**Does moratorium on non-renewals of fire insurance impact insurance premiums:**

**Zip-code level evidence from California**

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Abstract

Wildfire incidences and the consequent withdrawal of residential insurance offerings by multiple insurance companies from across California preceded state-mandated insurance cancellation and non-renewal moratoria in certain zip-codes deemed to be prone to wildfire risk. Employing the moratorium information and annual reports on fire-insurance claims, the current paper attempts to estimate the impact of the moratorium on changes in insurance premium at the zip-code level. Within samples of zip-codes that encountered claims from fire damage, a treatment status is assigned to locations that had the moratorium in effect. Subsequently, a generalized difference-in-difference model is used to provide suggestive evidence of the average treatment effect of the moratoria on insurance premiums, controlling for time and place fixed effects. The study provides evidence that, among multiple policies, policies related to owner-occupied non-catastrophic structural fire damage may be associated with higher premiums in locations that had the moratorium in place, relative to those that did not.

Introduction

According to the Reuters, [7 of the 10 largest](https://www.reuters.com/graphics/CALIFORNIA-WILDFIRES/gdpzyjxmovw/) wildfires in California happened after 2017. Unexpectedly, the last few years has also seen [withdrawal](https://fortune.com/2023/10/31/four-insurers-leave-california-wildfire-risk-allstate-state-farm/) of multiple insurance companies from their California markets owing to the heavy losses from fire damage incurred by buyers of home-insurance. Consequently, the Insurance Commissioner at the Department of Insurance authored a bill to protect buyers of residential insurance. This important consumer protection law requires a mandatory one-year moratorium on insurance companies cancelling or non-renewing residential insurance policies in certain areas within or adjacent to a fire perimeter after a declared state of emergency is issued by the Governor. Following a Governor declaration of a state of emergency, the Department of Insurance partners with CAL-FIRE and the Governor’s Office of Emergency Services to identify wildfire perimeters and adjacent ZIP codes within the mandatory moratorium areas. The protection from cancellation or non-renewal lasts for one year from the date of the Governor’s emergency declaration. Each year starting 2010, multiple emergency declarations precede [one-year moratoria](https://www.insurance.ca.gov/01-consumers/140-catastrophes/MandatoryOneYearMoratoriumNonRenewals.cfm) protections that apply to all residential policyholders within the affected areas who suffer less than a total loss, including those who suffer no loss.

In terms of insurance information, the law requires the California Department of Insurance to collect data from admitted insurers with $10 million or more of California written premium to help address availability and affordability issues in the homeowners’ insurance market because of wildfires. The Department has been updating the dataset to include aggregate wildfire loss data from 2018, 2019, 2020, and 2021 including data on fire- or wildfire-incurred losses, reported by property coverage category and the date of the loss, premium and ZIP Code. Using an intersection of the insurance data and the moratorium data, the current paper attempts to investigate the impact of the insurance non-renewal moratorium on annual non-renewal outcomes, and in changes to annual insurance earned premiums. The analysis on earned premiums are subject to subsamples (of the total data) that had fire-related or smoke-related damage claims made at any time observed in the sample.

There could be multiple forces at play in this story. Among locations that have observed fire or smoke-related insurance claims, the inability of insurance companies to cancel or not renew their residential policies might lead to a higher premium for their customers relative to locations that did not have the mandate on non-renewals. However, the insurance companies may have foreseen this mandate and dropped the policies held by consumers in fire-prone areas before the mandate went into effect leading to a reduction in premiums. This same outcome might have resulted from a spill-over effect to insurance companies noticing the mandates being implemented in neighboring regions. With the annual data at hand, it is difficult to evaluate and differentiate between these mechanisms to conclusively say which one had larger role to play, since the moratoria was adopted in a staggered manner over multiple months in 2020. However, an analysis of an approximately accurate period of moratorium on places that did have fire-damage related claims made can help provide an overview of the final direction in which the insurance premium moved in places that had the moratorium in effect, as opposed to those that did not. This result can inform policymakers of the unintended short-term or long-term consequences of such moratoria.

To explore these questions, the current paper creates a novel panel of 2 sample universes using the data from the insurance reports and the moratorium information collected by the California Department of insurance. Both panels have annual data on some zip-codes that were under the moratorium starting 2019 and a larger set of locations that never adopted the moratorium. The panels consist of zip-code level moratorium status, new insurance uptake, insurance renewal numbers, insurer-initiated and insured-initiated non-renewal numbers across the years. They also consist of zip-code level annual earned premiums, losses and claims made for catastrophic and non-catastrophic fire damage to structures and properties for homeowners (HO), owner-owned dwellings (DO), tenant-owned dwellings (DT) and renters/tenants (RT). While one of the samples have the moratorium in effect in 2019 and 2020 (in a 3-year panel starting 2018), the other one has the moratorium in effect in from 2019 all through 2021 (in a 4-year panel ending 2021). While the 3-year panel shows the effect of moratoria on non-renewals when it is in effect for only 2 years, the 4-year panel helps investigate longer-term impacts of the moratorium.

The first step of the empirical analyses involves identifying individual subsets of zip-codes that have observed at least one claim from the many different types of fire-damage related policy claims made. Then, within each of these sub-samples, the model assigns a treatment status to those zip-codes that had the moratorium on insurance non-renewals in effect and a control status to those zip-codes that did not have the moratorium in effect. The model specifications used in both the sample universes include location and time fixed effects to elicit the relationship between changes in insurance premium and moratorium status controlling for idiosyncratic geographic and time-based patterns. The first set of results from each panel explores the impact controlling for city and year fixed effects while the next set of results include zip-code and year fixed effects. The model with zip-code and year fixed effects is, in this case, a generalized difference-in-difference model or more commonly, the two-way fixed effects (TWFE) model. The primary results in the TWFE model identify the average treatment effect on the treated zip-codes in terms of the extent to which the moratorium impacted the earned premium, in locations that suffered some type of fire damage.

A limitation of the data is the absence of monthly moratorium adoption and outcome variation. So, as the study depends on annual approximations of the monthly treatment adoption, in the absence of more granular data on treatment status, only suggestive evidence can be provided on how the moratorium affects insurance premium. The rest of the study builds on this suggestive evidence while attempting to control for as much of the time and location level variation as possible, with the data drawback in effect. While non-renewal of fire insurance protects consumers from large-scale costs related to fire damage, evidence on how moratorium on non-renewals, in locations that observe fire incidences, may help identify costs that are borne by consumers in terms of higher premiums. Consequently, a possible policy prescription from the study may be in exercising caution when mandating a non-renewal of insurance, or even in focusing on the type of policies that are covered by the moratorium.

Data:

The insurance data is derived from the Wildfire-Risk-Information-by-PPC-Score-Residential-and-Personal-Property-Coverage-Amounts-and-Losses-by-ZIP-Code for 2018-2021, available from the California Department of Insurance. From a total of 82 individual admitted companies submitted data in 2022 for experience years 2020 and/or 2021. From the total of 82 insurers in 2022, about 68% of the home-owners insurance market provided a public protection classification (PPC) code. For experience years 2018 and/or 2019, 76 insurers provided relevant data in 2020. Of these 76 insurers, 43 insurers provided both PPC and fire risk classification. In 2020, the fire risk classification and PPC code were reported together. The earned premiums from this subset of insurers represents about 49% of the homeowner’s insurance market. The total premiums earned by these admitted insurers for all experience years, represent approximately 99% of the NAIC Line 04 (Homeowners) insurance market.

Sample 1 consists of data from 2018-2020 and sample 2 consists of data from 2018-2021. From this point onwards, the paper refers to panel-1 as “short panel” and panel-2 as “long panel”. The short panel consists of a total of 643 zip-codes out of which 109 have the moratorium in place in 2019 through 2020 and 534 zip-codes that never have the moratorium. The long panel consists of a total of 464 zip-codes out of which 56 have the moratorium in place in 2019 through 2021 and 406 zip-codes that never have the moratorium.

All counties that adopted the moratorium in a staggered fashion in 2020 and 2021 have been ignored for a simpler and cleaner difference-in-difference structure. Note that for each of the regression models discussed in the paper, a subsequent subsample of these panels is used based on zip-codes that encountered fire-damage in any of the years under observation. This ensures that the analysis correctly identifies the effect of moratorium only within the set of locations that had positive fire-insurance claims/losses associated with them. As such, all the regression results that follow specify the subsets of the samples applicable for that model.

The 2 panels include information on the zip-code level moratorium status, new insurance uptake, insurance renewal numbers, insurer-initiated and insured-initiated non-renewal numbers across the years from the California Department of Insurance Policy Count Data Fact Sheet from 2015-2021. The average (with standard deviations in brackets) values of these metrics for Panel 1 are listed below:

Table 1: Short panel – New insurance and renewals by control and treatment counties

|  |  |  |
| --- | --- | --- |
|  | **Among zip codes that did not have moratorium in place** | **Among zip codes that had moratorium in place** |
|  | *2018* | *2019* | *2020* | *2018* | *2019* | *2020* |
|  |  |  |  |  |  |  |
| **New Insurance** | 1007.46(573.00) | 1084.83(624.72) | 1062.78(615.14) | 899.91(610.4) | 1041.44(704.44) | 944.55(624.02) |
|  |  |  |  |  |  |  |
| **Renewals** | 7650.70(3652.53) | 7690.30(3684.92) | 7750.18(3718.09) | 6619.10(4109.76) | 6590.25(4127.19) | 6722.80(4163.37) |
|  |  |  |  |  |  |  |
| **Insured-initiated non-renewals**  | 773.88(442.53) | 805.92(448.25) | 820.03(469.73) | 677.75(456.23) | 707.04(472.73) | 717.72(470.15) |
|  |  |  |  |  |  |  |
| **Insurer-initiated non-renewals** | 161.83(89.62) | 198.00(157.16) | 168.25(110.87) | 163.45(119.70) | 266.96(227.49) | 174.21(130.22) |

The insurance premium data has multiple levels of sub-categories, and the following list summarizes each sub-category and their dedicated 6-7 characters encoding an alphabetic acronym to help refer to specific insurance policy categories throughout the rest of the paper. The list is followed by a chart that shows the entire set of

1. Hierarchy Level 1: The following categories belong to the first hierarchy level by which the data is organized. These are dwelling -based policy types.
	1. Homeowner’s (HO) type policies 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).

Acronym: HO-\_-\_-\_

* 1. Dwelling Fire Owner-Occupied (DO) type policies cover 1-4 dwelling-units in which the owner lives in one or more units (e.g., ISO DP-1, 2, 3 or equivalent).

Acronym: DO-\_-\_-\_

* 1. Dwelling Fire Tenant-Occupied (DT) type policies cover 1-4 dwelling-units that are rented to a tenant for a whole or part of a year (e.g., ISO DP-1, 2, 3 or equivalent).

Acronym: DT-\_-\_-\_

* 1. Renter's/Tenant's (RT) type policies, which cover the personal property of persons renting or leasing apartments, condominium-units, or dwelling-units (e.g., ISO HO-4 or equivalent).
1. Hierarchy Level 2: Each policy type from hierarchy level 1 is subdivided into the following fire catastrophe groups:
	1. Fire catastrophe: An event that causes $24 million or more in insured losses to many policyholders.

Acronym: \_\_-C-\_-\_

* 1. Fire non-catastrophe: remaining losses not designated as Fire Catastrophe losses are coded as Fire Non-Catastrophe losses.

Acronym: \_\_-NC-\_-\_

1. Hierarchy Level 3: Each fire catastrophe group is further subdivided into what type of damage is covered:
	1. Coverage A covers damage to the structure of the dwelling-unit, excluding any additional structure coverage (e.g., extended replacement cost coverage or other structures).

Acronym: \_\_-\_-A-\_

* 1. Coverage C covers damage or loss of personal property, excluding any additional contents coverage (e.g., additional coverage for specific valuables such as jewelry or furs).

Acronym: \_\_-\_-C-\_

1. Hierarchy Level 4: Each type of damage coverage category is subdivided into the cause of loss:
	1. Fire. Acronym: \_\_-\_-\_-F
	2. Smoke. Acronym: \_\_-\_-\_-S

Each cause type then reports the exact incurred loss and claim counts across policy forms and calendar years. The outcomes of interest are the zip-code level total earned premium (amount of premium earned for the policy) values reported by the insurance companies for home-owner’s policies, dwelling-fire owner-occupied policies and dwelling-fire tenant occupied policies.

The full pool of data can be visualized based on the following hierarchical chart which also include subset acronyms.

The following table reports the zip-code level average (with standard deviations in brackets, of) earned premium, average coverage A and C amounts over the years and the number of treated and control zip-codes for each policy category.

Table 2: Short Panel – Summary statistics of policy outcomes by pre-moratorium and post-moratorium periods

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Outcomes |  | Homeowner’s policy | Dwelling Fire Owner-Occupied Policy | Dwelling Fire Tenant-Occupied Policies |
| Mean Earned Premium(in $) | Pre-moratorium (2018) | 2915566(2142648.91) | 112714(180692.74) | 421191(282350.04) |
| Post-moratorium | 4219930(3221996.62) | 162515(346525.66) | 662790(459703.57) |
| Average Coverage A(in $) | Pre-moratorium (2018) | 458539(319007.92) | 358372(139607.86) | 336855(100111.37) |
| Post-moratorium | 490136(321666.86) | 394475(161829.55) | 371864(116083.87) |
| Average Coverage C(in $) | Pre-moratorium (2018) | 294767(152702.10) | 46696(32056.08) | 11155(5158.15) |
| Post-moratorium | 311446(159757.20) | 51876(35497.55) | 10988(5657.15) |
|  |
| Table 3: Short Panel – Fire-damage category-based sample sizes and treatment based sub-sample sizes |
| *Number of zip codes that had claims made sub grouped by those that had moratorium in place and those that did not* |
| Insurance Policy Type |  | **Homeowner’s policy** | **Dwelling Fire Owner-Occupied Policy** | **Dwelling Fire Tenant-Occupied Policies** |
|  | Total | 643 | 643 | 643 |
| Any Coverage A or C claims  | No moratoriumMoratorium | 534109 | 534109 | 534109 |
| Non-Catastrophic Coverage A Fire | Total | 620 | 147 | 295 |
| No Moratorium | 534 | 108 | 260 |
| Moratorium | 86 | 39 | 35 |
| Non-Catastrophic Coverage A Smoke | Total | 120 | 4 | 18 |
| No Moratorium | 85 | 4 | 16 |
| Moratorium | 35 | 0 | 2 |
| Non-Catastrophic Coverage C Fire | Total | 547 | 83 | 112 |
| No Moratorium | 469 | 62 | 99 |
| Moratorium | 78 | 21 | 13 |
| Non-Catastrophic Coverage C Smoke | Total | 79 | 2 | 3 |
| No Moratorium | 56 | 2 | 3 |
| Moratorium | 23 | 1 | 0 |
| Catastrophic Coverage A Fire | Total | 90 | 27 | 43 |
| No Moratorium | 47 | 7 | 26 |
| Moratorium | 43 | 20 | 17 |
| Catastrophic Coverage A Smoke | Total | 59 | 25 | 30 |
| No Moratorium | 22 | 6 | 10 |
| Moratorium | 37 | 19 | 20 |
| Catastrophic Coverage C Fire | Total | 71 | 19 | 15 |
| No Moratorium | 35 | 4 | 6 |
| Moratorium | 36 | 15 | 9 |
| Catastrophic Coverage C Smoke | Total | 33 | 5 | 0 |
| No Moratorium | 7 | 0 | - |
| Moratorium | 26 | 5 | - |

Given the small number of zip-codes corresponding to some of the above policy categories, the paper excludes results from all catastrophic dwelling fire insurance claims made for owner-occupied policies and claims made for non-catastrophic fire-related structural smoke-damage in owner-occupied dwellings. For tenant-occupied dwellings, only results pertaining to claims made from policies that related to non-catastrophic and catastrophic fire damage to structures and non-catastrophic fire damage to properties are included.

Figure 1 shows the zip-codes where claims were made for fire insurance policy types covering property or structural damage for homeowner’s and dwelling fire policies. The green dots show zip-codes that did not have any moratorium on non-renewal of insurance in place, while the red dots maps zip-codes that did have the moratorium in place in 2019 (corresponding to the first row) from Table 3.



Figure 1: Moratorium status across zip-codes observing fire incidences.

Methodology

The 2 models used to estimate the effect of the moratorium on earned premiums are described below:

1. This model includes city-fixed effects and year-fixed effects. The city-fixed effects account for any city-specific changes that happen over the years while the year-fixed effects control for time-specific patterns in the outcome.

*Log(EPzt) =* α *+* βp*\*Mzt + γt +γc +* ε*it*

*EPzt* =Annual premium earned by insurance companies in zip-code *z*, in year *t*.

*Mzt* = Indicator that attains value 1 if moratorium is in effect in zip-code *z*, year *t* and 0 if no moratorium is in effect in in zip-code *z*, year *t*

*γc* = primary city dummies

1. The following model adds zip-code fixed effects to base model along with year-fixed effects. The zip-code-fixed effects account for any location-specific changes that happen, at the most granular geographic level, over the years. This model is also called the two-way fixed effects model owing to the existence of fixed effects of the individual unit and time. This is also called the generalized difference-in-difference model:

*Log(EPzt )=* α *+* βp*\*Mzt +* γ*t +*γ*z +* ε*it*

*γz* = zip-code dummies

It is important to note that in the presence of clearly demarcated monthly data on the moratorium treatment status, βp in the 2nd model estimates the average treatment effect on the treated. In other words, it would estimate the change in earned premium as a result of the insurance non-renewal moratorium in place. However, given that the data is only available at the annual frequency while the treatment occurred at the month level, the estimation above doesn’t provide conclusive proof and only allows suggestive estimation of the effect of the moratorium. The log transformations of the outcomes help with the percentage-change interpretation of the very large raw premium changes.

Results

Columns (1) and (2) of table 4 show the results from regressing earned insurance premium on the moratorium indicator across various subsets of zip-codes in the short panel (2018-2020), while columns (3) and (4) correspond to the same regressions from the long panel (2018-2021). It is important to note that each of the results in each cell correspond to different regressions, whose sample subsets are mentioned to the left. Table 5 is structured similar to Table 4 but only reports the exact percentage changes in the outcome for the regression results that are significant.

Table 4: Regression results of change in earned premium from both short and long panel

|  |  |  |
| --- | --- | --- |
| **Outcome: Earned Insurance Premium** | Short Panel(2018-2020) | Long Panel(2018-2021) |
| (1) | (2) | (3) | (4) |
| Moratorium on insurance non-renewal |  |  |  |  |
| Subset: Zip-codes that had claims made for |  |  |  |  |
|  |  |  |  |  |
| Homeowner’s Non-Catastrophic Structural Fire Damage | -0.01(0.01) | 0.01(0.01) | -0.01 (0.02) | -0.02 (0.02) |
| Homeowner’s Non-Catastrophic Structural Smoke Damage | -0.02(0.02) | -0.02(0.02) | 0.02(0.03) | 0.02(0.03) |
| Homeowner’s Non-Catastrophic Property Fire Damage | 0.00(0.01) | 0.00(0.00) | -0.01(0.02) | -0.01 (0.02) |
| Homeowner’s Non-Catastrophic Property Smoke Damage | 0.06(0.04) | 0.04(0.05) | 0.16\*\*\*(0.06) | 0.16\*\*\*(0.06) |
| Homeowner’s Catastrophic Structural Fire Damage | 0.01(0.02) | 0.01(0.02) |  0.06\*\*(0.03) | 0.06\*\*\*(0.02) |
| Homeowner’s Catastrophic Structural Smoke Damage | 0.00(0.02) |  0.00(0.02) | 0.03(0.04) | 0.03(0.02) |
| Homeowner’s Catastrophic Property Fire Damage | 0.01 (0.02) | 0.00(0.01) | 0.07\*\*(0.03) | 0.07\*\*\*(0.02) |
| Homeowner’s Catastrophic Property Smoke Damage | 0.03(0.02) | 0.03(0.02) | 0.10(0.09) | 0.09\*(0.03) |
| Owner-Occupied Non-Catastrophic Structural Fire Damage | 0.23\*\*\*(0.04) | 0.24\*\*\*(0.06) | 0.70\*\*\*(0.09) | 0.71\*\*\*(0.16) |
| Owner-Occupied Non-Catastrophic Property Fire Damage | 0.70 (0.65) | 0.31\*\*\*(0.00) | 0.33(1.13) | - |
| Tenant-Occupied Non-Catastrophic Structural Fire Damage | 0.06\*\*(0.03) | 0.07\*\*\*(0.02) | 0.04(0.03) | 0.04(0.03) |
| Tenant-Occupied Non-Catastrophic Property Fire Damage | 0.11(0.15) | 0.11\*\*\*(0.03) | -0.54(0.66)  | - |
| Tenant-Occupied Catastrophic Structural Fire Damage | 0.03(0.08) | 0.07\*(0.04) | -0.06(0.09) | -0.05(0.05) |
| Renter/Tenant’s Non-Catastrophic Property Fire Damage | 0.28\*(0.16) | 0.14(0.20) | -0.40(0.59) | -0.19\*\*\*(0.07) |
|  |  |  |  |  |
| *Fixed Effects Inclusion* |  |  |  |  |
| Year Fixed Effects | Yes | Yes | Yes | Yes |
| Primary City Fixed Effects | Yes | No | Yes | No |
| Zip-code Fixed Effects | No | Yes | No | Yes |

Notes:

1. Standard errors (in brackets) are clustered at zip-code level and primary city level when fixed effects are included at the zip-code and city levels, respectively.
2. \*, \*\*, \*\*\* imply that coefficients are significant at 10%, 5% and 1% levels, respectively.

It appears that in the short term, with city and year fixed effects, the presence of the moratorium is associated with an increase in insurance premiums in zip codes that encountered non-catastrophic structural fire damage in owner and tenant-occupied dwellings, as well as those that encountered non-catastrophic structural property damage in renter’s/tenant’s policies. The moratorium is associated with a rise in premiums by approximately 26% in tenant occupied dwellings.

Delving deeper into the geography, introducing zip-code fixed effects, it appears that the moratorium is associated with increases in premiums for zip codes that observed non-catastrophic structure and fire damage in owner and tenant occupied dwellings and catastrophic structural and fire damage in tenant-occupied dwellings. In the longer panel, with zip-code fixed effects, locations with claims made on owner-occupied non-catastrophic structural fire damage policies and on homeowner’s catastrophic property damage and renter’s/tenant’s policies observe an increase in premiums. Across all the specifications, the highest degrees of changes observed pertain to increases in premiums in zip-codes that had claims made towards owner-occupied non-catastrophic structural fire damage. In the short panel, the highest degrees of premium-increase is observed in zip codes that encountered owner-occupied non-catastrophic property fire damage (37%). In the longer panel, the highest degrees of premium-increase is observed in zip codes that encountered owner-occupied non-catastrophic structural fire damage (103%).

Table 5: Actual valuation of significant Regression results of change in earned premiums.

|  |  |  |
| --- | --- | --- |
|  | Short Panel(2018-2020) | Long Panel(2018-2021) |
| (1) | (2) | (3) | (4) |
| *Fixed Effects Inclusion* |  |  |  |  |
| Year Fixed Effects | Yes | Yes | Yes | Yes |
| Primary City Fixed Effects | Yes | No | Yes | No |
| Zip-code Fixed Effects | No | Yes | No | Yes |
|  |  |  |  |  |
| Outcome: Earned Insurance Premium |  |  |  |  |
| Homeowner’s Catastrophic Property Fire Damage | Insignificant | Insignificant | 7% increase | 7% increase |
| Homeowner’s Catastrophic Property Smoke Damage | Insignificant | Insignificant | Insignificant | 9.1% increase­ |
| Owner-Occupied Non-Catastrophic Structural Fire Damage | 25.8% increase | 27.1% increase | 101.3% increase | 103.4% increase |
| Owner-Occupied Non-Catastrophic Property Fire Damage | Insignificant | 36.3% increase | Insignificant | Insignificant |
| Tenant-Occupied Non-Catastrophic Structural Fire Damage | 6.1% increase | 7% increase | Insignificant | Insignificant |
| Tenant-Occupied Non-Catastrophic Property Fire Damage | Insignificant | 11.6% | Insignificant | Insignificant |
| Tenant-Occupied Catastrophic Structural Fire Damage | Insignificant | 7% increase | Insignificant | Insignificant |
| Renter/Tenant’s Non-Catastrophic Property Fire Damage | 32.3% increase | Insignificant | Insignificant | 18% reduction |

Conclusion

While moratorium on non-renewals of insurance attempt to safeguard homes and owners from major losses occurring from fire damage, compelling insurance providers to renew insurance in certain fire-prone locations may lead to increased costs on consumers, via increased premiums charged by providers. The current study captures suggestive evidence that amongst locations that observed fire incidences (proxied by fire insurance related claims made), increase in costs are higher in those that had moratorium relative to those that did not.

More specifically, it appears that across both the short term and a relatively longer term, in zip codes where claims were made for policies related to owner-occupied, non-catastrophic, structural fire damage, the moratorium was associated with a higher earned insurance premium. A possible policy prescription following this finding would be to reevaluate the costs and benefits associated with this particular type of policy to ensure that non-claimants of this sort of policy do not end up paying disproportionately higher premiums as a result of the moratorium.