sense that we would want to make less money on renewals and not pay claims," Ruiz said. "Our whole premise as an industry is to help our customers, pay our claims, make sure they get back to where they were before their loss."

In a written response to the Chronicle's questions, Verisk said the estimates its algorithm produces should not solely determine coverage limits but instead serve "as an advisory tool" for insurance underwriters. In a separate interview, Verisk executives said homeowners are ultimately responsible for choosing how much coverage to buy.

"I never use the word 'accurate,' because the reality is there are all these other variables," said Trish Hopkinson, Verisk's head of 360Value. "But with all the data that goes into this, I feel that the tool itself functions at the highest level. I think that's apparent by our market share."

That insurance companies would set inadequate coverage limits seems counterintuitive, because more coverage generally means higher premiums and higher revenue.

But it's not that simple. Customers, bombarded with advertisements featuring celebrities, oddball mascots and catchy slogans, have been told over and over by insurers that they should seek low prices and quick estimates. For the companies, offering a lower coverage limit means they can offer a lower price, attracting more customers.

Insurers' use of replacement cost estimators has led to widespread underinsurance among wildfire victims, said Amy Bach, executive director of United Policyholders, an insurance consumer advocacy group.

“The No. 1 factor is the calculations that get done at the point of sale not being accurate,” Bach told the Chronicle. “Insurers lowball what it’s going to cost to put a dwelling back, because they want to close the deal and sell the policy at a price the person can afford.”

Seeking to understand the role that replacement cost algorithms like 360Value play in underinsurance, the Chronicle reviewed thousands of pages of court and regulatory records.

These included a trove of employee depositions and corporate records filed in a lawsuit against Farmers, the second-largest home insurer in California. The documents show the company learned that its agents rarely corrected errors in 360Value’s data, which led the program to routinely underestimate rebuilding costs. But rather than fix its methods or switch to a different product, Farmers increased its reliance on 360Value, flaws and all.

Reporters also interviewed dozens of insurance and homebuilding professionals about the algorithm — and bought a subscription to 360Value. They found it often relies on inaccurate data on both the houses it analyzes and the price of labor and supplies.

The estimator algorithms treat a home like a box of Ikea furniture, attempting to pull apart exactly how many nails and doors are inside, the square footage of the flooring and the gallons of paint needed to cover walls and ceilings. By multiplying each component by its cost, the tools estimate what it would take to replace the entire structure. They’re easy to use, allowing agents to generate estimates in minutes without ever setting foot on the properties.

360Value draws from sources that contain outdated or misentered data, such as county assessor records , then automatically populates this data, or “prefills” it, into the forms insurance agents use while writing policies.

When data is missing, the algorithm makes an educated guess to fill the gap. An internal Verisk report from 2019 found that 360Value’s prefill data for a key home characteristic — foundation shape — was wrong half of the time. Verisk acknowledged that its tool was not consistently accurate, and was less reliable for high-value homes, which are common in California.

As wildfires become more frequent and severe, underinsurance is poised to devastate ever more homeowners. In Los Angeles, survivors of this year’s catastrophic Eaton and Palisades fires are learning that their insurance payouts will amount to far less than what they’ll need to rebuild.

“Some people are so drastically underinsured, it jumps off the page,” Dan Veroff, an attorney specializing in insurance law, said of the Los Angeles survivors who’ve contacted him since losing their homes.

No study or survey has determined the precise number of California homeowners who are underinsured.

But the problem’s vast reach is evident in communities that have burned. Regulators and consumer advocates have identified widespread underinsurance following wildfires not only in California but in Colorado, Texas, New Mexico and Washington state. Researchers in Colorado analyzed insurance claims data from a 2021 blaze near Boulder and found that three-quarters of the houses lost or damaged were underinsured.

Underinsured victims must tap their savings to rebuild, construct smaller or lower-quality homes, sell their lots and become renters, or leave their communities altogether.

Widespread underinsurance doesn’t just prevent individual homeowners from rebuilding — it stalls out recovery across whole communities.

Seven years after California’s deadliest wildfire, which killed 85 people and destroyed 11,000 homes in Paradise (Butte County), fewer than 2,800 have gone back up. As of last month in Santa Cruz County, residents had rebuilt only 144 homes out of the 700 that burned in the lightning fires of 2020.

In Grizzly Flats, a small mountain community in El Dorado County, a clear line separates where the Caldor Fire burned three years ago and where it didn’t. On one side are cul-de-sacs of homes surrounded by trees so thick you can’t see from one front door to the next. On the other are naked hills of iron-rich orange dirt, dotted with stark white trailer homes brought in by struggling residents. More than 400 houses burned, and fewer than 30 have been rebuilt.

“Many of those people will probably live in trailers the rest of their lives,” said Jennifer McKim-Hibbard, co-founder of the West Slope Foundation, a wildfire survivors’ advocacy group. After losing her home in the Caldor Fire, McKim-Hibbard found she didn’t have enough insurance to rebuild; she now rents a home in the area with her husband and two boys.

In the charred half of Grizzly Flats, one of the few replaced homes belongs to Linda and Richard Salazar, a couple who purchased $341,000 in fire insurance coverage based on the recommendation of their Farmers agent. After a contractor said it would cost over $548,000 to rebuild, they settled on replacing their home with a manufactured, or prefab, unit.

It's a far cry from what they once had. Cracks blemish the ceilings and the kitchen tiles, and rodents have infested the house through gaps under the sink. The shower has no bar for Richard, an 81-year-old Vietnam War veteran, to hold for support. After they moved in, a sewage leak left gallons of waste rotting beneath their floor.

"We'd expect after losing our home in a fire, we'd get insurance money, we'd recoup, we'd go on with life," Richard said. "But we're still dealing with this. The Caldor Fire isn't over yet, because we're still getting burned."

The software programs behind California's underinsurance crisis were originally marketed as solutions to underinsurance.

With the rise of personal computers and the internet in the 1990s, insurance companies began adopting what they called total-component cost estimation algorithms. Insurers had used imprecise methods to estimate rebuilding costs since the 1970s — simple formulas based on the number of rooms or a home's square footage, calculated by agents or homeowners using rudimentary mathematical tables.

Component-cost algorithms promised to be more sophisticated. Pioneered by Marshall & Swift/Boeckh, a construction analytics company, the algorithms combined data about a home's characteristics and the price of materials and labor to approximate the cost to rebuild the exact house.

The tools were revolutionary, Peter Wells, the inventor of the technology, told the Chronicle. They accounted for details a simple square footage or room calculation could not — like the increased cost of building on a slope, said Wells, who was Marshall & Swift/Boeckh's president until his retirement in 2010.

"You could actually identify salient characteristics of properties and then price those in a computer almost instantly," he said. "That had never been done before."

Marshall & Swift/Boeckh built a database of 55 million U.S. homes by calling and quizzing tens of millions of people. What kind of roofs did they have? Were their exterior walls brick or stucco? Wells said the survey took up to 10 minutes per home, then the algorithm combined that information with research about building costs in different locales.

But for the tools to work, Wells said, insurers had to want them to be accurate. He got the sense they didn't always prioritize that. Sometimes, Wells said, insurers complained the estimates were too high and pressured him to remove certain costs, such as for below-ground work, from the estimator.

"People would come and say, 'We can be more competitive if we get these costs out, 'cause we'll have a lower cost,'" Wells recalled.

Lower coverage limits allow insurers to offer lower prices, which is the primary way insurance companies attract new customers, said Jay Feinman, a professor emeritus at Rutgers Law School and author of "Delay, Deny, Defend: Why Insurance Companies Don't Pay Claims and What You Can Do About It."

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.

After all, the only customers who approached their policy limits were those whose homes were totally destroyed. Such total losses were once exceedingly rare.

But that has changed.

In 2003, a hunter lost in a forest east of San Diego lit a signal fire. The resulting runaway blaze ignited thousands of acres within hours, breaching city limits. What would become known as the Cedar Fire and several other Southern California wildfires collectively consumed more than 3,700 homes that year.

Survivors soon confronted a second disaster: Hundreds were underinsured. Fifteen months after the fire, just 10% of destroyed homes in unincorporated San Diego County had been rebuilt.

Over the next two decades, a swirl of factors including climate change, drought and failures by power companies worsened California's infernos. Eighteen of the 20 most destructive fires in state history have occurred since 2003, destroying roughly 63,000 homes, businesses and other structures.

Profound levels of underinsurance now surface after nearly every major blaze. From 2007 to 2020, the consumer advocacy group United Policyholders collected post-disaster surveys, finding that anywhere from 42% to 66% of survivors who responded said they were underinsured.

Since 2003, people with homes ruined by fires have submitted 888 underinsurance-related complaints to the California Department of Insurance . This number doesn't capture the severity of underinsurance, said Bach, because the vast majority of people grappling with the problem do not formally complain.

Partially in response to these complaints, the department launched a series of investigations into how major insurers handled claims following the wildfires of 2015 and 2017. Regulators found that three — State Farm, CSAA and USAA — used 360Value in a manner that directly caused steep underinsurance for wildfire survivors.

State Farm and CSAA are two of the three largest home insurers in California. USAA is the sixth largest. Another department investigation into Farmers is pending. Together, these insurers represent 40% of policyholders in the state.

In one case examined by regulators, after State Farm used an early version of 360Value to recalculate a homeowner's coverage in 2010, her policy limit dropped by almost half. Five years later, when the woman lost her home in the Butte Fire, she was underinsured by $174,000.

In another case, the department said, a State Farm agent ran 360Value 26 times on a home over several years, erroneously lowering the home's quality grade to generate a lower rebuild estimate. The policyholder ended up underinsured by $86,000, or nearly 25%.

And when a CSAA policyholder lost her home in a wildfire just four months after her agent set her policy limit with 360Value, the insurer's own claims process found she was underinsured by 76%.

In response to these investigations, the insurers promised to pay back customers and make changes to their policies. But none discontinued their use of the tools. And despite recognizing the problem, California remained blind to its size. To this day, the state insurance department has not comprehensively studied how many homeowners are underinsured.

To gain a sense of the scale, it may want to look to Colorado.

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Underinsurance rates after the 2021 Marshall Fire in Colorado
Number of policies at different levels of insurance adequacy, as calculated by dividing coverage limit by rebuilding cost

Hopkinson, the head of 360Value, called the Marshall Fire the "perfect storm" in her interview with the Chronicle. She blamed the widespread underinsurance on rising construction costs in 2020 and 2021 spurred by the COVID-19 pandemic, on top of demand surge .

But the researchers' findings challenged this. Nine in 10 homeowners in their dataset had bought extended replacement coverage, which is designed to counter demand surge. Nonetheless, the vast majority of these homeowners were underinsured following the fire. And even in early 2021, before construction costs soared, the researchers found three-quarters of the homeowners had estimates that were too low to rebuild.

Tony Cookson, a co-author of the study, said his team looked into the role of 360Value and other algorithms in underinsurance, but didn't explore it in depth.

"Basically, all these products produce numbers that are too low," Cookson said. "There is a pretty systematic bias."

'Garbage in, garbage out'
Verisk Analytics, a $42 billion insurance data conglomerate based in New Jersey, introduced 360Value in 2007. It was a combination of two cost estimator algorithms that Verisk had purchased.

To gain a competitive edge against Marshall & Swift/Boeckh's then-leading estimator, Verisk advertised the tool's access to a massive database of "real-world claims," which the company said would enable 360Value to "improve property valuation" across the industry.

The sales pitch worked. Farmers began using the tool to set policy limits in 2008. State Farm followed in 2010. 360Value was soon performing more than a million valuations a month. Today, Verisk advertises it as "the most widely used reconstruction cost estimator in the United States."

It takes no specialized training to use 360Value, according to its training materials. Anyone can buy a subscription and log on through a web browser. At a minimum, users input three details to create an estimate: a home's address, the year it was built and its square footage.

360Value's prefill function vastly increases the number of estimates agents can run each day. However, those estimates are only as good as the data itself. When even one or two fields are incorrect, those errors can cause large fluctuations.

For example, if county assessor records are outdated and don't account for a recent remodel, the tool will underestimate the reconstruction cost. Or if the algorithm guesses the house is one story when it's actually two, the rest of its calculations will be off.

Publicly, Verisk promotes its prefill data as “reliable” and a means to help “insurers overcome the barriers to gathering accurate information.” Yet Verisk has never published an in-depth study on the reliability of its prefill or pricing data. The company told the Chronicle such studies exist, but refused to provide them, saying they are proprietary.

A 2019 memo that Verisk prepared for Farmers, reviewed by the Chronicle, detailed findings from its analysis of 360Value’s performance on nearly 213,000 destroyed homes across the U.S. and Canada.

Verisk had examined the accuracy of one prefill characteristic, foundation shape. For homes in the sample under 2,500 square feet, 360Value’s foundation shape information was wrong half of the time. The company acknowledged in the memo that agents rarely altered 360Value’s prefilled data.

In the same document, Verisk warned Farmers that its prefilled data produced “greater variance” for houses valued at $640,000 or more. That would include many homes in California: At the time, the average home in California was valued at over $540,000, according to Zillow.

Asked about this document, a Verisk spokesperson said that 360Value had since improved. She said that, because the report was from 2019 and part of a “client conversation,” it would be “misleading” to highlight in this story without more context. She did not provide additional context.

Kubo, the Bonny Doon homeowner, was given three rebuild estimates after he bought his home in 2016. At first, his State Farm agent recommended a policy with $475,000 in coverage for the family’s 2,500-square-foot home built in the 1970s — $190 per square foot.

An astrobiology researcher at NASA, Kubo was hardly an expert in building homes. But the number felt like “a joke,” he recalled. So he asked his agent to rerun the estimate. This time, the agent came back with $535,000.

The number still felt low to Kubo, who called his agent again: “Are you sure you don’t want to bring somebody out here to inspect the house?” he remembers asking. The agent declined, assuring him that the amount he’d quoted would be plenty, Kubo said.

“It was good to go over these items,” Kubo emailed the agent afterward, “and to be reassured that, for the most part, our coverages are adequate.”

They still weren’t. Not even close. While his agent had, in the intervening years, bumped up his limit to $640,000, his State Farm policy ultimately left him hundreds of thousands of dollars short.

The home the Kubos rebuilt isn’t identical to the one they lost. It’s slightly larger, but lacks the redwood beams that lined the ceilings of the 1970s Tudor and the stained glass windows that the fire melted into rainbow puddles.

To pay the construction costs his State Farm policy wouldn’t, Kubo said, he and his wife took out a million-dollar mortgage and drained their savings. Kubo, 48, believes they will be in debt until at least their 70s.

“We’re in for another 30 years of mortgage,” he said. “It’s going to set back our ability to retire. And we are the lucky ones.”

Kubo doesn’t recall receiving his 360Value estimate when he bought his policy, or even being told it existed. However, at the Chronicle’s request, Kubo obtained a copy of the 360Value report for his newly built home, generated by his current State Farm agent last July. The report estimated his replacement cost at $902,000 — over half a million dollars less than what he’d actually paid to build it.

Kubo found that this newer report was riddled with errors, including misstating the home’s square footage and fireplace type. Those matched the house that burned down.

State Farm did not answer specific questions about Kubo’s case. In a written statement, a spokesperson said, “State Farm agents can assist customers with estimating the replacement cost of their home when purchasing a policy” and during regular policy reviews.

State Farm also argued it does not set coverage limits in any of the homeowner policies it writes. “The coverage chosen is ultimately the customer’s choice,” the company said.

But customers like Kubo face another complication. Even when 360Value’s prefill information is accurate, or corrected by an agent, the pricing data it taps is often skewed, meaning its estimates will still lowball the current construction rates, building contractors and public adjusters across the state told the Chronicle.

Matt Everson, a contractor in Sonoma County who helped families rebuild after the 2017 Tubbs Fire, said that when he creates his own rebuild estimates for clients, they are typically 30 to 50% higher than 360Value's. The tool's labor prices are well below California's sky-high rates, Everson said.

Hopkinson, the 360Value head, said Verisk collects data from 50,000 providers of materials, equipment and labor, while surveying contractors across the country. It then combines that information with actual receipts from past claims.

"We're trying to provide the most objective analysis of all these millions of data points that we look at on a monthly basis," she said.

And yet, a provision buried in Verisk's user licensing agreement makes clear the company does not guarantee reliable results.

"We do not warrant the accuracy of pricing information in the price data," it cautions, advising that its data is intended "for informational purposes only" and that it should only be used as a "baseline or place to begin creation of an estimate."

Insurance agents and industry representatives interviewed by the Chronicle said it's true that homeowners can play a role in their own underinsurance. Many might choose a policy based on the lowest premium, without paying attention to the coverage limit, or not update their insurer about changes they make to their home.

But even if a customer is less knowledgeable about their home's details, a diligent agent should be able to control for that by asking additional questions and making sure all of the information is accurate, Ruth Stroup, a retired Farmers agent, told the Chronicle.

"All these systems have a garbage in, garbage out component to them," Stroup said. "The more accurate the information, the better the estimate."

Few homeowners knowingly underinsure themselves, Bach said. In fact, California insurance department reports show that, as of 2021, 90% of homeowners had paid for extended replacement cost coverage, the provision that provides extra coverage on top of policy limits.

“Why would you risk your largest asset for a couple hundred bucks?” Bach said. “You wouldn’t.”

What Farmers knew
Some wildfire survivors go to court when they learn they’re underinsured, suing in a bid to be made whole. When they do, confidential settlements and court orders typically follow, keeping sensitive corporate documents out of sight. Home insurers have largely been able to conceal how they use 360Value.

But in one recent civil suit, Farmers missed a deadline to seal records. Thousands of pages quietly passed into the public record.

The documents provide a rare inside view of Farmers’ practices, showing the company knew for years that its use of 360Value led to underinsurance among wildfire victims and did little to fix the problem. Moreover, the company directed agents to use 360Value in ways that made estimates less accurate.

The case involved a couple who in November 2018 lost their home to the Woolsey Fire that tore through Agoura Hills, a tree-lined city bordering the Santa Monica Mountains in Los Angeles County. After filing a claim with Farmers, the couple realized their 360Value-generated policy fell short: It had estimated that their 1,000-square-foot home would cost $239,000 to rebuild, less than half of the $500,000 quoted by an independent expert.

The couple sued Farmers, seeking class-action status while accusing the company of deliberately underinsuring homes through “a systematic and pervasive ‘360Value scheme,’” according to court filings.

Farmers had started running 360Value estimates on policies for high-value homes in 2008, then expanded to “main street” homes in 2011. The company later shifted all of its existing homeowner’s policies to 360Value estimates.

According to the records that emerged in the Woolsey Fire case, it didn’t take long for Farmers to encounter problems. In 2015, Jon Vardaman, a member of the company’s risk management team, shared a worrying report with colleagues.

Vardaman’s team had noticed that 360Value’s reconstruction cost estimates were often significantly lower than quotes generated by another Verisk software program that Farmers' adjusters used to estimate rebuild costs after a house had been destroyed. The tools drew from the same data and should have yielded nearly identical results. But that wasn't happening.

A big part of the problem, Vardaman's report found, was that Farmers agents relied almost entirely on prefilled data for 360Value. Nine characteristics had the greatest impact on a 360Value estimate's accuracy, and Farmers used prefilled data for four of them: square footage, the year a home was built, the overall "quality grade" of the home and the percentage of the basement that was finished.

The problems went further. Vardaman's team found instances in which agents had deliberately manipulated the tool to lower homes' quality grades, which his colleague pointed out could be motivated by the "temptation … to service their customer with a price that may be too low."

Farmers did not direct its agents to take greater care with their 360Value estimates. Instead, three months after Vardaman shared his report, the company dramatically increased its reliance on the faulty prefill data. Agents had been required to manually enter information about a home for 17 fields. Farmers cut it to two.

"This will significantly reduce the time it takes to create an estimate," the insurer's internal directive read. "You are still required to confirm the accuracy of prefill and assumptive data with the customer and when you inspect the home."

As of 2022, Farmers agents were not generally required to conduct interior home inspections before issuing policies, and in most cases did not, records show.

Two years after Vardaman issued his report, in March 2017, his colleague, Michael Cleveland, emailed Verisk a list of Farmers policyholders whose homes had been destroyed.

"Claims believes all but one are underinsured," Cleveland wrote, referring to Farmers' claims team, a group of experts who assess damage. "What should (we) do to prevent the problem in the future?"

Inaccuracies continued to skew 360Value's calculations, Cleveland wrote. Farmers and Verisk employees had identified multiple features that were "frequently incorrect" in the data, but that agents rarely checked.

Cleveland and Vardaman met with other Farmers employees to discuss their analysis. But in November 2017, one month after a wildfire burned entire neighborhoods in and around Santa Rosa, Vardaman and Cleveland emailed their team to say that the review — which they called the “360 total loss valuation project” — needed to stop.

“Mike advised that recently there was some class action litigation around this subject, so he felt it best not to continue the discussion,” Vardaman wrote. Cleveland added that customer complaints had “start(ed) coming in” via state regulators.

“We don’t want to do any independent reviews,” he wrote, “until further notice.”

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