Barriers to Insurance Innovation

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In exchange for a payment, insurance companies assume risks from policyholders. Because of their ability to aggregate and diversify many risks, insurers can offer this service at a price that is attractive to policyholders. Yet there are risks that insurers refuse to cover, even though the insurer appears to be in at least as favorable a risk-bearing position as is the policyholder. Property insurance contracts, for example, place on policyholders the risk that rebuilding costs will be greater than expected, or that a home will be destroyed by flood or nuclear damage, or that exposure to natural hazards will change over time, or that home equity values will rise or fall. Long-term care insurance commonly makes policyholders, rather than insurers, bear the risk of unexpected industry-wide cost increases or that care will be more expensive than anticipated. Liability insurers exclude coverage for damage caused by pollution. Directors and officers insurers do not cover court-awarded increases in merger consideration even in quintessentially-covered cases where executives breach their fiduciary duties. This lack of risk transfer is surprising, since insurers are likely better situated to bear these and other risks than are their would-be policyholders.

The absence of these desirable risk transfers presents troubling policy implications. This Article identifies these abnormalities and shows where traditional explanations are lacking. I hypothesize that much of the breakdown is due to structural forces that deter innovation in insurance policies. Risks of any meaningful consequence must be reinsured by global reinsurance firms, and reinsurers will have little appetite for novel risks that are difficult to price, especially when, as with any new risk, those risks are tiny relative to reinsurers' massive portfolios. Moreover, the annual nature of reinsurance contracts means that reinsurers also lack incentives to incubate new coverage that, while small today, may grow significantly in the future.

These deterrents to innovation are problematic both because they produce inefficiently low levels of risk transfer and because they will impede development of new markets and innovative products that rely on insurance to cover their risks. Fortunately, a variety of policy responses that I consider can help correct for these problems.

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Introduction

Insurance companies deal in the transfer of risk. In exchange for premium payments from policyholders, insurers agree to cover some of a policyholder's future financial losses. The insurance market works because policyholders are generally willing to pay more to insurers to offload financial risks than the minimum amount that insurers want to be paid to assume those risks.

There are two principal reasons for this price imbalance. The first is that insurers gain predictability over expected losses in any given year by aggregating similar risks that are uncorrelated, so that the presence of one loss does not imply the presence of many.[1] Flipping a coin 1,000 times makes it very predictable that close to half the results will be heads even though the outcome of any individual flip is highly uncertain. Just like flipping a coin, insuring 1,000 uncorrelated and similar risks gives the insurer great predictive power to determine what the number and distribution of those losses will be over a given year. Neither insurers nor individuals prefer dealing with income uncertainty; policyholders are often risk averse,[2] and the opportunity cost of holding reserves to deal with unpredictable losses can be high even for risk-neutral insurers.[3] Therefore, predictability over those financial outcomes is something for which either party would be willing to pay a price premium. Individuals achieve that predictability by buying an insurance policy from insurers and transferring the risk to them; insurance companies achieve that predictability by aggregating those individually variable risks together into a less variable portfolio of risks. Once the portfolio has been established, adding more uncorrelated risks tends to make the portfolio even more predictable, and therefore more attractive, for insurers. The net result is that individuals should not have to pay much more than the expected costs posed by their risks to transfer those risks to an insurance company, giving policyholders desirable certainty almost for free, at a price just slightly above expected losses.

The second reason that potential policyholders are willing to pay more to insurers to transfer financial risks than the insurers' cost to assume those risks arises because of their comparative utility consequences from suffering a loss. The same loss that would devastate a policyholder is likely to cause a much smaller impact on her insurer. The typical homeowner, for example, owns only one house, and her home equity constitutes the

1. *See, e.g.*, George L. Priest, *The Current Insurance Crisis and Modern Tort Law*, 96 YALE L.J. 1521, 1540 (1987). Insurance is therefore a particular application of the law of large numbers from probability theory, where repeated draws from a distributed sample converges to the average value of the sample.

2. Gambling is a well-known exception for individuals.

3. *See, e.g.*, David Mayers & Clifford W. Smith, Jr., *On the Corporate Demand for Insurance*, 55 J. BUS. 281, 284-85 (1982) (noting that companies may buy insurance to avoid bankruptcy's transaction costs).

majority of her wealth.[4] Consequently, the impact of losing one's home for an individual homeowner is a dramatic loss of utility.[5] Home insurers, on the other hand, diversify internally by covering thousands of homes—State Farm covers more than half a million homes in Florida alone[6]—so that the relative impact of any one individual loss is a comparative drop in their financial bucket. These insurers also diversify externally, managing their maximum financial exposure on their books of insurance business through reinsurance[7] and recently innovated financial instruments[8] that transfer risks to other entities. Combined, these techniques reduce insurers' financial consequences from the losses incurred by any one risk, making insurers even better positioned than individuals to assume their risks at a mutually beneficial price.[9]

Given insurers' superior risk-bearing position,[10] one might expect that they would cover most risks, and to some degree they do. Domestic insurance premiums totaled $1.4 trillion in 2021 for mainline property,

4. *See, e.g.*, *The Assets Households Own and the Debts They Carry*, PEW RSCH. (Dec. 4, 2023), https://www.pewresearch.org/2023/12/04/the-assets-households-own-and-the-debts-they-carry [https://perma.cc/K3UR-6R9M].

5. The loss grows even higher if the homeowner carries an uninsured mortgage, so that a total loss wipes out not just the home equity but also forces the homeowner to repay the outstanding mortgage balance in many states. *See, e.g.*, Quinn Curtis, *State Foreclosure Laws and Mortgage Origination in the Subprime*, 49 J. REAL ESTATE FIN. ECON. 303, 307-08 (2013) (summarizing anti-deficiency laws).

6. Ron Hurtibise, *State Farm Florida Is Now the State's Second-Largest Home Insurer. It Vows to Stay in Florida*, SOUTH FLA. SUN SENTINEL (July 24, 2023), https://www.sun-sentinel.com/2023/07/24/state-farm-florida-is-now-the-states-second-largest-home-insurer-it-vows-to-stay-in-florida [https://perma.cc/PKM9-A9ZH].

7. Facultative reinsurance policies allow insurers to manage their maximum exposure on an individual risk, much as a homeowner can manage their maximum exposure by buying a traditional insurance policy, while treaty reinsurance policies allow insurers to manage their maximum exposure across an entire book of business comprised of many risks. *See, e.g.*, *Background on: Reinsurance*, INS. INFO. INST., https://www.iii.org/publications/insurance-handbook/regulatory-and-financial-environment/background-on-reinsurance [https://perma.cc/2PXG-GYCR].

8. The most successful of these insurance-linked securities has been catastrophe bonds, but other instruments have been recently marketed as well. *See, e.g.*, *Insurance-Linked Securities*, NAT'L ASS'N OF INS. COMMISSIONERS (Oct. 25, 2023), https://content.naic.org/insurance-topics/insurance-linked-securities [https://perma.cc/55YK-FDK8].

9. Similarly, this justification will be less compelling when a loss would impose only modest relative utility losses on a policyholder, such as a large company's workers compensation claim risk or an individual's risk of damaging his or her cellular phone.

10. I do not focus on arguments that, for distributional reasons, it is generally desirable for insurers to bear losses rather than policyholders. This argument, as Professor Priest points out, depends on cross-subsidization between low- and high-risk policyholders that may in fact reduce the overall prevalence of insurance, an undesirable result. George L. Priest, *A Principled Approach toward Insurance Law: The Economics of Insurance and the Current Restatement Project*, 24 GEO. MASON L. REV. 635, 646 (2017); George L. Priest, *Government Insurance versus Market Insurance*, 28 GENEVA PAPERS ON RISK & INS. 71, 77-78 (2003); *see also* Tom Baker & Kyle D. Logue, *In Defense of the Restatement of Liability Insurance Law*, 24 GEO. MASON L. REV. 767, 776 (2017) (there is "nothing . . . that suggests all risks can or must be insured.")

liability, health, and life risks;[11] other major products like directors and officers or errors and omissions coverages take these numbers far higher. Even fairly esoteric risks have been transferred to insurers. The University of Illinois business school recently bought $61 million in insurance coverage for revenue decreases from its Chinese students,[12] while a host of bespoke celebrity policies have been issued: Taylor Swift reportedly insured her legs for $40 million,[13] Bruce Springsteen insured his voice for $6 million, and Head and Shoulders insured spokesman Troy Polamalu's hair for $1 million.[14]

At the same time, many major risks go un-transferred to insurers and instead remain with policyholders. For example, within homeowners insurance, insurers exclude losses from nuclear hazards,[15] leaving homeowners to bear those losses themselves. Standard homeowners policies also commit to paying a structure's replacement costs only up to the policy's face value amount in the event of a covered loss,[16] leading policyholders to bear the twin risks that replacement costs will be greater than expected and that the home's replacement costs were accurately estimated upfront in the policy. By writing only single year or six-month policies, homeowners and auto insurers leave policyholders to deal with the consequences of long-term risk factor changes. Homeowners insurers' annual policies, for instance, leave policyholders to deal with the risk that their property's long-term risk factors, like climate change-related natural hazard exposures, will change over time,[17] while auto insurers' six-month policies make policyholders bear the risk that property or liability risk will vary over time due to changes in repair costs.[18]

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11. *A Firm Foundation: How Insurance Supports the Economy*, INS. INFO. INST., https://www.iii.org/publications/a-firm-foundation-how-insurance-supports-the-economy/introduction/insurance-industry-at-a-glance [https://perma.cc/ZT6Y-5V6G].

12. Ellie Bothwell, *Insuring Against Drop in Chinese Students*, INSIDE HIGHER ED (Nov. 28, 2018), https://www.insidehighered.com/news/2018/11/29/university-illinois-insures-itself-against-possible-drop-chinese-enrollments [https://perma.cc/MM37-JE8N]; CONFIRMATION OF INSURANCE, RT SPECIALTY, May 8, 2017 (on file with author).

13. Melissa Hillebrand, *They Insured What? 10 Celebrities and Their Lucrative Body Parts*, PROPERTYCASUALTY360 (Mar. 19, 2015), https://www.propertycasualty360.com/2015/03/19/they-insured-what-10-celebrities-and-their-lucrative-body-parts [https://perma.cc/WVS8-X6DY].

14. *Troy Polamalu Has Hair Insured*, ESPN (Aug. 30, 2010), https://www.espn.com/nfl/news/story?id=5513644 [https://perma.cc/8UF5-KQ9V].

15. INSURANCE SERVICES OFFICE, HO-3 HOMEOWNERS 3 – SPECIAL FORM (1999), Section I – Exclusions Part A.7, https://www.iii.org/sites/default/files/docs/pdf/HO3_sample.pdf [https://perma.cc/BJB5-PCYX].

16. Peter Molk, *Playing with Fire? Testing Moral Hazard in Homeowners Insurance Valued Policies*, 2018 UTAH L. REV. 347, 360.

17. Howard Kunreuther & Erwann Michel-Kerjan, *Demand for Fixed-Price Multi-Year Contracts: Experimental Evidence from Insurance Decisions*, 51 J. RISK & UNCERTAINTY 171 (2015). On occasion, critics have accused insurers of using this pricing flexibility to raise prices significantly after a loss. *See, e.g.*, Peter Molk, *Florida's Homeowners Insurance Problems*, 31 CONN. INS. L.J. 40 (2024) (analyzing these claims in the context of Florida's loss experience).

18. This point has become particularly salient to many policyholders who are currently facing large premium increases, a problem that spills beyond national borders. *See, e.g.*, Suzanne

Homeowners and automobile insurance are not the only area where policy terms prevent policyholders from transferring risks to insurance companies. Long-term care insurance undermines much of its potential to offer financial security over long-term care costs by allowing both premiums and benefit levels to fluctuate dramatically over time.[19] Liability insurers exclude coverage for pollution-related liability, leaving policyholders to self-insure the consequences of negligent discharge of pollutants.[20] Directors and officers insurers have excluded a host of activities that traditionally fall within the type of fiduciary duty disputes that are usually seen as comprising the core of that product's coverage.[21]

Other times, risk goes un-transferred simply because there is no market at all for risk transfer. For instance, homeowners are not able to buy insurance against the possibility that home values decrease for reasons other than a direct physical loss.[22] The risks of declines due to a neighborhood's diminished attractiveness, zoning ordinance changes, commuting pattern changes, or other non-physical reasons remain with homeowners.[23] These patterns are surprising given insurers' comparatively strong position to take on risks relative to policyholders.

Blake, *America's Headed for Car Insurance Crisis*, NEWSWEEK (Jan. 29, 2024), https://www.newsweek.com/car-insurance-crisis-americans-cant-afford-economy-1864968 [https://perma.cc/DDX2-NAEV]; Ian Smith, *What's Driving the Car Insurance Crisis?*, FIN. TIMES (July 19, 2024), https://www.ft.com/content/6794770b-d3e5-4faf-848c-77ceee2e2dac [https://perma.cc/WZ9U-6HGG].

19. *See, e.g.*, NAT'L ASS'N OF INS. COMM'RS, LONG-TERM CARE INSURANCE RATE INCREASES AND REDUCED BENEFIT OPTIONS: INSIGHTS FROM INTERVIEWS WITH FINANCIAL PLANNERS 18-20 (Nov. 2022) (noting that the average approved cumulative rate increase on long-term care insurance policies was 112%).

20. HO-3 Policy, *supra* note 15, Part 2.f.

21. *See, e.g.*, Kevin LaCroix, *Bump-Up Exclusion Precludes Coverage for Merger-Related Claims Settlement*, D&O DIARY, Mar. 11, 2024, https://www.dandodiary.com/2024/03/articles/d-o-insurance/bump-up-exclusion-precludes-coverage-for-merger-related-claims-settlement/ (discussing a policy that excluded coverage for executives' fiduciary duty breach that caused their company to be acquired at a diminished price); Kevin LaCroix, *The Bump-Up Exclusion and Coverage for Post-Close M&A Lawsuits*, D&O DIARY (July 21, 2024), https://www.dandodiary.com/2024/07/articles/d-o-insurance/the-bump-up-exclusion-and-coverage-for-post-close-ma-lawsuits [https://perma.cc/93D6-BPNV] (noting that this language "is common in the industry and arguably is the most common bump-up exclusion language"); Kevin LaCroix, *Insurers Must Advance Subpoena-Related Expenses Despite Change in Control Exclusion*, D&O DIARY (Feb. 27, 2024), https://www.dandodiary.com/2024/02/articles/uncategorized/insurers-must-advance-subpoena-related-expenses-despite-change-in-control-exclusion [https://perma.cc/FZX6-LDYS] (analyzing a policy that excluded coverage for any act, including for fiduciary duty breaches, of executives of a merged entity as long as an underlying complaint includes at least one count involving post-merger activity).

22. HO-3 Policy, *supra* note 15, Part 1, Section I.A.1, Part 1, Section I.B (requiring direct physical loss to property to trigger coverage).

23. *See, e.g.*, Robert J. Shiller & Allan N. Weiss, *Home Equity Insurance*, 19 J. REAL ESTATE FIN. & ECON. 21 (1999) (proposing a version of this policy).

Not all risks are best allocated to insurers; policyholders are in a better position to keep some risks rather than transfer those risks to insurers,[24] and welfare will be maximized when policyholders retain these risks. Over time, four principal explanations have emerged to explain the risks that insurers do not assume. The market for some risks is simply so small that it will not support participation by insurers to cover it. Other risks, like coverage for intentional torts, remain with policyholders because insurance coverage would cause unsustainably high loss levels, a phenomenon known as moral hazard. Still other risks will not be covered because policyholders, but not insurers, can accurately determine a risk's severity, muddling the insurer's premium pricing models through a process termed adverse selection. Finally, correlated risks, where the presence of one loss implies the presence of many, are seen as too expensive for insurance companies to cover.

Still, it is not difficult to find examples of risks that do not fit these four accepted explanations. For instance, insurance against home value declines would seem to have a large market and could easily be designed to address concerns raised by moral hazard, adverse selection, and correlated losses. Yet no such product exists.

I provide a new explanation for these cases of un-transferred risk. The structure of insurance markets dampens insurance coverage innovation, discouraging new coverages from emerging. Reinsurers provide insurance to insurance companies, allowing traditional insurers to cap their financial exposure. Reinsurance therefore enables traditional insurers to concentrate on originating policies without needing to worry about maintaining enough capital to backstop those risks, and most traditional insurers consequently offload much of their risk exposure to reinsurance companies.[25] The reinsurance market is dominated by a handful of global players[26] who largely dictate which primary insurance policies will get reinsured. Traditional insurers must therefore write policies that will be appealing to reinsurance companies, or else must be prepared to maintain enough assets to cover the policies' full projected liability.

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24. *See, e.g.*, Priest, *supra* note 10, at 637 ("Some risks are more effectively reduced by the policyholder than by the insurer. Other risks, for economic reasons, cannot be effectively insured.").

25. *See, e.g.*, Ari Chester et al., *Global Reinsurance: Fit for the Future?*, MCKINSEY & CO. (Sept. 26, 2017), https://www.mckinsey.com/industries/financial-services/our-insights/global-reinsurance-fit-for-the-future [https://perma.cc/XKF5-HNBE] ("Aside from catastrophic events, the [reinsurance] industry . . . plays a critical role in supporting primary companies in many ways, including transferring complex risks, reducing capital requirements and capping volatility, filling in capability gaps, smoothing earnings fluctuations, enabling growth with more capacity, and improving solvency."); AMERICAN COUNCIL OF LIFE INSURERS, LIFE INSURERS FACT BOOK 83 (2023), https://www.acli.com/-/media/public/pdf/news-and-analysis/publications-and-research/2023-fact-book-chapters/2023aclifactbook.pdf [https://perma.cc/G4PK-2PQ8] ("Virtually all life insurers buy reinsurance to improve their risk profile.").

26. *See, e.g.*, *Top 50 Global Reinsurance Groups*, REINSURANCE NEWS, https://www.reinsurancene.ws/top-50-reinsurance-groups [https://perma.cc/X9CE-LPDW] (ranking global reinsurance firms by reinsurance premiums written).

However, the reinsurance industry will be slow to change. Innovations in insurance policies that would cover new risks are more likely to be met by individual reinsurers with indifference than with enthusiasm. This skepticism occasionally can be overcome, as evidenced by the few new coverage terms and insurance policies that arise over time. However, given reinsurers' large books of business, most policy innovations are unlikely to promise enough economic gain to attract their interest. Moreover, even for those innovations that promise large long-term profits, the annual nature of reinsurance renewals eliminates most of the benefits from being a first mover. Those future profits are unlikely to accrue to an early adopting reinsurer, giving them insufficient incentive to bear the costs to develop new policies and coverage models. The net result of these forces is to decrease the rate of insurance coverage innovation and leave policyholders saddled with inefficiently high levels of risk.

This impediment to insurance policy innovation explains several existing puzzles in the insurance industry about how policies are written and evolve. It also raises important public policy implications. Having insurance spurs innovation in the multitude of markets whose products have some risks of incurring future legal liability; similarly, lacking insurance in these markets stunts innovative activity.[27] Subsidization, government-backed primary and reinsurance policies, and state regulatory review changes all could help address this structural difficulty. Ultimately, encouraging more efficient risk transfers to insurance companies promises to increase desirable risk transfers, which benefits all policyholders and, particularly, the development of new industries that are vital to the country's continued economic growth.

Part I lays out the traditional and accepted explanations for why insurance companies do not take on certain risks. These explanations, however, are incomplete. As evidence for this point, Part II provides several in-depth illustrative examples of risks that are not transferred to insurance companies despite their apparently superior positions to take on those risks relative to policyholders, and despite those risks' not falling within traditional explanations for non-coverage. In other words, another factor is operating in tandem with traditional theories to keep insurers from covering certain risks.

Part III identifies this new factor. Because of the nature of insurance companies and the necessity for reinsurance, there is a strong disincentive for existing insurers to develop new coverage terms and products and for reinsurers to provide capacity for new risks. Therefore, because of these structural market impediments, even risks that do not fit traditional explanations for non-transfer may still fail to be transferred to insurance

27. *See, e.g.*, INSURANCE INFO. INST., HOW INSURANCE DRIVES ECONOMIC GROWTH 13-14 (2018), https://www.iii.org/sites/default/files/docs/pdf/insurance-driver-econ-growth-053018.pdf [https://perma.cc/4KBP-2DAN].

companies despite insurers' ability to bear those risks at lower financial cost.

Part IV turns to implications from this argument. I first lay out the public policy case in favor of encouraging more of these missed risk transfers to occur. History is full of examples of industries and products whose development was boosted by the availability of insurance, so it is deeply concerning when barriers inhibit the availability of insurance. Then, I turn to how regulatory policy could respond .

I. Common Justifications for Un-transferred Risk

It has long been known that not all risks are transferred to insurance companies. Over time, four accepted explanations for this incomplete risk transfer have arisen.[28] I review those four explanations here. Ultimately, as I then show in Part II, those explanations are incomplete, evidencing the need for additional inquiry.

A. Some Markets Are Too Small

First, a risk may remain with policyholders because there is an insufficient market to transfer that risk to insurance companies. Providing insurance involves various fixed transaction costs, such as actually drafting the policy, developing a model to calculate appropriate premium amounts, and marketing the policy to prospective policyholders. When the projected volume of policies will be low, it may not be economical for an insurer to provide coverage for a particular risk, since the insurer may not be able to recoup the upfront transaction costs.

The market may be small because the to-be-insured risk is small or is not faced by many policyholders. The market may also be small because the risk is large and broad-based, but policyholders mistakenly believe their exposure to the risk is small, either because the incidence of loss is small or, as with residential damages from flood losses, individuals mistakenly believe they have coverage from other sources.[29] Finally, the market may be small even when large and faced by many policyholders if policyholders otherwise have little appetite for the certainty against losses that insurance provides. Behavioral economics has shown that demand for certain insurance products is surprisingly low and has developed a number of explanations for why individuals' behavior may depart from expected utility theory, attributing the anomaly to policyholders' risk-seeking

28. *See, e.g.*, Mark A. Geistfeld, *Interpreting the Rules of Insurance Contract Interpretation*, 68 RUTGERS U.L. REV. 371, 384-90 (2015); Daniel Schwarcz, *Coverage Information in Insurance Law*, 101 MINN. L. REV. 1457, 1520 n.225 (2017).

29. *Survey: Most Homeowners Believe Their Policy Covers Flood*, INS. J. (June 20, 2024), https://www.insurancejournal.com/news/national/2024/06/20/780393.htm [https://perma.cc/4KYV-L724] (reporting on a survey that found "56% of respondents were unaware that flood damage is excluded from a standard homeowners policy.").

preferences for taking on losses,[30] their overly optimistic beliefs about loss likelihoods and severities,[31] and their self-imposed budget constraints.[32]

Insufficient market size will be a particular problem when it is paired with low projected premiums, since this combination is most likely to leave insurance companies incapable of making back their upfront investments. The examples of esoteric risks like celebrity leg insurance highlighted earlier succeeded as insurance products not because the market for them was large—instead, it was vanishingly small—but because the corresponding premiums were high enough to allow insurers to overcome the fixed costs in issuing these policies. The bespoke policy procured by the University of Illinois, for example, carried annual premiums of $424,333,[33] enough to cover the fixed costs to set up this one-off policy. Although a specialty carrier like the Lloyd's of London network may succeed in providing unusual, high dollar coverage like this,[34] the business model will not work for unusual, low dollar coverage. Therefore, although Taylor Swift's legs may be insurable, a typical person's legs are not even if that person is extremely risk averse about their legs, and a market for this risk transfer will not exist even if insurers may be better equipped to take on that risk than are individuals.

B. Adverse Selection

A second category of uncovered risks concerns insurers' efforts to combat policyholder adverse selection. Adverse selection refers to the phenomenon where prospective policyholders use private information about their own risk levels to influence their insurance purchase decisions.[35] Adverse selection is deeply troubling for insurers, because they will end up charging below-market premiums as, unknown to insurers, who lack information, disproportionately risky policyholders tend to overbuy insurance while less risky policyholders tend to drop out of the market and self-insure.[36]

30. HOWARD C. KUNREUTHER ET AL., INSURANCE & BEHAVIORAL ECONOMICS 95-100 (2013) (summarizing several studies); Daniel Schwarcz, *Insurance Demand Anomalies and Regulation*, 44 J. CONS. AFFAIRS 557 (2010) (same).

31. KUNREUTHER ET AL., *supra* note 30, at 100-10; *see generally* Tom Baker & Peter Siegelman, *"You Want Insurance with That? Using Behavioral Economics to Protect Consumers from Add-On Insurance Products*, 20 CONN. INS. L.J. 1 (2013) (analyzing the opposite problem of policyholders' overestimating a risk's severity and frequency, thereby generating a market that classical economic theory suggests should not exist).

32. KUNREUTHER ET AL., *supra* note 30, at 110-11 (raising this concern even while noting that "Of course, if the loss (or the asset at risk) is only monetary, it is irrational to say that 'I cannot afford insurance' to protect myself financially against the loss of the asset.").

33. CONFIRMATION OF COVERAGE, *supra* note 12.

34. *Id.* at 1 (noting the policy is underwritten by underwriters at Lloyd's).

35. *See, e.g.*, Peter Siegelman, *Adverse Selection in Insurance Markets: An Exaggerated Threat*, 113 YALE L.J. 1223, 1223 (2004).

36. *Id.* at 1223-24.

Many insurance company efforts to deal with adverse selection are comprised of charging different premiums for different risk factors. Some attempts, however, occur through policy coverage terms in deciding which risks to transfer to insurers and which risks to make policyholders retain. Insurance companies may decline to cover certain activities because of concerns that policyholders have superior knowledge about their risk levels for those activities. For instance, the refusal to cover pollution liability in commercial liability policies has been justified as an insurance company attempt to make sure that firms with superior knowledge about their polluting tendencies do not overbuy insurance.[37] Liability insurance policies also contain business risk exclusions, which exclude coverage for damage to the policyholder's work or product, in part due to adverse selection concerns: policyholders have superior knowledge about their potential scope of liability through how effective their skills are and the warranties they make.[38]

C. Moral Hazard

A third core explanation for un-transferred risk concerns the insurance concept of moral hazard. When policyholders do not internalize the negative consequences of their actions, such as when insurance is present and the financial consequences of an action are shared with an insurer, then policyholders will underinvest in avoiding losses.[39] Policyholders with comprehensive insurance coverage might, for instance, commit intentional torts because the financial threat of civil liability is removed.

Insurers take two general approaches to address moral hazard. The first is to require that policyholders bear a portion of the financial consequences of their actions through co-pays, deductibles, and other cost-sharing mechanisms. These techniques make sure that policyholders are not fully insulated from risks and therefore retain some basic financial incentives to avoid losses.

The second approach is to refuse to cover certain risks that raise particularly high moral hazard concerns. Many risks that are within some degree of policyholders' control fall within this category. For instance, policies of all types do not cover losses intentionally caused by policyholders for fear that insulation from financial liability would remove

37. Kenneth S. Abraham, *Environmental Liability and the Limits of Insurance*, 88 COLUM. L. REV. 942, 975 (1988). The rise of CERCLA liability also shows that this pollution could be justified as avoiding correlated losses.

38. ISO CGL Policy (2012), Section I Coverage A.2.j, https://sonomacounty.ca.gov/Main%20County%20Site/General/Sonoma/Sample%20Dept/Sample%20Dept/Divisions%20and%20Sections/Liability/Services/Help%20Request/Subpages/Help%20Request/_Documents/SampleISO-CGL.pdf [https://perma.cc/3QR2-PDVB].

39. *See, e.g.*, Tom Baker, *On the Genealogy of Moral Hazard*, 75 TEX. L. REV. 237, 237-38 (1996).

a major deterrent to intentional misconduct.[40] Liability insurance that covered a policyholder's intentional torts, for instance, would remove the financial deterrent to committing intentional torts. Likewise, homeowners insurance policies exclude losses that likely could be avoided by basic home maintenance efforts, like damage from burst pipes, from water or ice buildup, and from intentional losses, to encourage policyholders to take those preventative steps.[41] Life insurance policies have long required the originator of the policy to have some interest in making sure the insured life does not terminate early to discourage incentives to end a life prematurely.[42] Business interruption policies stop payments for disrupted businesses after a predetermined length of time for fear that businesses otherwise will not work diligently in restoring operations.[43]

D. Correlated Losses

The final category of uncovered risks arises when losses due to those risks are correlated. Correlated losses materialize when risks are not independent in the statistical sense: in other words, when one loss occurs, then many losses will occur. Earthquake damage is a good example of a correlated loss. If one home suffers damage from an earthquake, then it is likely that many homes in the surrounding area will as well.

Correlated losses are more costly for insurers to cover than are uncorrelated losses. The portfolio-wide loss predictability that arises when insurers aggregate risks[44] happens only if those risks are largely uncorrelated. If instead losses are correlated, then aggregating those risks provides insurers with no greater predictability of average losses. To return to the coin flipping example, imagine a perfectly correlated coin where every time it lands on heads, the next flip will also be heads. In that case, aggregating a portfolio of one hundred coin flips offers no more predictability than flipping a coin a single time. Similarly, aggregating a portfolio of correlated risks reduces the predictability of that portfolio's losses while increasing that portfolio's financial exposure to loss events.

A portfolio of aggregated correlated risks will be undesirable for insurers, because insurers will have to carry significant short-term reserves

40. *See, e.g.*, HO-3 Policy, *supra* note 15, Section I – Exclusions A.8 (homeowners); *id*. Section II – Exclusions E.1 (personal liability); CGL Policy, Section I, Coverage A, 1 (commercial liability). *See generally* Travis Luis Pantin, *What Can't Be Insured: The Policyholder's Own Bad Acts*, 29 CONN. INS. L.J. 53, 55 (2023) (grappling with the difference among intentional, illegal, and immoral actions).

41. HO-3 Policy, *supra* note 15, Section I – Exclusions A.2.c.1, 2, 8.

42. *See, e.g.*, Erskine Hazard Dickson, *Insurable Interest in Life*, 44 AM. L. REGISTER & REV. 65, 77, 87 (1896).

43. This period is known as the restoration period. *See, e.g.*, Jason Metz, *What Is Business Interruption Insurance? 2024 Guide*, FORBES (Jan. 3, 2024), https://www.forbes.com/advisor/business-insurance/business-interruption-insurance [https://perma.cc/2M62-75LT].

44. *See supra* notes 1-3 and accompanying text.

to help deal with the possibility of a bad loss year when the correlated losses occur together. Reserves are costly to maintain, both because the reserved funds cannot be devoted to higher earning, less liquid longer-term projects, and because the tax consequences of maintaining reserves are often undesirable.[45]

II. Puzzling Exceptions

The four conventional explanations for policyholder-retained risk cover many of the cases where risk goes un-transferred to insurance companies. There are, however, several types of un-transferred risks that seemingly would be better borne by insurance companies than by individuals and that do not fall within the accepted explanations for exclusions. I provide three illustrative examples here as a motivation for the remainder of the Article, which identifies and develops a new cause to augment traditional explanations for why insurers forego some risks.

A. Home Equity Insurance

Home equity is the largest financial asset for most Americans.[46] Homeowners insurance covers losses to that equity from direct physical losses like fire or sudden structure collapses.[47] Losses to that equity for other reasons beyond direct physical loss, however, are not covered.[48] For some of these non-physical causes, it may make sense for the risk to be placed on policyholders. For example, diminished home values from law or ordinance changes[49] arguably are better borne by policyholders, because policyholders through their political vote can make their state or municipality internalize the costs of those legal changes, increasing the probability of efficient legal rules. Similarly, diminished values from shoddy workmanship or materials arguably are better borne by policyholders, because policyholders can force homebuilders and building manufacturers to internalize those costs, increasing the probability of efficient initial construction and manufacturing choices.[50]

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45. *See, e.g.*, Scott E. Harrington & Greg Niehaus, *Capital, Corporate Income Taxes, and Catastrophe Insurance*, 12 J. FIN. INTERMEDIATION 365 (2003).

46. *See supra* note 4.

47. *Supra* note 22. Note that home equity will be covered only if policyholders decide to insure the value of their home rather than just the balance of their mortgage, the latter of which is typically all that is required by mortgage companies.

48. This fact has been recognized for some time. *See, e.g.*, Shiller & Weiss, *supra* note 23 (discussing this problem in 1999).

49. HO-3 policy, *supra* note 15, at Section I – E.11 (covering law or ordinance changes only when reconstructing damaged property, and capping that coverage at 10% of the dwelling limit, so that major law or ordinance changes go uncovered).

50. HO-3 policy, *supra* note 15, Section 1 – Exclusions, B.3.b. When the home is built, policyholders can affect this allocation through choosing high-quality builders that use high-quality materials with more comprehensive warranties. *See generally* George L. Priest, *A Theory of the Consumer Product Warranty*, 90 YALE J. 1297, 1307-13 (1981) (modeling product warranties

However, causes of diminished home equity that are outside the direct or indirect feasible control of policyholders are the types of causes that insurance companies should be in the superior position to assume, and yet they do not do so. A home may lose value for many reasons, such as when its construction style goes out of fashion over time, or a superior nearby neighborhood development is undertaken, or a major airline carrier suspends operations at a nearby airport, or air pollution levels increase.[51] Policyholders have no practical ability to control the outcome of any of these events, and unless they own multiple homes, policyholders are not diversified to any meaningful extent against these losses. There would thus seem to be the potential for significant market demand for this product. There are many homeowners, those homeowners have little ability to diversify against the risk of home equity decline risks, and these risks present meaningful chances of imposing large, salient losses on homeowners' financial well-being. However, other than some brief, failed experimentation thirty years ago in Chicago, this type of product does not seem to exist.[52] Why not?

Traditional justifications would focus on the potential for adverse selection and moral hazard problems. Adverse selections may be present, because homeowners may have better information than an insurer about local housing market conditions, making it possible that owners of overvalued homes will, unknown to insurers, disproportionately buy home equity insurance.[53] These actions would tend to make a market for this product unsustainable. Moral hazard considerations will also be present, particularly involving home maintenance. Although some basic maintenance activities could be required in the insurance contract, the homeowner will have control over many other activities that may impact home equity values that would be hard to manage through policy language, like landscaping. If diminished equity values from poor maintenance would be covered by insurers, then this product might lead rational policyholders to refrain from these basic tasks even though they are best positioned to undertaking them.

However, both adverse selection and moral hazard issues could be addressed with some careful attention to a home equity insurance policy's coverage terms. Idiosyncratic home prices of individual houses are what present adverse selection and moral hazard concerns. Therefore, as long as policies covered home price changes at a larger geographic unit, such as

as allocating costly investments between manufacturers and buyers). Buyers of existing homes can affect this allocation by adjusting the purchase price for the perceived home quality, in turn giving the original buyer incentives to select high-quality builders and materials.

51. *See, e.g.*, Matthew E. Kahn & Randall Walsh, *Cities and the Environment*, *in* HANDBOOK OF REGIONAL AND URBAN ECONOMICS, Vol. 5, Ch. 7 (G. Duranton, J.V. Henderson, & W. C. Strange eds. 2015); Jeffrey Cohen et al., *Longer Term Housing Market Effects of a Major US Airport Closure*, 51 REAL ESTATE ECON. 990 (2023).

52. *See, e.g.*, Shiller & Weiss, *supra* note 23, at 32.

53. *See, e.g.*, *id*. at 25.

neighborhoods, towns, or counties, rather than price changes at the individual home level, then adverse selection and moral hazard concerns should largely disappear.[54] The increasing prevalence of home pricing data in machine-usable form significantly eases the burden of these calculations.[55] Policies might, for example, pay out a percentage of the home's purchase price that corresponds to the percentage decrease of an index comprised of a neighborhood's, town's, or state's home prices, thereby transferring much of the risk that homeowners face in home equity price movements. But because these policies pay out based on broader index movements, adverse selection issues should be mitigated unless homeowners know more than insurers about broader home price trends, which seems unlikely. Likewise, moral hazard considerations will largely disappear, because individual house price movements would be irrelevant for determining payouts, leaving intact homeowners' incentives to conduct efficient maintenance efforts.

Traditionalists might also worry that this type of product also presents correlated loss concerns: recent experience shows that home values can drop across wide regions simultaneously.[56] This concern, too, can be managed, by determining payouts based on *abnormal* index price movements. Paying based on the difference between a neighborhood's price movement and a county, state, or national price movement would remove any of the influence from factors that operate at these broader geographic levels and should therefore eliminate most of the correlated risk consideration.[57]

In sum, prevailing explanations do not explain why home equity insurance does not exist. Another explanation is needed.

B. Flood Insurance

Flood risk is another example of a risk that puzzlingly is not often covered by private markets. The market for flood risk should be large for

54. *Id.* at 26. These geographic units would require unrealistic coordination among homeowners in their purchase and upkeep decisions to cause unit-wide overvaluation that would raise adverse selection or moral hazard concerns.

55. This increasing prevalence also decreases adverse selection problems from insuring home equity on a narrow individual home basis. Advanced pricing algorithms make it increasingly less likely that a homeowner, but not an insurance company, would know that his or her home is overvalued. Moral hazard considerations would still remain, however.

56. *See, e.g.*, Justin Lahart, *Egg Cracks Differ in Housing, Finance Shells*, WALL ST. J., Dec. 24, 2007.

57. Of course, this type of term would place the responsibility for these risks on homeowners, who may not be particularly well-equipped to handle them. *See supra* notes 4-10 and accompanying text. This is a separate issue from the one explored here: whether a desirable product could be designed that does not implicate traditional explanations for its absence. But it may well be that many policyholders would be willing to pay more than insurers' costs of covering this correlated risk to get coverage, in which case it may become a standard feature of home equity contracts (with an accordingly higher premium) or be sold through an endorsement for those who wish to have the supplemental coverage.

the same reason that traditional homeowners insurance generally is. Home equity and outstanding mortgage balances represent major portions of homeowners' overall assets,[58] and both these sources are exposed to flood risk, so there should be broad demand by policyholders for protection from flood losses. Moreover, losses from flood are much more likely[59] than losses from fire, and fire coverage is what originally spurred the creation of homeowners insurance.[60] Yet flood damage is excluded from standard form homeowners insurance policies.[61] Why?

To some degree the lack of flood insurance markets may be driven by small demand. Nationwide, many policyholders mistakenly believe that standard homeowners insurance policies cover floods,[62] which would decrease the likelihood that they would pay for a standalone product. On the other hand, hurricane and other water-related natural disaster events tend to increase flood insurance take-up rates in risk-prone areas,[63] providing evidence of significant market-driven demand, and although far fewer than all homeowners buy flood insurance, many still do.[64]

The primary accepted explanation for flood exclusions is the correlated nature of flood losses.[65] Floods are often caused by major weather events, so the presence of one flood loss can signify the presence of many. Private insurance companies therefore have long excluded flood risk because its correlated nature makes it more expensive for insurers to cover. In the United States, the National Flood Insurance Program, a federal insurance program, has since stepped in to fill the void.[66]

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58. *See supra* note 5 and accompanying text.

59. *FEMA Flood Map Service Center: Search by Address*, FEMA, https://msc.fema.gov/portal/search (last visited Aug. 10, 2024) ("If you live in an area with low or moderate flood risk, you are 5 times more likely to experience flood than a fire in your home over the next 30 years.").

60. *Our History*, THE PHILADELPHIA CONTRIBUTORSHIP, https://1752.com/about-us/history [https://perma.cc/4AWU-RVHQ] (describing the history of America's longest lasting insurance company).

61. HO-3 Policy, *supra* note 15, Section I – Exclusions, A.3.a.

62. *Supra* note 29 and accompanying text.

63. Carolyn Kousky, *Disasters as Learning Experiences or Disasters as Policy Opportunities? Examining Flood Insurance Purchases after Hurricanes*, 37 RISK ANAL. 517 (2017).

64. Larry Baeder & David Evans, *Insights into Consumer Demand for Flood Insurance: Trends in Take-Up*, MILLIMAN (Sept. 28, 2021), https://www.milliman.com/en/insight/insights-into-consumer-demand-for-flood-insurance-trends-in-take-up [https://perma.cc/8AB9-NXPE] ; INSURANCE INFO. INST., 2016 CONSUMER INSURANCE SURVEY: HOMEOWNERS INSURANCE: UNDERSTANDING, ATTITUDES, AND SHOPPING PRACTICES 5 (2017), https://www.iii.org/sites/default/files/docs/pdf/pulse-wp-020217-final.pdf [https://perma.cc/764R-TVQS] (reporting that 10% to 14% of homes buy flood coverage).

65. *See, e.g.*, KENNETH S. ABRAHAM & DANIEL SCHWARCZ, INSURANCE LAW AND REGULATION: CASES AND MATERIALS 179-80 (7th ed. 2020); Ronen Avraham, *The Economics of Insurance Law – A Primer*, 19 CONN. INS. L.J. 29, 102-04 (2012); Scott E. Harrington, *Rethinking Disaster Policy*, 23 REGULATION 40, 42 (2000).

66. *Flood Insurance/National Flood Insurance Program*, NAT'L ASS'N OF INS. COMM'RS, Jan. 31, 2024, https://content.naic.org/cipr-topics/flood-insurancenational-flood-insurance-program-nfip [https://perma.cc/D3UU-HVZD].

However, there are reasons to question the severity of the challenge posed by correlated risks, both generally as well as in the context of floods specifically.[67] The appropriate question to ask is not solely whether insurers' costs of covering correlated risks will be higher than uncorrelated ones, but rather how insurers' admittedly higher costs of covering correlated risks compare to policyholders'. It is undoubtedly true that insurers will charge higher amounts to cover correlated risks than they would to cover similar uncorrelated ones. There are nevertheless reasons to think that this price will still be lower than policyholders often would be willing to pay. Picture a worst-case scenario where an insurance company writes solely homeowners insurance that covers losses from a single risk, losses from that risk are perfectly correlated across policyholders, and the insurance company has no reinsurance. For this unlucky insurer, the presence of a catastrophic loss at one insured home exposes the insurer to its limits of liability for each policy in its portfolio, which we can assume is the total replacement costs of all insured homes. Therefore, to ensure solvency, the insurance company will have to reserve an amount equal to the value of all insured homes' replacement costs, an undoubtedly expensive proposition. However, if the risk of home loss instead remains with policyholders rather than being transferred to the insurer, a similar situation will result. Each policyholder will have to reserve an amount equal to her home's replacement cost to ensure that her ability to live in the same quality house is uninterrupted by a loss. Summed across all policyholders, the same total amount must be reserved; the difference is that it must be reserved by policyholders rather than an insurer.

There are reasons to think that policyholders' resulting costs to self-insure in this way will be lower than insurers'. First, policyholders will not have the adverse tax consequences from retaining reserves that insurance companies do.[68] Second, policyholders may have an implicit free government financial backstop that insurance companies lack.[69] Correlated losses by their nature result in many individuals suffering losses at the same time, which seems to present the type of sympathetic audience to which governments often respond. Recent natural disaster history confirms the point.[70] Both these reasons will tend to reduce homeowners' costs of dealing with these risks relative to insurance companies'.

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67. For a more in-depth treatment of this argument, see Peter Molk, *The Government's Role in Climate Change Insurance*, 43 B.C. ENVTL. AFF. L. REV. 411, 413-16 (2016); Peter Molk, *Private Versus Public Insurance for Natural Hazards: Individual Behavior's Role in Loss Mitigation*, *in* RISK ANALYSIS OF NATURAL HAZARDS (Paolo Gardoni et al. eds., 2015).

68. Harrington & Niehaus, *supra* note 45.

69. Jack Hirshleifer, *Compensation for War Damage: An Economic View*, 55 COLUM. L. REV. 180, 185-86 (1955); Peter Siegelman, *A New Look at Terrorism Insurance: Jack Hirshleifer's* War Damage Insurance *after Fifty Years*, 9 CONN. INS. L.J. 19, 21 (2002).

70. *See, e.g.*, Molk, *Climate Change Insurance*, *supra* note 67, at 422. A list of current federal disaster relief programs is available online. *Forms of Assistance*, DISASTER ASSISTANCE, https://www.disasterassistance.gov/get-assistance/by-category-or-agency [https://perma.cc/5JBP-2HCL] (last visited Aug. 12, 2024). The list currently has seventy-six items.

On the other hand, there are reasons to think that insurance companies' costs nevertheless will be lower than policyholders' willingness to pay. If we relax some of the worst-case assumptions about insurer's perfectly correlated, un-ceded portfolio, then the amount insurers need to reserve for flood losses will decrease. The amounts of policyholders' required self-insured reserves, however, will not; policyholders generally own at most one of a major asset like a home or a boat, so for risks that affect these assets, policyholders are in the equivalent position to facing perfectly correlated losses and must fully reserve accordingly. Moreover, policyholders empirically exhibit an extremely high willingness to pay for some narrow insurance coverages, like airport life insurance[71] or car rental damage waivers,[72] and it is not inconceivable that the high willingness to pay would carry over to some of these correlated risks too.[73] In sum, then, assuming insurers do not face binding price ceilings from state regulators,[74] correlated losses explains why insurers might charge a higher rate for coverage but not why they would often exclude coverage altogether.

Given insurers' superior ability to weather the financial cost from floods by diversifying their risk portfolio and ceding risks to reinsurers, there are good reasons to think that insurers' cost to take on correlated flood risk will be lower than homeowners'. If correlated losses cannot explain modern flood exclusions, then neither can the other common justifications for un-transferred risks. The potential market for flood insurance should be large, not small. Flood insurance does not appear to present adverse selection concerns; even though risk exposure will vary by geography, insurers should know at least as much as will policyholders about a home's susceptibility to fund losses. Finally, moral hazard considerations should be minimal. Major flood resistance hardening efforts will be factored by insurers into setting premiums if policies are accurately priced, so policyholders should not have an insurance-induced incentive to build flood-prone houses in flood-prone areas.[75] Perhaps a policyholder may be marginally less likely to take last-minute preventative steps like sandbagging a home to prevent flood damage in the face of rising waters,

71. Jill Gregorie, *A Look Back: Whatever Happened to Airport Insurance Vending Machines?*, INSURANCE BUS. MAG. (May 27, 2015), https://www.insurancebusinessmag.com/us/news/breaking-news/a-look-back-whatever-happened-to-airport-insurance-vending-machines-22593.aspx [https://perma.cc/ZHM4-298T] (reporting premiums of $3.3 million and $1.4 million in claims).

72. Baker & Siegelman, *supra* note 31.

73. For at least some of these risks, however, people surprisingly lack an appetite to buy even when insurance is heavily subsidized. A variety of explanations have attempted to rationalize this phenomenon. *See* Molk, *Climate Change Insurance*, *supra* note 67, at 415-16 & n.25.

74. *But see* Daniel Schwarcz, *Ending Public Utility Style Rate Regulation in Insurance*, 35 YALE J. ON REG. 941 (2018) (examining how state regulators may impose these ceilings on insurers). To the extent insurers face price caps, either currently or potentially in the future, then it may be in their interest to exclude certain expensive-to-cover risks, like correlated ones, if state regulators do not reduce the applicable cap by a dollar-for-dollar amount.

75. *Cf.* Omri Ben-Shahar & Kyle D. Logue, *The Perverse Effects of Subsidized Weather Insurance*, 68 STAN. L. REV. 571 (2016).

but cost-sharing and quality-of-life disruptions from water damage will provide countervailing incentives.

Why then does flood risk go un-transferred to private insurers? Some of the current explanation undoubtedly is the result of historical events. The federal government's flood insurance program heavily subsidizes the highest risk policyholders,[76] crowding out private insurers from flood-prone markets where homeowners might be most receptive to the offering. A history of government aid to uninsured victims of major flooding events[77] also may lead rational policyholders to forgo buying costly insurance upfront, expecting free government assistance on the back end. Perhaps because of these reasons, private flood insurance is available for residential properties in countries without a government-provided flood insurance option,[78] but it is still largely absent for high-risk U.S. properties.

However, these explanations do not show why private insurance companies do not generally cover low flood risk houses. Competitive premiums for low risk houses could undercut prevailing federal market rates, which do not experience the large government subsidies of high-risk homes.[79] Low risk houses are also comparatively more likely to experience non-widespread flood damage from, say, a broken water pipe rather than widespread damage from a natural disaster, making it less likely a government will provide widespread aid while also making the risk less correlated and therefore more appetizing to private insurers. Yet private entry into this market is still small.[80]

C. Sinkhole Coverage

Another example from homeowners insurance concerns property damage due to sinkholes. Approximately 25% of the United States is comprised of ground that can be vulnerable to sinkhole development,[81] with certain states like Florida and Texas particularly vulnerable.[82]

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76. *Id*. at 609-10; Kenneth J. Bagstad et al., *Taxes, Subsidies, and Insurance as Drivers of United States Coastal Development*, 63 ECOLOGICAL ECON. 285, 287 (2007); Molk, *supra* note 67 (noting subsidies up to 70% to 90% of expected flood losses).

77. Ben-Shahar & Logue, *supra* note 75, at 625 (noting $109 billion in federal relief following the 2005 hurricane season, which included Hurricane Katrina, and $66 billion in federal relief following 2012's Hurricane Sandy.)

78. *See, e.g.*, Laurens M. Bouwer, Dave Huitema & Jeroen C.J.H. Aerts, *Adaptive Flood Management: The Role of Insurance and Compensation in Europe* (IVM Report No. W-07/08, 2007) (manuscript at 18), https://research.vu.nl/ws/portalfiles/portal/2257096/198976.pdf [https://perma.cc/EMU7-RV8X].

79. Ben-Shahar & Logue, *supra* note 75.

80. I return to this point *infra* notes 128-129 and accompanying text.

81. Shannon Martin, *What Is Sinkhole Insurance?*, BANKRATE, July 24, 2024, https://www.bankrate.com/insurance/homeowners-insurance/sinkhole-insurance [https://perma.cc/V59U-86W9]; David J. Weary & Daniel H. Doctor, K*arst in the United States: A Digital Map Complication and Database*, U.S. GEOLOGICAL SURVEY (2014), https://pubs.usgs.gov/of/2014/1156/pdf/of2014-1156.pdf [https://perma.cc/5WEB-X2RP].

82. Martin, *supra* note 81.

However, standard homeowners policies have excluded property damage from sinkholes for decades, making policyholders bear this risk instead.[83]

As with most risks of total home loss that are outside homeowners' control, it is difficult to argue that homeowners are the superior bearer of this risk compared to insurers. Given the prevalence of sinkhole risk particularly in certain regions, the market demand for this coverage should be appreciable, not small. Sinkholes are not the type of risk about which policyholders have superior information over their insurers, making adverse selection considerations minimal. Since policyholders cannot generally affect when or where a sinkhole will appear, moral hazard considerations either in where homes are built or how those homes are maintained should not be present. Finally, sinkhole losses should not be particularly correlated. Although over the long-term multiple sinkholes may open in the same general area, sinkholes open sporadically in particular areas, and since insurance companies write policies on an annual basis, they have plenty of time to respond to those developments by adjusting coverage.[84] Individual sinkholes are also fairly small and should affect, in extremely unlucky cases, at most a handful of properties.[85] Sinkholes simply are not in the same league of correlated losses as other earth movement exclusions, like earthquakes or mudslides.[86]

Some states require that insurers offer optional sinkhole coverage,[87] and Florida requires that insurers offer non-optional catastrophic sinkhole coverage as part of standard homeowners insurance policies.[88] Absent these mandates, though, coverage is generally not provided. The fact that property insurers continue to do business in these states with mandates suggests that mutually profitable transfers of this risk can occur but that, absent a regulatory mandate, some barrier remains in the way.[89]

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83. *See, e.g.*, HO-3 Policy, *supra* note 15, Section I – Exclusions, A.2.c; Cox v. State Farm, 459 S.E.2d 446, 447 (Ga. App. 1995); Village Inn Apartments v. State Farm, 790 P.2d 581, 582-83 (Utah 1990).

84. Note that if they respond by refusing to insure houses in those areas, then the risk is placed back on homeowners, which likely is undesirable, although those homeowners may be able to obtain coverage through a state plan for high risk homes.

85. Alabama claims the largest recent sinkhole, which still measures only 325 feet long by 300 feet wide. *What Is the Largest Sinkhole in the United States?*, U.S. GEOLOGICAL SURVEY, https://www.usgs.gov/faqs/what-largest-sinkhole-united-states [https://perma.cc/Y3YP-RDNS].

86. HO-3 Policy, *supra* note 15, Section I – Exclusions, A.2.

87. *Sinkholes and Insurance*, INSURANCE INFO. INST., https://www.iii.org/article/sinkholes-and-insurance [https://perma.cc/Q78P-PHZ9].

88. *Sinkholes and Catastrophic Ground Cover Collapse*, FLORIDA DEP'T OF FIN. SERVS. (Apr. 2021), https://www.myfloridacfo.com/docs-sf/consumer-services-libraries/consumerservices-documents/understanding-coverage/consumer-guides/english---sinkholes-and-catastrophic-ground-cover-collapse-guide.pdf [https://perma.cc/MJC8-T7KA]. Florida's coverage requirement applies only to catastrophic collapse where the building is condemned and ordered to be vacated. *Id*. Therefore, even with the regulatory requirement, homeowners retain some of the risk of sinkhole damage to the house.

89. At one time it was suggested that proof problems and poorly drafted policies led to overenthusiastic litigation about sinkhole coverage. *See, e.g.*, *Can I Get Sinkhole Coverage in Florida?*, SCHNEIDER & ASSOCIATES, https://schneider-insurance.com/can-i-get-sinkhole-

III. Impediments to Insurance Coverage Innovation

As the illustrative examples from the preceding Part show, there are multiple risks that, despite presenting a good case for being efficiently transferred to an insurance company, remain with policyholders. Accepted explanations do not offer sufficient answers. In this Part, I develop a novel explanation focused on structural impediments in insurance markets that deter experimentation in policy coverage. This explanation, in tandem with prevailing ones, offers a more complete theory for why certain risks are not transferred to insurance companies.

Insuring a new risk is like developing a new product.[90] The literature on product innovation is expansive, and I do not intend to provide a comprehensive summary here.[91] Instead, I draw on the basic point that most products at their inception have little market demand: "[s]ales are low and creep along slowly."[92] Incumbent insurance companies are massive operations: State Farm, the country's biggest homeowners[93] and private auto[94] insurer, has $220 billion in assets[95] and writes $27 billion in homeowners and $58 billion in private auto policies,[96] while major domestic life insurers' assets exceed $500 billion and annual premiums exceed $10 billion.[97] While these companies may have the internal data to

coverage-in-florida-2 [https://perma.cc/7F6U-PX2W]. Florida's codification of a mediation process appears to have addressed this issue such that it unlikely provides a current explanation for this un-transferred risk. FLA. STAT. § 627.7074; Nicole Fluet, *Cracks in the Structure: Recent Changes in the Sinkhole Litigation Realm*, 34 No. 4 TRIAL ADVOCATE Q. 28 (2015).

90. For more on the similarities between insurance contracts and products, see Daniel Schwarcz, *A Products Liability Theory for the Judicial Regulation of Insurance Policies*, 48 WM. & MARY L. REV. 1389 (2007).

91. The literature touches many different areas. For classic work on the management side, see THOMAS J. PETERS & ROBERT H. WATERMAN, JR., IN SEARCH OF EXCELLENCE: LESSONS FROM AMERICA'S BEST-RUN COMPANIES (2006). For recent work in the intellectual property space, see Melissa F. Wasserman, *The Changing Guard of Patent Law: Chevron Deference for the PTO*, 54 WM. & MARY L. REV. 1959, 2011-12 (2013) (considering the Patent and Trademark Office's role in spurring innovation). There are also many works on innovation that develop snappy phrases and mnemonics. *See, e.g.*, Alissa Mariello, *The Five Stages of Successful Innovation*, MIT SLOAN MGMT REV. (Apr. 1, 2007), https://sloanreview.mit.edu/article/the-five-stages-of-successful-innovation [https://perma.cc/YNB3-C55U]; James H. Landman, *The Five C's of Innovation*, HEALTHCARE FIN. MGMT ASS'N, May 30, 2018, https://www.hfma.org/finance-and-business-strategy/innovation-and-disruption/60863 [https://perma.cc/X9WM-P8Z2]; *Enduring Ideas: The 7-S Framework*, MCKINSEY Q., March 1, 2008, https://www.mckinsey.com/capabilities/strategy-and-corporate-finance/our-insights/enduring-ideas-the-7-s-framework [https://perma.cc/A7KT-F5JF].

92. Theodore Levitt, *Exploit the Product Life Cycle*, HARV. BUS. REV. (Nov. 1965), https://hbr.org/1965/11/exploit-the-product-life-cycle [https://perma.cc/AV73-NMBW].

93. Nat'l Ass'n of Ins. Comm'rs, Property/Casualty Market Share Report 2023, 2, https://content.naic.org/sites/default/files/research-actuarial-property-casualty-market-share.pdf [https://perma.cc/AH5N-XZ62].

94. *Id.* at 6.

95. 2023 ANNUAL REPORT, STATE FARM, https://www.statefarm.com/content/dam/sf-library/en-us/secure/legacy/pdf/2023-annual-report.pdf [https://perma.cc/ECA2-5D58].

96. Property/Casualty Market Share Report 2023, *supra* note 93, at 2, 6.

97. *Compare* A.M. BEST, WORLD'S LARGEST INSURANCE COMPANIES – 2023 EDITION, 2, https://bestsreview.ambest.com/displaychart.aspx?Record_Code=328159

make reasonable guesses about how to price new products,[98] getting these established companies interested in new insurance products, or new coverage terms for existing insurance products, is a difficult task since those innovations, at least in the short term, promise to be an infinitesimal definite drop in the revenue bucket relative to existing sales and assets. Of course, a select few of these innovations might end up paying off spectacularly, but identifying those from the morass of potential innovations is a task that few established insurers can undertake.

This innovation problem is by no means unique to insurance markets; it has been particularly recognized in the tech and biosciences spaces.[99] One of the successful ways this problem is addressed in those other spaces is for successful innovation to be concentrated in startup companies.[100] Although these companies have their own hurdles to overcome, their high-risk, high-reward models and smaller scale give them the ability and incentive to concentrate on developing new ideas into successful products. Once startup companies establish a likelihood of widespread success for their product, established firms can acquire them and develop the product at scale, effectively allowing those established firms to outsource innovation and ignore the distractions of developing new, small products from scratch in-house.

However, because of the nature of insurance markets, this innovation method that exceeds elsewhere will still face major hurdles in insurance. First, insurers cannot follow the high-risk, high-reward model used in other markets. Innovators outside insurance can bet on new products that are very likely to fail but might pay off spectacularly in rare cases; bankruptcy's backstop encourages these risky activities.[101] However, insurers, even new ones, face solvency requirements that dramatically increase the costs of

[https://perma.cc/7R3R-AXNZ] (providing global insurers' nonbanking assets) *with* NAT'L ASS'N OF INS. COMM'RS, LIFE/HEALTH MARKET SHARE REPORT 2023, 1, https://content.naic.org/sites/default/files/research-actuarial-life-fraternal-market-share.pdf [https://perma.cc/67QS-LSQS] (providing domestic life insurers' market shares and premiums written).

98. Absent large scale, insurers have relied on standard-term policies and industry-wide sharing of loss data. Ian Ayres & Peter Siegelman, *The Economics of the Insurance Antitrust Suits: Toward an Exclusionary Theory*, 63 TUL. L. REV. 971, 976-77 (1989). Shared standard-term loss data will be less helpful when innovating new coverage terms.

99. *See, e.g.*, Bernard Munos, *Lessons from 60 Years of Pharmaceutical Innovation*, NATURE, Dec. 2009; Tobias Weiblen & Henry W. Chesbrough, *Engaging with Startups to Enhance Corporate Innovation*, 57 CAL MGMT REV. 66 (2015); Rosanna Garcia & Roger Calantone, *A Critical Look at Technological Innovation Typology and Innovativeness Terminology: A Literature Review*, J. PROD. INNOVATION MGMT 110 (2002).

100. *See, e.g.*, Munos, *supra* note 99, at 959 (noting that only 6% of companies engaged in drug innovation registered a new molecular entity with the U.S. Food and Drug Administration since 1950, and that 88% of those registering companies "have failed, merged, been acquired, or were created by such M&A deals" during that time).

101. *See* Viral V. Archarya & Krishnamurthy V. Subramanian, *Bankruptcy Codes and Innovation*, 22 REV. FIN. STUD. 4949 (2009) (analyzing how variation in bankruptcy laws impact innovation incentives).

failures,[102] changing the cost-benefit calculation of innovation to make it much less favorable.

The need for insurers to appeal to reinsurers provides another hurdle. Reinsurance firms act as insurance for traditional insurance companies, taking on traditional insurers' risk much in the same way that traditional insurers take on policyholders' risk.[103] Most traditional insurers use reinsurance to manage their financial exposure, which is particularly helpful when the insurer's own capital reserves are insufficient to backstop the amount of business they wish to write.[104]

Reinsurance is particularly necessary for new firms engaged in insurance product innovation. Startup firms of all types often lack capital compared to incumbents,[105] and this is especially true in insurance, where decades of successful operations result in large accumulated surpluses.[106] New firms that specialize in only a single product also will face more correlated losses, since their offerings will not be diversified across multiple policy types and perhaps not across geographic areas. New products also will not have a sustained loss history to draw upon to predict future losses. These factors will make premium pricing difficult and further increase the necessity of obtaining reinsurance . Therefore, we might expect innovating startup firms to have a stronger appetite for reinsurance than will traditional insurance firms.

However, even more so than traditional insurers, the reinsurance market is dominated by a small set of massive firms,[107] with the top five reinsurers controlling half the market and the top ten accounting for two-

102. *See* Daniel Schwarcz, *Is U.S. Insurance Regulation Unconstitutional?*, 25 CONN. INS. L.J. 197 (2018) (analyzing state solvency regulation practices).

103. *See, e.g.*, *Reinsurance*, NAT'L ASS'N OF INS. COMM'RS (May 9, 2024), https://content.naic.org/insurance-topics/reinsurance [https://perma.cc/JP7P-H2EA].

104. *See supra* note 25 and accompanying text.

105. Weiblen & Chesbrough, *supra* note 99, at 66.

106. These surpluses are often intentionally large not only to mitigate solvency risk but also so that insurers can fund sustained underwriting losses *See, e.g.*, Risk & Insurance, *U.S. Property/Casualty Industry Records $21.2B Underwriting Loss in 2023*, RISK & INS., Mar. 25, 2024, https://riskandinsurance.com/u-s-property-casualty-industry-records-21-2b-underwriting-loss-in-2023 [https://perma.cc/ADA7-E94P] (noting property-casualty industry losses were more-than-offset by investment income from accumulated reserves in 2022 and 2023). Moreover, because many established insurers are nonprofits or policyholder-owned, not investor-owned, they are more likely to have comparatively higher retained earnings, either because doing so promotes more policyholder-friendly polices from more remote solvency risk or because of agency costs associated with lower managerial oversight. *See* Peter Molk, *The Puzzling Lack of Cooperatives*, 88 TUL. L. REV. 899, 919-22, 926 (2014) (analyzing ownership impacts on insurers generally); Henry Hansmann, *The Organization of Insurance Companies: Mutual versus Stock*, 1 J.L. ECON. & ORG. 125 (1985) (analyzing life and property and liability insurance); Peter Molk, *The Ownership of Health Insurers*, 2016 U. ILL. L. REV. 783, 886-91 (analyzing impacts on specifically health insurers).

107. REINSURANCE NEWS, *supra* note 26; Daniel Schwarcz, *Obamacare for Homeowners Insurance: Fixing America's Broken Insurance Markets in a Time of Climate Change* ("[T]he reinsurance market is dominated by a small number of immense global companies.").

thirds to three-quarters.[108] Even "small" reinsurers are huge operations, with the number 50 reinsurer writing over $800 billion in annual premiums and controlling $2 trillion in equity.[109] The same problems that deter traditional insurance companies from innovating will therefore operate again when startups seek reinsurance. Startups' small books of business will not be able to attract much attention from much larger reinsurers, particularly when reinsurers lack any meaningful loss history upon which to base reinsurance premiums and must therefore spend the time and effort to develop novel models to price a startup's reinsurance. However, without reinsurance, startups will not be able to develop their product, and the insurance market will remain locked into its traditional offerings. In effect, the dynamics that deter innovation at incumbent primary insurers will operate a second time with respect to reinsurers to provide two layers of deterrence to innovation in coverage terms.[110]

One might wonder why new reinsurers are not formed to capture these small profitable market opportunities if those opportunities indeed provide the potential for financial gain. If incumbent large reinsurers are not interested because new projects are small relative to their large balance sheets, then we might expect entry by new reinsurers whose balance sheets are not yet big enough to render smaller moneymaking projects uneconomical. After all, similar dynamics operate elsewhere, such as in the private equity space where larger private equity firms tend to focus investments in larger companies that are big enough to affect overall returns, leaving smaller private equity firms to enter to invest in smaller companies.[111] The difference, however, is that reinsurers' operations require them to have large balance sheets to maintain credible operations. Setting a floor, the National Association of Insurance Commissioners, the facilitator of insurance regulation across the states, requires that reinsurers maintain a minimum of $250 million in assets to be certified,[112] which is

108. *Reinsurance Market in 2022*, ATLAS MAGAZINE, https://www.atlas-mag.net/en/category/tags/focus/reinsurance-market-2022 [https://perma.cc/3LMV-GWHG] (Nov. 2023).

109. REINSURANCE NEWS, *supra* note 26.

110. There will still be disincentives against some types of innovation across all spaces, since startup firms often must draw upon private equity and venture capital funding, and these spaces operate with some degree of standardization. *See, e.g.*, Robert P. Bartlett, *Standardization and Innovation in Venture Capital Contracting: Evidence from Startup Company Charters*, Feb. 11, 2024, https://ssrn.com/abstract=4568695 [https://perma.cc/U53V-FY6K]. Those factors will also operate in the insurance startup space, which will also be capital-intensive; the need to appeal to reinsurers will act as an additional deterrent.

111. *See* Paul Gompers et al., *What Do Private Equity Firms Say They Do?*, 121 J. FIN. ECON. 449, 460 (2016).

112. *See, e.g.*, NAT'L ASS'N OF INS. COMM'RS MODEL LAW #786, CREDIT FOR REINSURANCE MODEL REGULATION § 8(B)(3)(b) (2019); NAIC Uniform Checklist for Reciprocal Jurisdiction Reinsurers (May 16, 2022).

typically required for reinsurers to be able to assume most risks.[113] Reinsurers' role in global capital markets and the trend toward reinsurance risk commoditization requires reinsurers to be far larger than this floor as a practical matter.[114]

Reinsurers bring an additional deterrent to insurance innovation. Setting aside the difficulty in obtaining reinsurance, startup and even some incumbent insurers have reason to develop new products, because being an early mover in a new space that grows and becomes profitable can provide significant future revenue.[115] Primary insurers gain brand recognition and valuable loss history that can be useful in attracting and pricing new customers. These firms therefore have some reason to stick with new, small-scale business for the prospect of large long-term revenue.

Reinsurers on an individual basis do not share this incentive, however. If a new product catches on and grows over time, there will be more reinsurance business overall, but there is no guarantee that this business will be captured by early-adopting reinsurers. Unlike the first-mover advantage in traditional product development, being a first-moving reinsurer brings only minor benefits. Reinsurance contracts, like primary insurers' contracts, are typically written on an annual basis,[116] but reinsurers do not gain major brand recognition or loss history advantages from being an early mover. Although relationship building is important in the reinsurance industry,[117] brand recognition from early entry for consumer products and primary insurers matters far more than brand recognition for early entry reinsurers, where purchase decisions are generally aided by sophisticated reinsurance brokers.[118]

Later-entering reinsurers also can undercut renewal prices by waiting until a product is established without incurring the startup costs from reinsuring a new product. Early reinsurers generally advise the insurer on how to limit losses on their product.[119] Later reinsurers will gain the

113. If a reinsurer is not certified, then primary insurers do not receive credit for solvency regulation purposes when they cede risks to the reinsurer, removing a significant benefit from engaging in the transaction.

114. *See* PAULA JARZABKOWSKI ET AL., MAKING A MARKET FOR ACTS OF GOD 178-79 (2015).

115. *See, e.g.*, Bruce Henderson, *The Product Portfolio*, BOSTON CONSULTING GROUP (Jan. 1, 1970), https://www.bcg.com/publications/1970/strategy-the-product-portfolio [https://perma.cc/4YRR-DTDW].

116. *See, e.g.*, Christopher L. Culp & Kevin J. O'Donnell, *Catastrophe Reinsurance and Risk Capital in the Wake of the Credit Crisis*, 10 J. RISK FIN. 430, 450 (2009).

117. JARZABKOWSKI ET AL., *supra* note 114, at 136-37.

118. Top reinsurance brokers regularly have annual revenues that exceed $1 billion. *Reinsurance Broker Ranking*, REINSURANCE NEWS, https://www.reinsurancene.ws/reinsurance-broker-ranking [https://perma.cc/7XQ2-LLCP].

119. The claims mitigation function is often seen as the role of the primary insurer when advising its policyholders, but reinsurers can serve a similar function when advising insurance company clients. *See, e.g.*, Omri Ben-Shahar & Kyle D. Logue, *Outsourcing Regulation: How Insurance Reduces Moral Hazard*, 111 MICH. L. REV. 197 (2012); (traditional insurers serving a loss mitigation role); David A. Hoffman & Rick Swedloff, *Insurers as Contract Influencers*, __

benefits of reinsuring these lower risk products without incurring the early costs that reduced those products' risk. Moreover, the beneficial loss history that can inform early-entrant primary insurers' subsequent operations does not translate to their early-entrant reinsurers. Loss history will generally be provided to prospective reinsurers by the primary insurer as part of the annual reinsurance underwriting process.[120] As a result, the pricing and claims benefits from being a first mover primary insurer do not carry over to reinsurers; all potential reinsurers will have access to the same data regardless of whether they reinsured the primary insurer initially.

Innovation may therefore be good for the reinsurance industry as a whole, as it provides more reinsurance business. However, as with the classic commons problem from economics that this situation resembles, individual reinsurance firms lack the incentive to move first and bear the disproportionate costs to help develop the product and expand the reinsurance industry.

The need to appeal to reinsurers will consequently dampen innovation both by insurance startups and by incumbent insurance companies. This effect is not due to any maliciousness or anticompetitive behavior by reinsurers but arises simply because of the economics involved in reinsuring a new, small, undeveloped product.

Appreciating this gatekeeping function of reinsurers shows why insurance coverage innovation should be expected to be relatively slow.[121] Innovation in any established market is difficult; innovation in insurance, where one's unproven new product must also attract the attention of behemoth, established players, is even more so. This difficulty is on top of any challenges associated with signing up the large amounts of startup capital needed to fund a capital-intensive operation like an insurance company, which even if using reinsurance must still carry large amounts of capital for solvency purposes.[122]

It also shows why insurance innovation is not nonexistent; if an insurer is able to attract the attention of a major reinsurance company by offering a potentially market-disrupting product, or even better a market-

MINN. L. REV. __ (forthcoming 2026) (same); SWISS RE, THE ESSENTIAL GUIDE TO REINSURANCE (2015), https://www.swissre.com/dam/jcr:d06472ab-2625-48cf-8b4e-7c7ac8aa63f0/The-essential-guide-to-reinsurance.pdf [https://perma.cc/VCG7-SG8P] ("Traditionally, reinsurers assist their clients in assessing and underwriting risks, designing contract wordings, managing claims as well as developing and pricing new products.").

120. *See, e.g.*, SUPERCEDE, REINSURANCE THAT CONNECTS 6 (April 23, 2021), https://supercede.com/reinsurance-insights-and-whitepapers/solving-the-industrys-biggest-challenge [https://perma.cc/HB5M-94M2] ("Cedents must gather and submit reams of historical policyholder and claims data for each submission. Brokers must then analyse this data and pass it to reinsurers.")

121. An interesting empirical project could confirm whether this prediction is true in practice.

122. Reinsurers will not accept all of a policy's risk; cost-sharing and required retentions help align the primary insurer's interests with the reinsurance company's by forcing the primary insurer to share in some of the risk.

disrupting process that uses existing products, then innovation might still be brought to market in spite of these hurdles. For example, Lemonade, a tech-focused homeowners insurance company, started selling policies in 2016 with a goal of disrupting traditional homeowners and renters insurance markets with an online-only model that adopted AI-backed claims management.[123] The company quickly grew to become the leading provider of renters insurance for new renters in some major urban markets like New York.[124] Despite having a miniscule national market share three years after its founding,[125] it still attracted the attention of the major reinsurers Axa, Hannover Re, and Swiss Re.[126] Presumably, the company's pitch of disrupting traditional insurance markets with its innovative loss settlement practices promised enough future revenue to get reinsurers on board early in the process. Moreover, Lemonade's practices were cleverly designed to appeal to reinsurers: the company's innovation lay in how policies would be sold and managed, but not in what the policies themselves would cover; Lemonade sells plain vanilla homeowners and renters policies.[127] Consequently, reinsurers could approach Lemonade's new business with a reasonable amount of certainty about projected losses based on reinsurers' claims experience with these policies in other contexts; Lemonade's innovation was in how policies were sold and claims were handled, but the policies themselves have decades of loss experience that reinsurers can access.

The theory also shows why we might still expect limited innovation that expands coverage in creative ways. Although a lack of loss history and the need to appeal to both insurers and reinsurers inhibits expansion of coverage, it is not a complete barrier. Recent years have shown expansion along two dimensions. One dimension is expansion within the traditional insurance/reinsurance coverage framework. The recent rise of cyber insurance policies[128] as well as some entry by private insurers into flood

123. Jeff Kauflin & Kristin Stoller, *First, Fire All the Brokers: How Lemonade, A Millennial-Loved Fintech Unicorn, Is Disrupting the Insurance Business*, FORBES (May 31, 2019), https://www.forbes.com/sites/jeffkauflin/2019/05/02/lemonade-fintech-insurance-unicorn [https://perma.cc/NR92-LPWP].

124. Daniel Schreiber, *Lemonade's Crazy Market Share*, LEMONADE, https://www.lemonade.com/blog/lemonade-insurance-crazy-market-share [https://perma.cc/63CS-XTBB].

125. Kauflin & Stoller, *supra* note 123 (noting that, as of 2019, "Lemonade is only a bit player, with a 0.5% share of the homeowners and renters insurance markets combined.")

126. Lemonade, Form S-1 Amendment 3, 135 (June 25, 2020), https://www.sec.gov/Archives/edgar/data/1691421/000104746920003846/a2241899zs-1a.htm [https://perma.cc/AG93-WF6A].

127. *See generally* Kauflin & Stoller, *supra* note 123 (describing Lemonade's innovations, which focus on how insurance is sold and claims are handled); *Types of Homeowners Insurance*, LEMONADE, https://www.lemonade.com/homeowners/explained/types-of-homeowners-insurance [https://perma.cc/NL7X-WP3H] (describing the standard homeowners and renters insurance policies sold by Lemonade).

128. Andrew Granato & Andy Polacek, *The Growth and Challenges of Cyber Insurance*, CHI. FED. LTR. No. 426 (2019), https://www.chicagofed.org/publications/chicago-fed-letter/2019/426 [https://perma.cc/B22K-WXCM]].

coverage[129] are examples where primary insurers offer new reinsurance-backed policies and coverage within existing constraints. We should expect some, but limited, instances of this type of expansion over time when lightning strikes twice to catch insurers' and reinsurers' attention. The other dimension of expansion cuts traditional insurers, reinsurers, or both out of the picture and instead appeals to broader capital markets as a substitute for these players. Captive insurance companies, for instance, are commonly formed by companies to cover unusual risks and directly access reinsurers, obviating the need to get traditional insurance companies on board to write coverage.[130] Insurance-linked securities like catastrophe bonds eliminate reinsurers and, sometimes, traditional insurers while providing a similar function to both.[131] Both captive insurance companies and insurance linked securities have been growing over time,[132] likely in part because of the relative ease in policy innovation without having to appeal to both a primary insurer and a reinsurer; for innovations that follow this approach, lightning must strike only once.

Finally, although there will be some expansion of coverage terms, this theory also explains why policy innovation within existing policies will be more likely to restrict rather than to broaden coverage over time.[133] New policies that restrict coverage relative to earlier language are easier for reinsurers to price than new policies that expand coverage. With more restrictive new policies, insurers can rely on loss experience with prior policies as an important data source. The new policies will have, at worst, the same claims experience as historical policies, and if the restrictive innovations prove effective, the new policies should impose lower losses on reinsurers than the prior policies. Therefore, reinsurers can price these policies relative to the prior forms with existing loss experience, knowing that policies from prior years represent a ceiling on reinsurers' potential liability. If reinsurers want to price aggressively, they could discount rates on the new forms modestly by their best guess of the innovation's effectiveness, adjusting that discount up or down over time as claims experience with the new forms develops. If reinsurers want to price

129. *See, e.g.*, Gregory DL Morris, *Flood of Change: Four Key Insights into Private Flood Insurance Underwriting*, RISK & INS. (May/June 2024), https://riskandinsurance.com/flood-of-change-4-key-insights-into-private-flood-insurance-underwriting [https://perma.cc/JX62-3M3B].

130. *See, e.g.*, Benjamin Whitehouse & Cassie Bachman, *A Business Lawyer's Guide to Captive Insurance*, BUS. L. TODAY (June 16 2023), https://businesslawtoday.org/2023/06/captive-insurance-business-lawyers-guide [https://perma.cc/QZN6-37PQ]; *Captive Insurance: Uptick in Use Reflects Market Realities*, AON (June 11, 202)4, https://www.aon.com/en/insights/reports/global-risk-management-survey/captive-insurance-uptick-in-use-reflects-market-realities [https://perma.cc/4BX7-M5DZ].

131. *See, e.g.*, INSURANCE-LINKED SECURITIES AND CATASTROPHE BONDS, AMERICAN ACADEMY OF ACTUARIES (June 2022), https://www.actuary.org/sites/default/files/2022-06/ILS_20220614.pdf [https://perma.cc/C4J5-MAXQ].

132. *Id*. at 3 (insurance-linked securities); AON, *supra* note 130.

133. *See, e.g.*, Daniel Schwarcz, *Reevaluating Standardized Insurance Policies*, 78 U. CHI. L. REV. 1263 (2011) (finding that departures from standard-form homeowners insurance contracts are much more likely to restrict rather than expand coverage).

conservatively, they could simply price the policies at the same levels as earlier forms, knowing their financial exposure should be no worse by doing so.[134]

On the other hand, reinsurers face considerably more risk and uncertainty when reinsuring a new policy that provides more generous coverage than the prevailing standard. Prior claims experience provides only a floor of liability, but pivotally not a ceiling. A reinsurer that wants to price conservatively cannot simply price policies at the same levels as prior forms, but instead must inflate those levels by the amount needed to cover the expected expanded claims from the new policy language. In effect, this amounts to pricing a new mini policy comprised of the new terms, and adding that amount to traditional pricing models. And, as discussed above, pricing new policies, whether mini or otherwise, is not a job that reinsurers relish.

Importantly, I do not mean to suggest that insurance market dynamics will prevent all innovation. Cyber insurance,[135] guaranteed home replacement cost insurance,[136] and pay by mile auto insurance[137] are just some of the examples of new insurance offerings that have emerged in recent years. Lloyd's of London also has a prominent incubator program and a capital funding program specifically set up to help bring new insurance ideas to market,[138] as do other specialty insurers,[139] perhaps in a conscious effort to help overcome the barriers that the industry otherwise faces. Finally, certain specialty insurers like Lloyd's,[140] Markel,[141] and others concentrate on writing new unusual coverage for unique risks.

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134. Note that even if reinsurers do not ever offer a discount, the primary insurer will still have an incentive to innovate this type of policy, since its exposure on any required retentions or on any quota share reinsurance will be lower with this type of policy.

135. Granato & Polacek, *supra* note 128.

136. *A Unique Solution for Your Unique Home*, PURE INSURANCE, https://assets.pureinsurance.com/PURE-High-Value-Homeowners-Highlights.pdf [https://perma.cc/E2NR-U46P] (highlighting optional "Guaranteed Replacement Cost" coverage that provides "peace of mind in knowing that your home can be rebuilt in like kind and quality, even when the actual cost to do so exceeds your coverage limits.")

137. *See, e.g.*, Todd Litman, *Pay-As-You-Drive Pricing and Insurance Regulatory Objectives*, 23 J. INS. REG. 35, 36 (2005) ("Some insurance companies now offer PAYD [Pay-As-You-Drive] pricing options, and many more are considering it.").

138. *Lloyd's Lab Accelerator*, LLOYD'S, https://www.lloyds.com/news-and-insights/lloyds-lab/insurtech/lloyds-lab-accelerator [https://perma.cc/H9LV-RJUL]; *Lloyd's Product Launchpad*, https://www.lloyds.com/news-and-insights/lloyds-lab/insurtech/lloyds-product-launchpad [https://perma.cc/2846-HDTN].

139. *See, e.g.*, *Markel Insurtech Underwriters*, MARKEL, https://www.markel.com/us/markel-insurtech-underwriters [https://perma.cc/9EJ3-HV59] (last visited Aug. 3, 2024).

140. *Our Market*, LLOYD'S, https://www.lloyds.com/about-lloyds/our-market [https://perma.cc/KEH8-YQJE] ("Lloyd's is the world's specialist insurance and reinsurance market.").

141. *US and Bermuda Offerings*, MARKEL, https://www.markel.com/us [https://perma.cc/683M-2MG2] ("Our teams are specialists in their field, focused on providing insurance for customers in unique ways for unique needs.").

Nevertheless, we should expect these efforts to counteract only partially the structural forces that reduce insurance coverage innovation. These impediments to innovation present troubling policy implications. I turn to those implications next, along with a discussion of how to address them.

IV. Implications

This Part develops implications that follow from recognizing the structural impediments to insurance coverage innovation. These impediments present two main policy problems. First, there will be lower levels of risk transfer to insurance companies across all risk types, meaning that social risk levels will be inefficiently high and social welfare will be inefficiently low. Second, there will be lower levels of risk transfer to insurance companies with new and emerging risks in particular, which will deter general innovation in those cutting-edge spaces. Fortunately, these problems are not intractable, and this Part concludes with multiple suggestions for how to address them.

A. Suboptimally Low General Risk Transfer

One direct consequence of diminished insurance contract innovation is that policy coverage terms will remain relatively undeveloped, on balance tending to contract over time. Therefore, insurance companies will not cover as much risk as they would in a better functioning market. This outcome is socially problematic for multiple reasons.

First, given that insurance companies are often in a better position to bear risk than are policyholders, undesirable risk will remain borne by parties who are not in the best position to do so. As described in the Introduction, utility gains could be had by transferring this risk to insurers, who would demand a smaller payment for taking on this risk than the welfare gain that policyholders will gain through risk transfer.[142] Instead, to return to earlier examples, individuals must bear the risk that real estate markets will decline or that a sinkhole will swallow their home, which will require individuals either to allocate financial resources to saving for these risks or else facing the risk of financial dislocation should those adverse events arise.

Overall social risk levels will also remain elevated, because insurers will miss out on the opportunity to aggregate independent risks. When insurers package together portfolios of independent, uncorrelated risks, they reduce social costs of uncertainty.[143] Similarly, when insurers do less of this packaging, social risk levels will be higher than necessary.

142. *See supra* notes 4-9 and accompanying text.
143. *See, e.g.*, Priest, *supra* note 1, at 1540-41.

Finally, overall social risk levels will also be elevated, because policyholders will forego receiving risk-reducing signals from their insurers and will therefore engage in riskier activities. The literature on how insurance companies can reduce policyholder risk activity levels is well-developed.[144] Broadly, insurance companies set premiums relative to policyholders' risk levels, so premiums send signals to policyholders about which activities will be risky and which will not. In addition, insurance policies may simply exclude coverage for certain high-risk activities whose risks policyholders would not otherwise appreciate.[145] These signals are particularly useful when insurers, but not policyholders, have an appreciation for the risks that policyholder activities pose, because the pricing and coverage signals encourage policyholders to engage in efficiently less risky activities to keep premiums low and maintain insurance coverage.[146] Homeowners insurers, for example, may have a better understanding of flood likelihood than policyholders, so that accurately priced flood insurance premiums would deter undesirable overdevelopment of flood-prone houses in flood-prone areas that otherwise happens when homeowners do not price this risk.[147] When fewer risks are subject to insurance, fewer of these signals are sent to policyholders resulting in higher society-wide risk activity levels than would be efficient.

B. Less Coverage Particularly for New and Emerging Risks

Another consequence of reduced insurance innovation is that insurance for new and emerging risks will be slow to develop. These risks are already hard to insure because, by their nature, they lack meaningful loss history upon which to base premiums. An additional issue arises because completely new risks often will not be covered under existing policies, meaning that the necessary innovation for coverage is significant: an entirely new policy needs to be crafted, rather than simply adjusting coverage terms of existing policies. The greater the requisite innovation, the less likely we should expect it to occur, everything else equal.[148]

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144. *See, e.g.*, Peter Molk, *Private Versus Public Insurance for Natural Hazards*, *supra* note 67; Molk, *The Government's Role*, *supra* note 67; Molk, *supra* note 17; Schwarcz, *supra* note 107; Kenneth S. Abraham & Daniel Schwarcz, *The Limits of Regulation by Insurance*, 98 IND. L.J. 215 (2022); Ben-Shahar & Logue, *supra* note 119.

145. *ee, e.g.*, Ben-Shahar & Logue, *supra* note 144, at 215; *Does Life Insurance Cover Skydiving?*, SKYDIVE MONROE (Dec. 30, 2023), https://skydivemonroe.com/blog/life-insurance-cover-skydiving [https://perma.cc/GD2V-44KK] ("Many standard life insurance policies exclude skydiving . . . .").

146. *See, e.g.*, *id*. at 205-08.

147. Schwarcz, *supra* note 107.

148. Note that many large-scale innovations might also correspond to a greater likelihood of the covered activity's economic significance, which might also correspond to greater economic impact and attractiveness of the innovation. As discussed above, though, this attractiveness mainly solves the incentive problem for the initial push to innovate by the primary insurer or insurance

This lack of coverage is a problem, because many new and emerging risks will arise in industries that are at the cutting edge of innovation. These industries' development often relies on the availability of insurance to cover their unforeseen liabilities. When insurance is unavailable to cover these risks, this type of development in turn will be stunted. In addition to the jobs and economic development that will not be created, a greater concern is that disruptive technology will never be developed or will be developed only along a significantly slower timeline. Since these sorts of innovations can have the greatest effect on improving overall economic welfare, it is deeply troubling when market forces inhibit rather than facilitate them. Popular candidates for positive global change like emerging technologies or climate resilience will see their development stunted without insurer involvement.[149] Consider just two examples where insurance has played a pivotal role in industry development. During the early phases of nuclear power plant commercialization, plants had difficulty obtaining insurance for the widespread potential property damage and contamination remediation expenses that their operations could cause.[150] A combination of insurance syndicates and plant-sponsored mutual insurance was created to handle these risks, allowing operations to expand.[151] More recently, Tesla had to begin offering its own car insurance coverage after reports that their cars had become effectively uninsurable by mainline insurers,[152] which has helped spur the car manufacturer's technological advances.

C. Potential Policy Responses

Fortunately, there are a variety of ways to address the insurance contract innovation barrier to risk transfer. At its core, the problem arises because of insufficient incentives to develop and reinsure new coverage terms. The natural solution, then, would be to encourage those incentives.

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startup; getting reinsurance companies on board will be difficult regardless of the product's future potential for economic significance. *See supra* note 115115120 and accompanying text.

149. *See, e.g.*, *The Role of Insurers in Tackling Climate Change: Challenges and Opportunities*, EIOPA (Apr. 2023), https://www.eiopa.europa.eu/publications/role-insurers-tackling-climate-change-challenges-and-opportunities_en [https://perma.cc/FNU8-YVFD]; *Climate Change and the insurance Industry: What Next?*, NORTON ROSE FULBRIGHT (Apr. 2024) https://www.nortonrosefulbright.com/en/knowledge/publications/fa0b3cbd/the-role-of-insurance-in-a-changing-climate-what-next [https://perma.cc/P25S-LG57].

150. Michael G. Faure & Tom Vanden Borre, *Compensating Nuclear Damage: A Comparative Economic Analysis of the U.S. and International Liability Schemes*, 33 WM. & MARY ENVTL. L. & POL'Y REV. 219, 254-55 (2008); JAMES C. DOW, NUCLEAR ENERGY AND INSURANCE 174-75, 179-80.

151. DOW, *supra* note 150, at 174-75, 179-80.

152. Leslie Scism, *Tesla Plans to Sell Owners Cheaper Car Insurance*, WALL ST. J. (May 7, 2019), https://www.wsj.com/articles/tesla-plans-to-sell-owners-cheaper-car-insurance-11557221400 [https://perma.cc/3PWM-AB7C]; Ann Carrns, *As Self-Driving Cars Hit the Road, Innovation Is Outpacing Insurance*, N.Y. TIMES (July 3, 2016), https://www.nytimes.com/2016/07/04/your-money/as-self-driving-cars-hit-the-road-innovation-is-outpacing-insurance.html [https://perma.cc/C4S7-MBGR].

There are multiple ways this encouragement could be accomplished, each with its own pros and cons. I consider several below.

1. Encourage Spending by Insurers and Reinsurers

One way could harness private incentives to push insurers and reinsurers to spend on insurance innovation. This could happen in a variety of ways,[153] but one could require insurers, reinsurers, or both to spend a specified percentage of their premium revenue on fostering insurance contract innovation or to explain their basis for refusing to do so. This approach has been tried in other markets to varying degrees of success. For example, India began requiring that larger firms begin spending at least two percent of their profits on corporate social responsibility activities or else to explain publicly why they refused to comply.[154] This method would rely on insurers to determine how their spending could best be allocated among potential projects. Private insurers and reinsurers are presumably in the ideal position to know where the risk transfer friction points are, so focusing on encouraging spending by those entities could maximize the chance that those friction points are addressed promptly and effectively.

This approach clearly has problems as well. There is no guarantee that forcing insurers and reinsurers to spend a specified amount of money will translate into that money's being well-spent, although generating goodwill as well as future profitable insurance ventures provides at least some attenuated incentive to spend wisely.[155] Additionally, a spending mandate may have the perverse consequence of reducing spending, if insurers and reinsurers are already above the threshold and view the threshold as a new spending target rather than as a spending floor.[156] Finally, there are clearly definitional issues in defining what sort of spending would be credited towards the threshold. Insurers and reinsurers would have reason to count internal spending on product development in which they already engage, which would tend to undermine any impact from a spending requirement. On the other hand, internal spending should not just be simply excluded, since it could have the same desirable impact as external spending, and the spending mandate could simply be adjusted upwards if it is found that it is not promoting meaningful new innovation spending.

153. Another option might consider granting limited monopolies for developing new markets, although the state-level regulation of insurance makes this approach intractable even if were otherwise desirable. *See, e.g.*, Michael Abramowicz & John F. Duffy, *Intellectual Property for Market Experimentation*, 83 N.Y.U. L. REV. 337 (2008).

154. Dhammika Dharmapala & Vikramaditya Khanna, *The Impact of Mandated Corporate Social Responsibility: Evidence from India's Companies Act of 2013*, 56 INT'L REV. L. & ECON. 92 (2018).

155. *See, e.g.*, *id*. at 103.

156. *Id*.

2. Subsidize Reinsurance for New and Emerging Risks

Another approach could subsidize reinsurance for new and emerging risks. These risks are likely to be the most troublesome to reinsure, which also makes them among the most troublesome to insure, which in turn disincentivizes innovation in new industries.[157] A government-subsidized private reinsurance layer, where the government offsets some of insurers' reinsurance costs, could help spur private reinsurance supply, helping to counteract the disincentives that otherwise exist. So could government purchases in alternative capital markets that compete with reinsurers,[158] like cat bonds, which would drive more dollars to investing in reinsurers' offerings. Funding could be subsidized through a fund contributed by primary insurers and reinsurers.

This approach has several advantages. It mainly relies on private market forces, which are likely best equipped to determine which new and emerging risks should be covered. It also does not suffer from definitional constraints like the prior solution, since subsidies could be available simply for any reinsurance market currently below a predefined dollar threshold set to capture undeveloped markets in which reinsurers otherwise would have little appetite to participate.

This approach also is similar to existing public subsidization of insurance, albeit in a new context. The state of Florida, for example, has subsidized private reinsurance of state homeowners insurance hurricane coverage in an effort to stimulate private interest in reinsuring this product,[159] while the federal government provides government-based reinsurance for terrorist-related property risk.[160] Public taxing of the insurance industry to pay for industry-related programs is also not new. For instance, Florida levies eight different taxes and fees on insurers in the state, including taxes to cover the state fire marshal's activities, to cover the firefighters' pension trust fund, and to cover the municipal police officers' retirement trust fund.[161]

Finally, this approach directly targets the key barrier posed by reinsurers. As discussed earlier in Part II, disincentives to innovate at the primary insurer level can be overcome by startup companies or the benefits gained from first-mover advantages.[162] Difficulties in getting reinsurers to

157. *See supra* Part II.

158. *See, e.g.*, AON, REINSURANCE MARKET DYNAMICS 7 (Jan. 2025), https://assets.aon.com/-/media/files/aon/reports/2025/reinsurance-market-dynamics-jan-2025-report.pdf [https://perma.cc/8Z3Y-PYAY] (estimating alternative capital at roughly one-fifth the size of traditional reinsurer capital).

159. olk, *supra* note 17.

160. Michelle E. Boardman, *Known Unknowns: The Illusion of Terrorism Insurance*, 93 GEO. L.J. 783, 788-89 (2005).

161. *Florida Insurance Premium Taxes and Fees*, FLORIDA DEP'T OF REV., https://floridarevenue.com/taxes/taxesfees/Pages/ipt.aspx [https://perma.cc/XP4P-4SGU].

162. *See supra* notes 103-119 and accompanying text.

participate are not as easily overcome by private market forces, making policy intervention that directly targets reinsurers perhaps more desirable.

As with the other policy suggestions, this one also is not without potential problems. Foremost among them is that it requires the government to identify which markets should be subsidized, which could result in wasteful spending if the government chooses poorly. This problem, however, does not seem any more insurmountable than it is in other areas of targeted government subsidies, such as grantmaking by government agencies or preferential tax code provisions.

3. Reduce Regulatory Barriers to New Insurance Products

Another approach could be to reduce regulatory barriers to insurance contract innovation. Most states have some type of policy form regulation for personal insurance lines, and some do for commercial lines as well.[163] This type of regulation examines policies to make sure they are generally fair and reasonable and contain any state-required specific policy language.[164] Until a state's regulators sign off on the policy, insurers generally are not allowed to sell that policy to people or entities in that state.[165]

Form regulation is another impediment to insurance contract innovation that would transfer more risk to insurance companies, particularly in personal lines. Since new language must first be approved in every state in which the insurer wants to use it, innovation with existing forms is dissuaded. For these, the insurer may find it easier to continue using tried-and-true language simply because they do not need to wait for regulatory approval, which discourages updating the policies with new coverage terms. Innovation with completely new forms will be deterred as well, particularly if brand-new forms receive enhanced scrutiny from state regulators. In this situation, existing insurers would be steered towards concentrating on existing products rather than developing new ones, while potential startup insurance entrepreneurs would instead concentrate on non-insurance opportunities. In essence, then, form regulation problematically amplifies the barriers to insurance contract innovation that already exist.

There may be value in form regulation, so I do not mean to suggest it should be abandoned entirely simply because of this problem. If it does inhibit coverage innovation, however, then this regulation should be critically examined.[166] It should be possible to achieve the merits of form

163. ABRAHAM & SCHWARCZ, *supra* note 65, at 150-52.

164. *Id*. at 151; Rick Swedloff, *The New Regulatory Imperative for Insurance*, 60 B.C. L. REV. 2031, 2048 (2020).

165. ABRAHAM & SCHWARCZ, *supra* note 65, at 151.

166. This is particularly true if form regulation encourages policies to be standardized and disincentivizes experimentation. *See* Swedloff, *supra* note 164, at 2071 ("[F]orm regulation

regulation without erecting significant deterrents to insurers' attempts to use new language or transfer new risks. For instance, state regulators could commit to reviewing forms in only a handful of days, rather than the months-plus process that can currently occur.[167]

Regulators should also consider whether it makes sense to apply aggressive rate regulation to new products and new terms. In addition to the delays that rate approval causes,[168] insurers in many states are subject to state insurance commissioner determinations that their proposed premium rates are excessive and must be reduced.[169] New insurer offerings may be particularly vulnerable to these determinations, since they lack loss history to support insurers' proposed rates, and rates may be scaled up to reflect the risk that claims ultimately will be far greater than expected.[170] Regulators should be particularly sensitive to disallowing requested rates for new policies or for existing policies with significant expansions in coverage terms. Rate regulation can be useful, so I do not mean to suggest that the practice should be abandoned because it may deter policy innovation. Rather, the costs of insurance regulation can be particularly high for novel insurance policies, so unless the benefits are similarly elevated, it may be worthwhile to apply a lighter regulatory touch in this context.

4. Encourage a Broader Reinsurer Perspective

A final response would seek to broaden reinsurers' perspective beyond focusing on their reinsurance-specific annual renewals, either to take a longer-term perspective or a market-wide perspective. Annual reinsurance contracts weaken reinsurers' appetite for new risks, because early-adopting reinsurers bear early stage development costs that they may not recoup if cedents switch reinsurers at their next renewal.[171] Consequently, even new coverage that may increase risk transfers and be beneficial for the reinsurance industry as a whole may never get adopted

creates some standardization. Although not complete, standardization makes it easier for consumers to compare complex insurance products.") (internal footnote omitted).

167. *See, e.g.*, FLA. STAT. § 627.410(2) (giving Florida regulators 30 days to approve forms with the option for a 15 day extension). Florida regulators often process forms well before the 45 day window approaches its close; the state's regulator actions are viewable at *IRFS Forms & Rates Filing Search*, FL. OFFICE OF INS. REG., https://irfssearch.fldfs.com [https://perma.cc/QH4N-N75Y].

168. *See, e.g.*, *Rate Filing Review Process*, CAL. DEP'T OF INS., https://www.insurance.ca.gov/0250-insurers/0800-rate-filings/rate-filing-review-process.cfm [https://perma.cc/4YNM-H4NG] (requiring fourteen days to determine whether a rate filing meets basic filing requirements, another ten days to provide public notice of the filing, another sixty days for review by the state regulator, and up to another 165 days if the state regulator or a member of the public requests a public hearing).

169. *See, e.g.*, Schwarcz, *supra* note 74.

170. *See supra* notes 106-107 and accompanying text.

171. *See supra* notes 116-120 and accompanying text.

because no single reinsurer has enough financial incentive to be the first adopter.

Private market forces could overcome these coordination failures either by taking a market-wide perspective or a longer term perspective. First, if reinsurers acted not in their individual interest but instead in the collective interest of their entire market, then new risks could get traction with reinsurers when they promise desirable long-term market expansion opportunities. Overcoming collective action problems like these can be difficult, but industry groups and other coordinating mechanisms are often effective.[172] The reinsurance industry already has several promising contenders that have organized often to present a single, amplified voice on shared legislative issues;[173] turning their attention to shared market opportunities would be a natural extension.

Second, if reinsurers adopted a long-term perspective, then they would have more appetite to develop new market opportunities than when faced with a series of one-year contracts. The relationship aspect of reinsurance contracts helps provide some of this incentive,[174] although this aspect of the industry has been facing pressure in recent years.[175] Long-term contracts could provide the requisite financial incentive, just as it does with primary insurers,[176] but the loss of price flexibility would be a significant deterrent. Joint ventures between primary insurers and reinsurers could provide another avenue to overcoming short-term perspectives. A long term joint undertaking that splits rewards between primary insurers and reinsurers would encourage reinsurers to incorporate potential market opportunities beyond single-year contracts, helping to overcome the disincentive to help innovate new products that otherwise exists. Insurers' investments and capital structures are notoriously conservative, driven to some degree by solvency regulation and risk-based capital models, so it is unclear if this solution would be feasible in practice despite its advantages.[177] The lack of market examples along these lines is likely telling.

172. *See, e.g.*, MANCUR OLSON, THE LOGIC OF COLLECTIVE ACTION: PUBLIC GOODS AND THE THEORY OF GROUPS 48 (1971).

173. *See, e.g.*, *About the RAA*, REINSURANCE ASSOCIATION OF AMERICA, https://my.reinsurance.org/RAA/RAA/About-the-RAA/About-the-RAA.aspx [https://perma.cc/LLN9-UUXY]; *About*, BROKERS & REINSURANCE MARKETS ASSOCIATION, https://www.brma.org/about.php [https://perma.cc/5WAM-7LRH].

174. *See supra* note 117 and accompanying text.

175. Barry R. OSTRAGER & MARY KAY VYSKOCIL, MODERN REINSURANCE LAW AND PRACTICE § 3:04 (3d ed. 2014).

176. *See supra* notes 115-120 and accompanying text.

177. Peter Molk & Frank Partnoy, *Institutional Investors as Short Sellers?*, 99 B.U. L. REV. 837, 849-50 (2019).

Conclusion

Insurers are in a better position to bear many risks than are policyholders, but a surprising number of these risks are not transferred to insurers and instead must be borne by policyholders. This Article adds to conventional explanations by focusing on insurance market structure, showing how the need to appeal to insurers and to reinsurers imposes a double layer of disincentives to insurance policy innovation. As a policy matter, this outcome is problematic both for the efficient allocation of risks as well as for the development of new and emerging industries. Fortunately, policy responses like the examples proposed here can help address these issues.