

STATEMENT FOR THE RECORD

CONGRESSIONAL HEARING

on

FACTORS INFLUENCING THE HIGH COST OF INSURANCE FOR  
CONSUMERS

by

ISHITA SEN

ASSISTANT PROFESSOR OF FINANCE

HARVARD BUSINESS SCHOOL

Before the

SUBCOMMITTEE ON HOUSING AND INSURANCE

COMMITTEE ON FINANCIAL SERVICES

UNITED STATES HOUSE OF REPRESENTATIVES

Held on November 2, 2023

Subcommittee Chairman Davidson, Ranking Member Cleaver, and Members of the Subcommittee, I appreciate the opportunity to provide a statement for the record on my research on property insurance. I am Ishita Sen, Assistant Professor of Business Administration in the Finance Unit at Harvard Business School. The views expressed are solely my own.

Over the last few years, we have seen property (homeowners) insurance markets come under severe stress with rising costs, lack of availability, and growing insurer insolvencies. I study these issues in my research and, together with my co-authors, identify key factors affecting the affordability, availability, and reliability of the property insurance markets, which I discuss in detail in this report. To preview the main conclusions:

1. State-specific regulation of insurance rates has distorted which households bear natural disaster losses in the U.S. We find that one large sub-segment of households ends up not paying the fair price of insurance, while another ends up paying more than they would have in the absence of state-specific rate regulation.
2. In states where prices have been kept artificially low, it is likely that prices would have to rapidly increase in the near future to incentivize insurers to remain in these markets. If so, homeownership expenses may become even more unaffordable going forward.
3. There is also a growing risk of deterioration in the quality of insurance provision going forward. This deterioration could render households less protected, more prone to delinquencies, and increase their borrowing costs in mortgage markets.

Despite the importance of the property insurance markets for households' financial well-being, it is historically understudied, in part because of a lack of data. Therefore, designing appropriate policy solutions would first require a large data collection effort.

## 1. INSURANCE PRICES AND RISKS: THE ROLE OF STATE-LEVEL REGULATION

Insurance prices should reflect the underlying expected costs of servicing the contracts. Damage caused by natural disasters are one of the main determinants of these costs.<sup>1</sup> However, current insurance prices in the United States do not adequately reflect the risks of natural disasters in several parts of the country. Together with Sangmin Oh (Chicago Booth School

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<sup>1</sup> For example, estimates from Swiss Re Institute suggest that a vast majority of the costs stem from natural disasters. See estimates of "Insured Losses," Swiss Re Institute, <https://www.sigma-explorer.com/>.

of Business) and Ana-Maria Tenekedjieva (Federal Reserve Board of Governors)<sup>2</sup>, we provide evidence that state-level regulation of insurance prices is an important factor behind the decoupling of prices from the underlying risks.

In the U.S., insurance prices are subject to extensive regulations. Regulation occurs at the state rather than the federal level following historical legal precedents (McCarran-Ferguson Act of 1945). When insurers want to change prices (rates) they must submit rate proposals for regulatory review and approval to individual states. States, however, vary significantly in the inputs they allow insurers to use in rate-setting and in the degree to which insurers can charge a rate that is indicated by their loss models. Using rate filings submitted by insurers to state regulators, we identify the states that have more onerous regulations than others.

Figure 1 shows that in “high friction” states, where regulation is more stringent, insurance prices have become less reflective of the underlying risks. In contrast, in “low friction” states, characterized by less restrictive regulation, there is a strong positive relationship between prices and risk. Insurers are also significantly less profitable in high friction states in comparison to low friction states (Figure 2).

To identify the exact sources of the decoupling of prices from risk, we examine how prices have responded to past losses across states that have different levels of regulation. We do so using granular data on insurance prices at the ZIP code level. However, states vary on a number of different dimensions, not just regulation. To account for such confounding factors, we compare prices in ZIP codes along state borders that have different levels of regulation but near identical underlying risk exposures because of their geographical proximity. We also only compare the pricing responses of the *same* insurer across state borders and for the exact same insurance contract.

We have two main findings. First, we show that in high friction states, insurers adjust prices less frequently and by a lower magnitude after experiencing losses. Second, we find that insurers end up increasing prices in low friction states in response to the growth in losses in high friction states. Importantly, these responses are asymmetric. While rates increase in low friction states in response to losses in high friction states, the opposite is not true, consistent with insurers cross-subsidizing high friction states in response to rate regulation.

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<sup>2</sup> See Sangmin Oh, Ishita Sen, and Ana-Maria Tenekedjieva, “Pricing of Climate Risk Insurance: Regulation and Cross-subsidies,” (Harvard Business School Working Paper, 2022).

These pricing responses are persistent, and as a result, rate growth in high friction states has fallen behind the growth in expected losses, while rate growth has outpaced the growth in expected losses in low friction states.

Our results show that there are distortions in how risks are being redistributed across states.<sup>3</sup> Specifically, one large sub-segment of households ends up not paying the fair price of insurance, while another ends up paying more than they would have in the absence of state-specific rate regulation.

To understand who is bearing the risks of high friction states, we examined several factors that could be influencing regulatory strictness. These include the states' demographics, political leanings, the importance of the insurance sector for the state, the resources of the Department of Insurance and its governance structure, and finally, exposure to natural disasters (Table 1). The only reliably correlated factor influencing regulatory strictness is the state's exposure to natural disasters. High friction states not only have the most restrictive regulation but are also more exposed to natural disasters. This indicates that states with lower exposure to natural disasters are assuming a portion of the risks of the highly exposed states.

## 2. IMPLICATIONS OF REGULATION FOR THE FUTURE COSTS OF INSURANCE

Beyond distortions in how natural disaster losses are being redistributed across households in the U.S., the regulatory framework also raises the possibility of a large correction in insurance prices in the near future. There are three main reasons for this, as I discuss below.

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<sup>3</sup> Our work is consistent with a rich literature showing the distortionary effects of inconsistencies in regulation across states in the insurance industry. On financial regulation standards, see Ralph S. J. Koijen and Motohiro Yogo, "Shadow Insurance," *Econometrica* 84, no. 3 (2016): 1265–1287; Andrew Ellul, Chotibhak Jotikasthira, Christian Lundblad, and Yihui Wang, "Is Historical Cost Accounting a Panacea? Market Stress, Incentive Distortions, and Gains Trading," *Journal of Finance* 70, no. 6 (2015): 2489–2537; Johnny Tang, "Regulatory Competition in the U.S. Life Insurance Industry," (Working Paper, 2022); on regulatory discretion, see Ana-Maria Tenekedjieva, "The Revolving Door and Insurance Solvency Regulation," (PhD dissertation, Chicago Booth, 2021); Jessica Liu and Weiling Liu, "The Effect of Political Frictions on the Pricing and Supply of Insurance," *The Review of Financial Studies* (forthcoming, 2023); J. Tyler Leverty and Martin F. Grace, "Do Elections Delay Regulatory Action?," *Journal of Financial Economics* 130, no. 2 (2018): 409–42.

## 2.1. Insurer Exits

An important consequence of having restrictive regulation is that it may force insurers to either exit high friction states or not renew policies, particularly in high risk areas. Our paper provides evidence that while exits have not been extremely widespread, they are happening at an increasingly higher rate in high friction states fueled especially by small insurers. Consistent with this, [Figure 3](#) shows that high friction states have experienced significant growth in residual markets, which are state-facilitated insurance markets of last resort and a sign of the diminished supply of private insurers. The trend appears to be intensifying further in recent years with large insurers also exiting in greater numbers.<sup>4</sup>

Beyond the short-run challenge of finding new coverage, exits lead to higher prices in the long-run. Three factors explain why this could be the case. First, households may have to obtain coverage from residual markets, and may end up effectively paying more for the same amount and type of coverage.<sup>5</sup> Second, households may seek coverage from surplus lines, which are typically non-admitted insurers offering coverage for higher-risk or unique situations. However, surplus lines tend to be costlier than standard admitted insurers.<sup>6</sup> Third, exits imply reduced competition. The remaining insurers may exert more pricing power, resulting in higher costs for households.<sup>7</sup>

## 2.2. Building Incentives

Another channel through which the current regulatory framework affects future insurance costs is the unintentional incentives it creates for construction and development in areas prone to disasters. Insurance rates have a key role in climate adaptation as rates inform households of their local risks and have the potential to affect households' behavior.<sup>8</sup> Rates

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<sup>4</sup> Leslie Scism, "Wildfire Risk in California Drives Insurers to Pull Policies for Pricey Homes," *The Wall Street Journal*, January 19, 2022, <https://www.wsj.com/articles/wildfire-risk-in-california-drives-insurers-to-pull-policies-for-pricey-homes-11642593601>.

<sup>5</sup> Pat Howard and Jennifer Gimbel, "FAIR Plans are Usually More Expensive and Have Limited Protection Compared to Normal Homeowners Insurance," *PolicyGenius*, December 30, 2022, <https://www.policygenius.com/homeowners-insurance/what-is-a-fair-plan-and-how-do-i-get-one/>.

<sup>6</sup> Pat Howard, "Surplus Lines Insurance: What Is It & When Do You Need It?," *PolicyGenius*, April 12, 2023, <https://www.policygenius.com/homeowners-insurance/surplus-lines-insurance/>.

<sup>7</sup> Insurers have more control over rate setting in less competitive markets. See Oh, Sen, and Tenekedjieva, 2022 cited previously.

<sup>8</sup> See Judson Boomhower, Meredith Fowlie, and Andrew J. Plantinga, "Wildfire Insurance, Information, and Self-Protection," *AEA Papers and Proceedings* 113 (2023): 310-15.

that accurately reflect risks may prompt actions that help mitigate these risks by, for example, encouraging households to build more resiliently or by prompting migration to lower risk areas.<sup>9</sup> However, the current regulatory system, by not allowing prices to adjust appropriately, creates indirect subsidies in highly regulated areas, which could distort building and migration patterns. In addition to price regulation, insurers often also face regulatory constraints preventing them from exiting high friction states.<sup>10</sup>

These factors may result in artificially high real estate prices and more new construction in the way of harm.<sup>11</sup> The accumulation of buildings in high-risk areas could amplify losses in the event of disasters and contribute to the escalation of insurance prices in the future.

### 2.3. *Shifts in Regulators' Priorities*

Regulators often aim to balance the needs of insurance affordability against availability and insurance company solvency. Focusing on affordability would entail more regulation – i.e., keeping prices low – whereas focusing on availability and solvency would require regulators to grant more rate increases. This would attract more insurers to their states and ensure that insurers have enough capital in their reservoir to pay claims in the years when big loss events occur. As described earlier, states that are more exposed to natural disasters are also the ones with more restrictive regulation. The positive relationship we see currently between regulation and risk implies that regulators have so far prioritized the affordability of insurance in states with higher risks, likely because prices were more prone to increase in these states. However, the emphasis on affordability has come at the cost of reduced insurance availability as we see insurers beginning to exit high friction states.

Growing evidence suggests that over time regulators' priorities may be shifting towards ensuring insurance availability and solvency.<sup>12</sup> As this transition occurs, we may observe a rapid rise in the cost of insurance in high risk states.<sup>13</sup> Indeed, there is precedent for this

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<sup>9</sup> “Why is California Burning?,” *Economist*, September 12, 2020, <https://www.economist.com/leaders/2020/09/12/why-is-california-burning>.

<sup>10</sup> Vishesh Raisinghani, “Bud Light of Insurance,” *Moneywise*, July 18, 2023, <https://moneywise.com/insurance/home/bud-light-of-insurance-farmers-leaving-florida-wokeness>.

<sup>11</sup> See Shan Ge, Ammon Lam, and Ryan Lewis, “The Costs of Hedging Disaster Risk and Home Prices in the Face of Climate Change,” (Working Paper, 2023).

<sup>12</sup> Adam Beam, “Wildfire-prone California to Consider New Rules for Property Insurance Pricing,” *AP News*, September 28, 2023, <https://apnews.com/article/california-home-insurance-wildfire-risk-premiums-cf40911606e8e4d9c7c35ca57ca733e8>.

<sup>13</sup> Practitioners also highlight similar concerns. See First Street Foundation, *The 9th National Risk*

concern. The federally-run National Flood Insurance Program (NFIP) recently attempted to increase prices in order to make them actuarially fair over time. These attempts have led to a large rise in insurance prices in several regions.<sup>14</sup>

These factors raise the possibility of a large correction in insurance prices in the near future. Homeowners who made location and housing choices based on the old regulatory regime of low insurance prices would need to reassess their insurance, housing, and location choices, a trend we are already beginning to see in some parts of the country.<sup>15</sup>

### 3. WHAT ARE WE MISSING BY LOOKING AT COSTS ALONE?

In this section, I argue that rising insurance costs alone do not provide a full picture of the challenges facing property insurance markets. I discuss two key challenges: the deterioration in the quality of insurance provision and in the covered risks that are also crucial for households' long-term financial wellbeing.

#### 3.1. *Quality of Insurance Provision and Implications for Mortgage Markets*

In my work with Parinitha Sastry (Columbia University) and Ana-Maria Tenekedjieva (Federal Reserve Board), we study the unraveling in property insurance markets and the risks it poses for mortgage markets.<sup>16</sup> We show that there has been a dramatic decline in the quality of insurance provision using Florida as a case study, a state which ranks among the top states in terms of both past and projected future climate losses and therefore serves as an early warning system for the risks climate change poses to insurance and mortgage markets. We show that the market share of traditional and high quality insurers has declined, driven by their exit from underwriting. The gap created by their exit is being filled by new insurers that are of significantly lower quality across most observable measures of financial

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*Assessment: The Insurance Issue* (September 20, 2023), <https://report.firststreet.org/>.

<sup>14</sup> Kyle Bagenstose, Dinah Voyles Pulver, and Kevin Crowe, "Flood-prone Homeowners Could See Major Rate Hikes in FEMA Flood Insurance Changes, New Study Finds," *USA Today*, February 21, 2021, <https://www.usatoday.com/in-depth/news/investigations/2021/02/21/fema-flood-insurance-rates-could-spike-some-new-study-shows/6764469002/>.

<sup>15</sup> Deborah Acosta, "Home Insurance Is So High in This Florida Town, Residents Are Leaving," *The Wall Street Journal*, October 17, 2023, <https://www.wsj.com/real-estate/home-insurance-is-so-high-in-this-florida-town-residents-are-leaving-bb00c96f>.

<sup>16</sup> See Parinitha Sastry, Ishita Sen, and Ana-Maria Tenekedjieva, "When Insurers Exit: Climate Losses, Fragile Insurers and Mortgage Markets," (Working Paper, 2023).

and operational risk: they have riskier liabilities, are less diversified, have more risky and concentrated reinsurance exposures, hold less capital relative to overall risk exposures, and 20 percent of them become insolvent. They also account for a much larger share of consumer complaints.

We trace the emergence of poor quality insurers in Florida to two potential factors. (1) The market for ratings: lower quality insurers obtain favorable ratings that maintain their eligibility for government-sponsored enterprise (GSE), e.g., Fannie Mae and Freddie Mac, purchase and securitization, which we argue are not sufficiently sensitive to insurer quality. (2) A lax insurance regulatory environment, likely due to regulators' attempts to increase the availability of insurance.

The quality of insurance provision affects households' costs in important ways. First, by delaying or being unable to pay claims after large disasters, insolvent or under-capitalized insurers increase households' delinquency and default rates. This could also make it difficult for households to qualify for credit in the future. Second, if lenders take account of the quality of insurers in their decisions, then mortgage rates or downpayment requirements may increase to compensate lenders for the greater insurer counterparty risk they are carrying. In fact, we show that lenders' decisions are already sensitive to the quality of the insurer backing a mortgage: they offload more mortgages with the GSEs in response to a deterioration in insurer quality. If lenders pass on the insolvency risk of insurers into mortgage contracts, it will effectively increase the total cost of homeownership for households.

### *3.2. Changes in Covered Risks*

Another dimension of the deterioration in insurance quality is the practice of insurers carving out specific risks, which gives rise to two primary issues. First, it leads to lower than ideal coverage. For example, in regions prone to hurricanes, insurers may choose to exclude wind damage from an otherwise standard insurance product. While this may result in a lower price, it places the burden of self-insuring against wind damage on households themselves.<sup>17</sup>

Second, it creates confusion among consumers regarding which risks are covered by their policies. According to a survey conducted by the National Association of Insurance Com-

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<sup>17</sup> See Jacob Bogage, "Home Insurers Cut Natural Disasters from Policies as Climate Risks Grow," *The Washington Post*, September 2, 2023, <https://www.washingtonpost.com/business/2023/09/03/natural-disaster-climate-insurance/>.



missioners (NAIC), 56% of consumers are not aware that their insurance does not cover flood risk, resulting in a significant fraction of homeowners not purchasing flood insurance.<sup>18</sup> The lack of transparency and understanding can hinder households' decision making about insurance needs and leave them vulnerable to losses.

#### 4. CONCLUDING REMARKS

I would like to conclude by highlighting that property insurance markets have historically been understudied. As a result, several important questions that are crucial to designing future policy remain open. For example:

1. How protected are households in the U.S.? Evidence from Colorado's Marshall fire suggests that households are significantly underinsured.<sup>19</sup>
2. What are the redistributive consequences of having a state-level rate regulation that results in insurers cross-subsidizing high friction states? Could it be that high-risk luxury real estate is getting subsidized by lower- and middle-income households?<sup>20</sup>
3. There is a segment of homeowners who made their housing and location choices when insurance prices were low, either due to unrealized climate risk or regulation. What is the best policy to support households that now cannot afford the rising costs of their insurance?
4. It is unclear how insurance markets affect the dynamics of other interconnected markets, including mortgage lending, building and real estate development, as well as home values, employment opportunities, migration patterns, and state budgets.
5. A larger question is what is the optimal regulatory design going forward. On the one hand, the negative spillovers from overly aggressive regulation call for a laxer environment. However, on the other hand, the transition from a high to a low regulatory regime needs to be done in an orderly fashion in consideration of the role that insurance plays for

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<sup>18</sup> See National Association of Insurance Commissioners, Center for Insurance Policy and Research, *Extreme Weather and Property Insurance: Consumer Views* (July 2021).

<sup>19</sup> See Colorado Department of Regulatory Agencies: Division of Insurance, "Division of Insurance Releases Initial Estimates of Underinsurance for Homes in the Marshall Fire," April 26, 2022, <https://doi.colorado.gov/news-releases-consumer-advisories/division-of-insurance-releases-initial-estimates-of>.

<sup>20</sup> See Omri Ben-Shahar and Kyle D. Logue, "The Perverse Effects of Subsidized Weather Insurance," *Stanford Law Review* 68, no. 3 (2016): 571–626.

households and related markets. For example, a sharp increase in insurance costs could negatively affect mortgage delinquencies, home values, and state budgets.

We cannot make progress on these questions without access to good quality and detailed data. Currently, data on the liability-side of insurers' balance sheets is severely limited, often even to regulators themselves.<sup>21</sup> Access to detailed data on the amount of insurance sold, product features, and losses incurred is a necessary starting point to address these important open questions. The data collection efforts need to focus on a geographically granular level (e.g., ZIP code or census tract) because the risks themselves can be very different across closely situated regions. This is also crucial from the standpoint of being able to connect insurance data with data on other markets (e.g., mortgage markets), which are typically at an individual level.

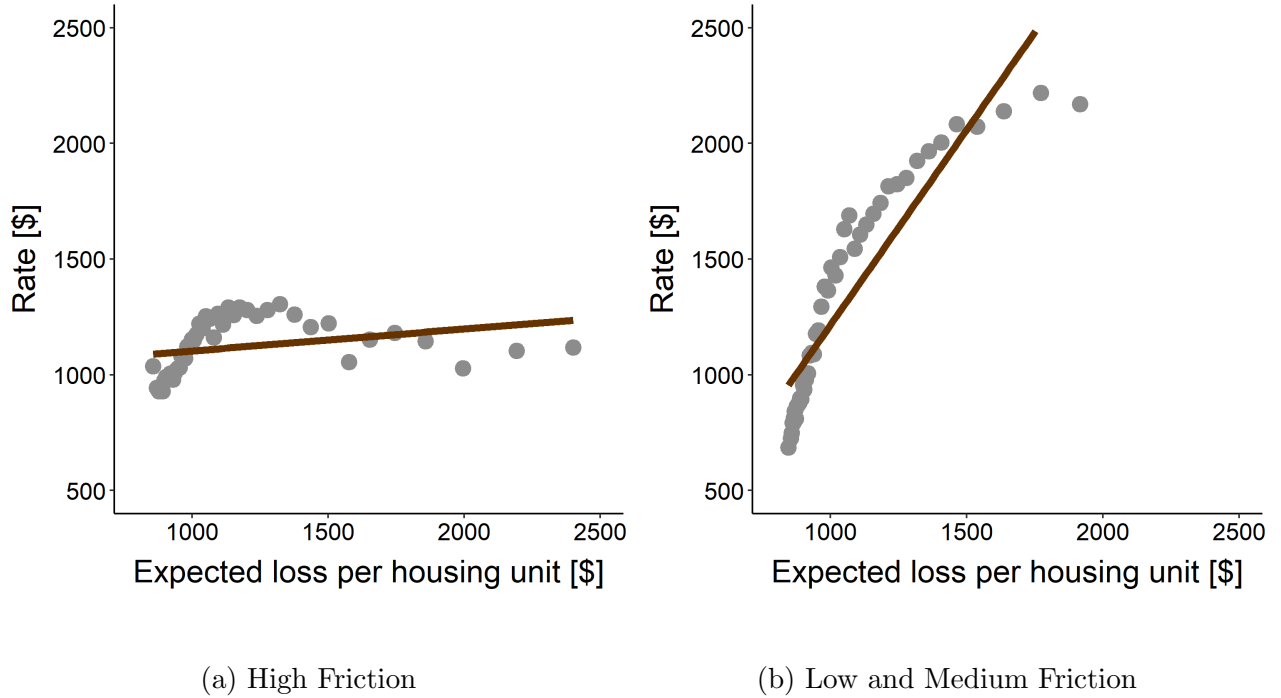
I appreciate your timely efforts on this important topic, and I will be delighted to answer any questions.

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<sup>21</sup> See the U.S. Department of the Treasury Federal Insurance Office's recent call for data collection, "Treasury's Federal Insurance Office Advances First Insurer Data Call to Assess Climate-Related Financial Risk to Consumers," November 1, 2023, <https://home.treasury.gov/news/press-releases/jy1867>.

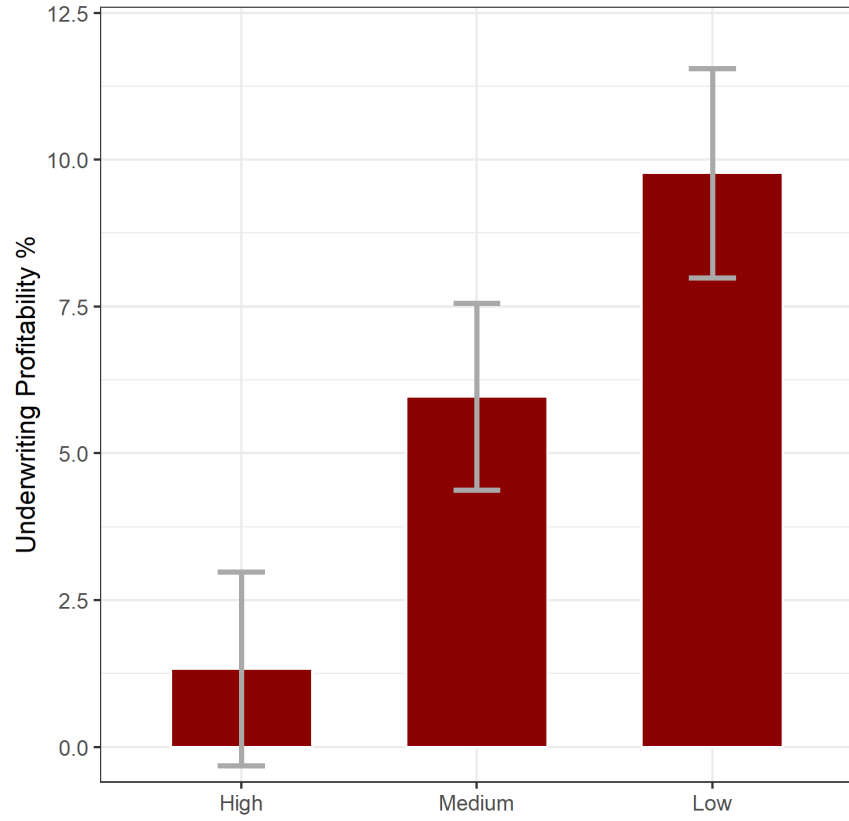
TABLE AND FIGURES

Figure 1: Insurance rates and risk



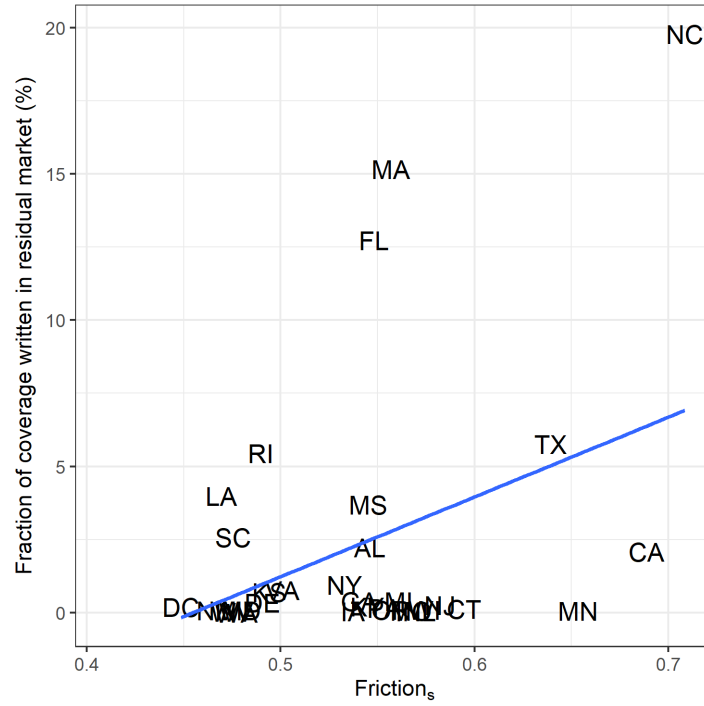
Note: High (Low) refers to states with the most (least) restrictive regulation. Source: Sangmin Oh, Ishita Sen, and Ana-Maria Tenekedjieva, “Pricing of Climate Risk Insurance: Regulation and Cross-Subsidies,” (Working paper, 2021).

Figure 2: Insurers' profitability by state types



Note: High (Low) refers to states with the most (least) restrictive regulation. Underwriting profitability is defined as 1 minus combined ratio (ratio of incurred losses and expenses to total premiums). Source: Sangmin Oh, Ishita Sen, and Ana-Maria Tenekedjeva, "Pricing of Climate Risk Insurance: Regulation and Cross-Subsidies," (Working paper, 2021).

Figure 3: Regulation and size of the residual markets



Note:  $Friction_s$  is our measure of regulatory friction. High values signify more restrictive regulation. Only states that have a residual market are shown. Source: Sangmin Oh, Ishita Sen, and Ana-Maria Tenekedjieva, “Pricing of Climate Risk Insurance: Regulation and Cross-Subsidies,” (Working paper, 2021).

Table 1: Regulatory friction and state characteristics

	Friction <sub>s</sub>									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Log budget	0.017*									0.002
	(0.010)									(0.033)
Log staff size		0.017								-0.013
		(0.011)								(0.029)
Is commissioner elected?			0.005							-0.006
			(0.022)							(0.023)
Log premium				0.019**						0.014
				(0.008)						(0.017)
Median HH income					0.0003					0.002
					(0.001)					(0.001)
% Minority						0.0002				-0.0003
						(0.001)				(0.001)
% GDP from insurance							-0.001			0.001
							(0.005)			(0.005)
Log Prop. Damage Per Cap								0.010***		0.013*
								(0.004)		(0.007)
% Republican									0.069	-0.007
									(0.088)	(0.169)
Constant	0.254	0.461***	0.542***	0.272**	0.521***	0.538***	0.547***	0.478***	0.508***	0.186
	(0.172)	(0.054)	(0.010)	(0.115)	(0.054)	(0.018)	(0.017)	(0.025)	(0.046)	(0.381)
Observations	50	50	50	50	50	50	50	50	50	50
R <sup>2</sup>	0.056	0.047	0.001	0.104	0.004	0.002	0.002	0.135	0.013	0.237

Note: High values of  $Friction_s$  signify more restrictive regulation. Source: Sangmin Oh, Ishita Sen, and Ana-Maria Tenekedjieva, "Pricing of Climate Risk Insurance: Regulation and Cross-Subsidies," (Working paper, 2021).