

Article

# The state and the state-of-the-art: prefiguring private insurance for US flood risk

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## Abstract

States not only govern markets, but they also create them, often with the intention of expanding or improving the delivery of specific policy objectives. This article outlines one way they do this: prefiguration. States prefigure markets, and private market actors, when they imagine and instantiate new market products, logics, and practices. I illustrate prefiguration through an analysis of the history of the National Flood Insurance Program (NFIP), the federal program that underwrites flood insurance in the United States. From the time of the NFIP's establishment, policymakers and officials have fashioned and continuously reformed a public program, and an insurance product, in ways that emulate an imagined primary private flood insurer. In doing so, though, they have gradually established the conditions under which private flood insurers can do business. This article contributes to scholarship on state 'marketcraft'. Whereas many scholars have addressed why governments turn to markets in the first place, and the consequences of doing so, this article offers a closer examination of what takes place in between: the specific activities that governments undertake as they pursue market creation.

**Key words:** state, markets, governance, public policy, risk

**JEL classification:** H11 structure, scope and performance of government

## 1. Introduction

In March 2019, the United States Federal Emergency Management Agency (FEMA) first announced it would be dramatically transforming the way flood insurance is priced through the National Flood Insurance Program (NFIP), which it runs. The NFIP is a public, federal program that underwrites flood insurance policies for homes and small businesses across the US. Since its establishment by Congress in 1968, rates for insurance coverage have

depended on ‘flood insurance rate maps’ (FIRMs), also produced and updated by the federal government, which establish broad zones of flood risk.

Now, FEMA announced, under a ‘new pricing methodology’ called Risk Rating 2.0, that would all be changing. The NFIP would be setting rates more like a private insurer would, incorporating ‘state-of-the-art industry technology’, including ‘private sector data sets, catastrophe models and evolving actuarial science’ (Federal Emergency Management Agency, 2021a,b). According to FEMA (2021b), ‘Risk Rating 2.0 is not just a minor improvement, but a transformational leap forward’. With the new rating system, the NFIP would meet the demand, coming from voices inside and outside government and growing in intensity in recent years, that it adopt private industry practices perceived to be more responsive to catastrophic losses as the climate crisis continues to unfold.

On its face, in FEMA’s announcement, a public agency appears to be following the lead of private insurers; the state is catching up to best practices developed by and through private innovation. However, I will show, this framing obscures the federal government’s leading role in creating the conditions under which private insurers can, today, technically assess and profitably commercialize flood risk. Risk Rating 2.0 represents only the latest effort by the US federal government, over the course of more than fifty years, to entice the participation of private insurers in providing flood insurance. First, the federal government *demonstrated* the technical viability of the flood insurance product by developing the risk knowledge techniques and tools to facilitate risk-based rating. Later, policymakers and officials tried to make the NFIP *simulate* an imagined private insurance business in both the way it sold the product and its overall financial management. Following Hurricane Katrina in 2005, Congress sought to *service* private industry needs, removing obstacles to private insurers developing and selling their own flood insurance products. And with Risk Rating 2.0, the state is *reformatting* the techniques of the NFIP so that it might operate like one flood insurer among many, in a market where private insurers can then compete.

I argue that this history of the NFIP highlights a key imaginative and material mode of state ‘marketcraft’ (Vogel, 2018): prefiguration. States prefigure private markets, and private market actors, in the sense that when government programs appear to ‘privatize’, as the NFIP now seems to be doing, they are not simply adopting or imposing logics, styles and practices developed in commercial domains; they may also play a leading role in prototyping those logics, styles and practices, both imagining and instantiating them. In the case of the NFIP, through these specific practices of demonstration, simulation, servicing and reformatting, policymakers and officials fashioned and continue to reform a public program and an insurance product in ways that emulate an imagined private primary flood insurer that has not, until recently, existed. In doing so, though, they have gradually established the conditions under which a new generation of private flood insurers can and want to do business.

In the broadest sense, the history of the NFIP engages a perennial sociological concern: the relations between states and markets. Before turning to this case, I therefore conceptually situate prefiguration in the literature on state marketcraft, with a focus on the American context and insurance markets. I then empirically elaborate prefiguration with respect to the NFIP. In the conclusion, I examine the implications and limitations of prefiguration in a context where political considerations of the common good have always circumscribed how states and markets manage risk, and where the presumed superiority of private insurance may be breaking down in relation to catastrophic natural hazards.

## 2. Prefiguration as marketcraft

Prefiguration more precisely specifies what states *do* when they turn to markets in pursuit of policy aims. It encapsulates both the imaginative work of crafting a market idea that actors can orient their activity towards, as well as the practical work of policymaking, technical innovation and program reform required to create and sustain a working market populated by private actors and products. The objective here is inspired by and shared with recent scholarship that, as Quinn (2019) puts it: ‘moves creative government activities from the margins to the center of the story ... to paint a more detailed picture of how markets are made’ (p. 15).

That markets are institutions, and more to the point institutions that rely on states, is a fundamental sociological premise—by now ‘a rather banal assertion’ (Vogel, 2018, p. 3; Polanyi, 1944; Weber, [1922]1978; Fligstein and McAdam, 2019). Markets and market actors depend on legal and political structures, for example, property and contract law, such that states powerfully shape whether or how markets work. In turn, states not only make but are also remade by markets. In the US context, many scholars have observed that social provision has been, especially since the mid-1970s, turned over to private actors and private markets, through delegation (Morgan and Campbell, 2011), contracting out (Gotham, 2012) and other forms of state retreat commonly associated with neoliberalism (Harvey, 2005). Yet by actively managing and governing indirectly through markets, the American welfare state is not shrunk so much as transformed (Pierson, 1996; Prasad, 2006; Farrell, 2018; Quinn, 2019), yielding a ‘hidden’ (Block, 2008), ‘submerged’ (Mettler, 2011) and systemically complex American state (Clemens, 2006; Howard, 2007) where the boundaries between public and private are often porous and blurry (Mayrl and Quinn, 2016).

While much has been said about *why* states have turned to markets and market actors in the pursuit of policy aims, as well as about the (often unintended or unforeseen) *effects* of doing so—particularly in the US context—the *how* warrants further elaboration. To this end, I identify specific strategies and practices of ‘marketcraft’, a term coined by Vogel (2018) to foreground the ‘artistry’ of market creation. Marketcraft encompasses a range of state activities related to the design and governance of markets, which produce a spectrum from what Vogel (2018) describes as more ‘organic’ to more ‘fabricated’ markets. It, most basically, describes the widely discussed functions of governments to set and enforce market rules and regulate market actors. It can also characterize the steps governments take to fund and coordinate research that generates commercially useful knowledge and techniques (Block, 2008); to create tradeable market objects (Knox-Hayes, 2010) and to pioneer business practices (Quinn, 2019).

With the goal of ‘paint[ing] a more detailed picture of how markets are made’ (Quinn, 2019, p. 15), I offer prefiguration as an inductively and empirically derived mode of marketcraft. It can enrich our understanding of ‘privatization’—the label often applied when states shift social provision to private markets. Conventionally, privatization encompasses the outsourcing of once-public services (e.g. waste removal) to keen private actors, and/or the selling off of state assets (Samson, 1994; Burch, 2009; Lobao, Adua, and Hooks, 2014). It may also involve the imposition of corporate organizational cultures (e.g. New Public Management) on government agencies (Hood, 1991; Jurik, 2004). But through prefiguration, when states appear to privatize certain functions or responsibilities, they are not

necessarily best understood as slavishly following the lead of an already-dynamic private sector or capitulating to powerful industrial actors. Instead, as the case of the NFIP will illustrate, government officials try to bring the private sector along, endeavoring to generate the private market actors who might then someday compete with or replace direct government provision.

Prefiguration contributes to understandings of marketcraft not only through empirical specification, but also by conceptually foregrounding the imaginative and political work involved in marketcraft. Sociologists have developed the concept of prefiguration not in relation to states and markets, but rather in association with social movements. There, ‘prefigurative politics’ refers to situations ‘where protesters express the political “ends” of their actions through their “means”, or where they create experimental or “alternative” social arrangements or institutions. Both meanings share the idea that prefiguration anticipates or partially actualizes goals sought by movements’ (Yates, 2015, p. 1). This description of anticipation and partial actualization nicely captures what states are often doing when they attempt to create markets that serve political or policy ends. Policymakers ‘envision’ competitive markets that do not yet exist (Morgan and Reisenbichler, 2022) and orient their action towards them with the presumption that they can or will exist.

This imaginative work is powerful. Imaginaries, Paprocki (2021) notes, ‘are not mere figments’: they are ‘a means of world-making’ (p. 12). Christophers (2019), looking also at flood risk and insurance but in the United Kingdom, describes the market idea as ‘allusive’: something invoked, projected, promised but—in his case—not actually enacted. The existing British government-supported reinsurance scheme is expected to give way to a free market for flood risk insurance, but that ‘presumed market lacks form’ (Christophers, 2019, p. 3)—its nature has never been specified. UK policymakers presume the inevitability of a future private market but do not actually put one into place. Yet this imagined vision nevertheless does important political work: it ‘serves to obviate the need for pursuing the here-and-now sustainable, non-transitory, non-market-based approaches to flood risk management’ (Christophers, 2019, p. 4). In the US context examined here, the market is also allusive but, in contrast to the UK, it is alluded to in part to help create the conditions for its existence. The important political work in this case, as in prefigurative protest described by Yates (2015) above, is to motivate a series of experiments. Policymakers express the ‘end’ of a private flood insurance market through the ‘means’ of pioneering new arrangements for assessing, commercializing and distributing flood risk.

Insurance provides an illuminating domain for further investigating state/market relations because of the historical intertwining of and mutual influence between governments and private insurers (Ericson, Doyle, and Barry, 2003; Ewald, 2020; Krippner, 2023; Van der Heide and Kohl, 2023). The story of prefiguration told here fills out the picture of this influence, where much attention has focused instead on the way private insurance techniques have imprinted on states. We know more about the role of private commercial insurers in ‘statecraft’ throughout history, specifically at the level of governmental techniques and logics (Ewald, 2020). Private insurers play a ‘vanguard’ role in pushing the limits of risk knowledge (Ericson and Doyle, 2004, p. 136) and pioneering calculative and commercial techniques (Bougen, 2003; Jarzabkowski, Bednarek, and Spee, 2015; Lobo-Guerrero, 2016)—as FEMA itself emphasized in launching Risk Rating 2.0. Private insurers’ approaches to risk have then ‘serv[ed] as an incubator for new forms of social governance that were eventually adopted by other institutions’ in, for example, medicine, education

and criminology, which have incorporated actuarial methods and logics (Defert, 1991; Baker and Simon, 2002; O'Malley, 2004; Horan, 2021, p. 12). In the US, actuaries are today staffed across government agencies charged with overseeing not only natural hazards, but also health services, labour, housing, energy and defence.

Yet even if commercial insurers have imparted their statistical and actuarial techniques to the government of societies broadly (Ewald, 2020), 'insurance technology and actuarial science did not fall from the mathematical skies to incarnate themselves in institutions'; they were 'built up gradually out of multiple practices' unfolding historically (Ewald, 1991, p. 198). And when it comes to the organizational forms of insurance markets, 'for insurance throughout history, there has been and continues to be no escaping the state' (Pearson, 2021, p. 1062; see also Haufler, 1997; Lengwiler, 2010). Ewald (1991) suggests that the sociologist's job is in part to illuminate 'the social conditions which provide insurance with its market, the market for security' and notes, furthermore, that 'These conditions are not just constraints; they can offer an opportunity, a footing for new enterprises and policies' (p. 198).

States have at different times and places shaped insurance markets by acting as backdrop (structuring the business and legal environment) or participant (directly providing insurance) (Pearson, 2021). Prefiguration offers a way to conceptualize marketcraft in the insurance context by highlighting that states do not just react to private innovation and activities, nor do they simply provide non-market alternatives; states can also take a leading, proactive role in asserting the possibility of private insurance markets—markets that never occur naturally but need to be 'fabricated' (McFall and Dodsworth, 2009)—and instantiating them through creating the conditions of commercial insurability. Marketcraft through prefiguration is the making material of an 'insurential imaginary': 'the ways in which, in a given social context, profitable, useful and necessary uses can be found for insurance technology' (Ewald, 1991, p. 198; see also O'Malley, 2004; Booth *et al.*, 2022).

Attention to the creative role of states in private insurance markets also surfaces more collaborative and coordinated relations between states and private insurers, rather than adversarial and conflictual ones. As we will see in the context of US flood risk, policymakers and officials have stayed in close consultation with private insurers for decades, actively seeking to overcome their resistance to commercializing flood risk. This is a rather different story from US health and life insurance over the same period, where the private industry resisted the creation of new programs of public insurance and the nationalization of existing lines, positioning itself as in 'competition with the state both in the market for security as well as in the provision of a wide range of social services' (Horan, 2021, p. 41; see also Hacker, 2004; Quadagno, 2006). Insurance companies have pushed an 'anti-state message' (Horan, 2021, p. 13) and claimed supremacy for the private security they provide; today, this is also true for flood risk. But prefiguration excavates state activities that were the handmaiden to the supremacy the private insurance industry now claims. These activities created the conditions for such claims to be possible and persuasive.

### 3. The NFIP and the prefiguration of private insurance

Today, policymakers, officials, journalists, researchers and other observers and stakeholders fault the NFIP for lagging behind private insurance innovation. But this characterization is blind to the fact that private actors now can and want to do business *vis-à-vis* flood risk

because of a long history of government maneuvers to bring private flood insurance into existence. In the sections that follow, I trace the history of these prefigurative efforts, that is, the specific steps that the federal government has taken to imagine how a private flood insurer and a private market might operate and to make such operations practically possible.

The account in the following sections derives from a larger project on the NFIP, part of which involved collecting archival data to understand the origins of flood insurance and then to trace the history of the NFIP over the decades of its operation. This part of the project yielded the data used to tell this story: Congressional transcripts (of floor debates and testimony) and reports; legislation; reports by government agencies such as the Government Accountability Office, FEMA, and the Department of Housing and Urban Development (HUD); reports of think tanks and research institutes that have examined the NFIP; and public-facing materials like FEMA's website. These documents span from the 1950s to the present day. Following Krippner (2011) and Moss (2004), my approach was to focus on the problems policymakers, officials and other actors were trying to solve and the consequences and legacies of the specific arrangements they put into place.

### 3.1. Demonstrating proof-of-concept

The first prefigurative efforts involved *demonstration*. The federal government produced the risk knowledge techniques and tools that private insurers lacked at the time in order to demonstrate the availability of data and techniques for assessing flood risk and the viability of pricing it actuarially. These practices correspond to what Block (2008) has termed the (hidden) 'developmental network state' in the US, wherein the state helps private firms 'develop product and process innovations that do not yet exist' (p. 172). Since the 1980s, the resonance of market fundamentalism, combined with the decentralization of innovation, has worked to diminish the public salience of this important state function. It is therefore perhaps unsurprising that today even FEMA on its website would articulate the trope that 'the private sector is efficient and dynamic' (Block, 2008, p. 183) and therefore ought to be followed by the public sector. But in the 1960s, when policymakers got serious about pursuing flood insurance to compensate rising flood losses (following failed forays in the 1950s), members of Congress and government officials articulated a muscular role for the state in leading the private insurance industry.

That there was not already a private market at the time reflects the fact that private insurers had concluded they were not technically equipped to assess flood risk or underwrite it profitably (Langbein, 1953). The several dozen private fire insurance companies that also offered a flood product stopped selling it following the Great Mississippi Flood of 1927. Flood remained uninsured even after homeowners' insurance, crafted as an 'all-risk' umbrella policy, was invented in 1950 (Horan, 2021). In 1956, the last in a series of reports commissioned by the American Insurance Association attempted to measure flood hazards as a basis for flood insurance and, though it 'presented a large amount of useful data, about floods in general and about specific floods in various years in different parts of the country', the effect of the reports 'may well have been to strengthen the conviction that flood insurance was not commercially feasible' (Department of Housing and Urban Development, 1966, p. 58).

Congress nevertheless pushed forward with a flood insurance program because at the time policymakers and officials believed that the state had command of sophisticated state-of-the-art methods for assessing and pricing flood risk, superior to what was then available

from private insurers. The vision that took shape was one in which flood insurance not only compensated loss but also, by pricing according to risk as in other forms of commercial insurance, rationalized decision-making about where to buy and build property. A risk-based premium might inform more economical land uses (Collier, 2014). The 1950s and 1960s saw collaborations between experts in the Army Corps of Engineers, the Tennessee Valley Authority (TVA), the United States Geological Survey (USGS) and academia, directed towards developing and improving knowledge of local and regional flood hazards (Hinshaw, 2006). Representatives of several federal agencies also convened from 1956 to 1957 to attempt to formalize a schedule of insurance premiums (Department of Housing and Urban Development, 1966, p. 59).

In 1965, the Department of Housing and Urban Development (HUD) undertook a feasibility study of a flood insurance program, which produced a report the following year. Chapter 6 asked the question: 'Can the risk of flood damages be evaluated with sufficient reliability?' This did not look promising if risk assessment was premised on actuarial methods common to other forms of private insurance, which required 'long reliable records' of losses and damages. In the case of flooding, such records were incomplete or non-existent in many parts of the country. They could not, therefore, 'provide an adequate basis for use in actuarial analysis for underwriting flooding damage risk' (Department of Housing and Urban Development, 1966, p. 48). The report also summarized unconvincing earlier efforts led by the private industry. Travelers Insurance Company had undertaken a study to estimate flood hazards and insurance premiums. Though this research produced estimates of average annual damages and made some attempt to establish rates that varied by the degree of hazard, the Travelers' study author himself 'recognized the serious inadequacies in the data he was using' and, the HUD authors also noted, his classification of flood hazard was in 'descriptive terms' rather than 'quantitatively defined' (Department of Housing and Urban Development, 1966, p. 59, 76).

However, the HUD report observed, various federal agencies had already developed an alternative—the hydrologic method—used for many years 'to determine the economic feasibility of flood protection and flood abatement projects' (Department of Housing and Urban Development, 1966, p. 48). This was key to the cost–benefit analysis that had long been institutionalized in the authorizations of major flood control projects (Porter, 1995). 'Out of this widespread use of the benefit-cost approach have come standard techniques for integrating flood frequencies with damages to properties from flooding', the report noted. The federal government could apply its established methods to the new task of setting insurance rates. HUD asked the Army Corps, the USGS, the TVA and the Soil Conservation Service to produce special studies for its report, which involved mapping flood risk areas, identifying properties subject to flood risk, and measuring flood damage. Each study organized its findings in terms of broad risk zones, defined by the flood frequency, and estimated rates of average annual damages within them, in dollars per hundred-dollar value. Based on the four studies, the Department of Housing and Urban Development, (1966) concluded that 'the hydrologic method and the data used in the method are readily adaptable for rate determinations. The method will yield the best possible estimates of any method known, and estimates which are fully adequate for a flood insurance program' (p. 53). The state would deploy its own innovations for complex risks that eluded the private insurance industry.

The HUD report was submitted to Congress in August 1966 and policymakers were persuaded as to the overall feasibility of the flood insurance idea, as well as the justification for strong state direction. Senator Ralph Yarborough (Democrat, Texas), in floor debate, emphasized that the government could and should play a role in advancing insurance practices: 'I think the private sector has been timid in this matter. They have lacked the boldness to pioneer and provide insurance on this risk' (U.S. Senate, 1967, p. S13036). This timidity was at odds with a US private industry posture that had solidified by the mid-1950s, exemplified in an advertising strategy that 'directly confronted the state ... positioning private insurance as a superior alternative to government provision' (Horan, 2021, p. 33). Yet government had previously had to take the lead in creating markets for insurance, as Yarborough noted: 'I am reminded of a similar hesitancy during the thirties, when the private sector would not insure farmers against damage to or loss of crops by hail. Under President Franklin D. Roosevelt, the US Government stepped into the void and filled the need' (U.S. Senate, 1967, p. S13036). There, too, the federal government had collected relevant data for setting actuarial rates, with the establishment of the Agricultural Adjustment Administration in 1933 (Hamilton, 2020). Yarborough could also have cited housing policy as precedent for state marketcraft. In the 1930s, the Roosevelt administration sought to demonstrate the viability of a secondary market for mortgages, which led to the creation of Fannie Mae (Quinn, 2019). By Yarborough's day, policymakers had 'envisioned a competitive securitization market in which private banks would emulate securitization practices pioneered by the GSEs' (Morgan and Reisenbichler, 2022, p. 13). Yarborough similarly believed in the case of flood these state efforts would jump-start a fully private market: 'I think that once we have established a Federal flood insurance program, the private sector of the economy will respond as before and begin to compete for that business' (U.S. Senate, 1967, p. S13036).

Yarborough could believe in this imagined future market because, despite a confrontational public relations effort to stave off 'intrusion into the insurance business' (Horan, 2021, p. 17), representatives of the private insurance industry assured members of Congress in consultations that a public-private risk-sharing partnership was possible. If the state took the lead, private insurance companies would underwrite a risk pool, with the federal government as a backstop that would be phased out over time (Elliott, 2021a). Congress voted to authorize the NFIP with this understanding of the new program in mind: private insurers would participate, so long as the government first demonstrated a flood insurance product could be developed based on existing data and actuarial methods.

### 3.2. Simulating private insurance

This first effort to jump-start a private market for flood insurance failed in less than 10 years. Disagreements between the private insurers participating in the pool and HUD (which ran the NFIP until FEMA's establishment in 1979) about authority, costs, and oversight could not be resolved. The government assumed full responsibility for flood risk in 1977, with policies issued directly by the federal government and claims made against the USA (Abbott, 2008; Elliott, 2021a). Over the same period, it became clear that with rapid rates of coastal development and suburbanization, the task of producing and continuously reassessing and updating flood maps, so that insurance could be actuarially priced, was an enormous and expensive task (Knowles and Kunreuther, 2014). From the perspective of private insurers, then, underwriting flood risk remained a technically challenging and commercially unappealing business.

However, this was not the end of private sector involvement with the flood insurance program, nor did this initial failure vanquish belief among policymakers in the merits of private insurance practices *vis-à-vis* flood risk. Instead, policymakers engaged in prefigurative activities of *simulation*, whereby the NFIP was itself made to operate more like an imagined private flood insurer—‘imagined’ at this stage because there were no existing viable private primary flood insurers that could be looked to as models. This was achieved through two major initiatives of the Reagan administration, famously committed to the development of ‘free markets’ as an alternative to government provision. First, the flood insurance policy was made to look like a privately sold product and, second, the public flood insurance program was made to run more like a private business.

Following discussions between the Federal Insurance Administration and representatives of the private insurance industry, in 1983, the NFIP launched the ‘Write-Your-Own’ program (WYO), which re-enrolled private insurers not as bearers of risk, but as commercial partners of the NFIP who would market, sell and service NFIP policies and receive a commission-per-policy for doing so. The hope was that this would improve take-up rates and grow the market for flood insurance. ‘Write-Your-Own’ refers to the fact that private insurers could write policies on their own ‘paper’, that is, on private company letterhead. The result was that government-issued flood insurance (still based on FEMA’s maps and rates) had the look and feel of private insurance. Private insurers could sell it bundled with their other products, allowing them to offer more comprehensive coverage to prospective policyholders (Abbott, 2008; Michel-Kerjan, 2010). Indeed, this has led many consumers to believe that flood insurance is privately provided, even today. In the absence of a truly private market for flood insurance, the WYO program nevertheless deepened private insurers’ knowledge of the commercial landscape for flood insurance, allowing them to do business and earn significant commissions for servicing the flood risk market without bearing risk. As Quinn (2019) observes, the state draws on its capacity ‘to normalize business practices simply by using them’ (p. 196).

In addition, the Reagan administration insisted that the NFIP needed not only to look more like a business, but to run more like a business. In 1982, Reagan’s Federal Insurance Administrator announced a new requirement that the NFIP be fully self-supporting. Like a private insurer, it needed to pay claims and other expenses out of its own premium revenue (Griffith, 1994). The NFIP had been set up such that it relied on the US Treasury to absorb the costs of high-damage flood events, which might generate losses beyond the program’s reserves. At the program’s inception, this reliance on the Treasury was viewed as essential to achieving the program’s core aim of offering accessible insurance: with catastrophic losses excluded from rate-setting, premiums could be kept to a more affordable level. The NFIP was also given borrowing authority from the Treasury so that it could honor claims even in bad years (Committee on the Affordability of National Flood Insurance Program Premiums, 2015).

In the 1980s, this relationship to the Treasury went from being essential for the sake of offering broadly accessible insurance to pathological and in need of remedy. Ironically, the pursuit of actuarial soundness for the NFIP, in the basic sense of premiums-in meeting claims-out, ultimately led the program to set rates in ways that differed from ‘the traditional insurance definition of solvency’ (Federal Emergency Management Agency, 2005, p. 40). Rates were set such that combined premium revenue would cover losses for the ‘historical average loss year’, a calculation that continued to exclude catastrophic loss years to

maintain the NFIP's ability to charge 'reasonable' rates for insurance to its customers, who were also taxpayers and voters (Kousky and Shabman, 2014; Committee on the Affordability of National Flood Insurance Program Premiums, 2015). The simulation was in this way partial and contradictory. The NFIP could be held to a business standard of balancing the books, expected to operate in this key respect as though it were a private insurance company—even for a risk that private insurance companies themselves apparently could not underwrite and keep their books balanced.

The program was funded solely by premiums from the mid-1980s, including its administrative expenses, which had been previously financed through congressional appropriations (Federal Emergency Management Agency, 2005; Abbott, 2008). It could pay off debt from bad flood years with surpluses from low to medium flood years. NFIP flood insurance, now sold by private insurers, continued to grow, with the program ultimately underwriting flood insurance in close to 20 000 communities, for 4.37 million policyholders, by the end of 2001 (Federal Emergency Management Agency, 2005). Then Hurricane Katrina hit New Orleans.

### 3.3. Servicing the private insurance industry

Prior to Katrina, the NFIP borrowed a maximum of just over \$1 billion from the US Treasury. After Katrina, that debt ballooned to \$16 billion. The debt brought a new round of scrutiny to the operations of the NFIP (Government Accountability Office, 2007). Federal officials had consulted private insurance professionals and industry organizations throughout the NFIP's history. In 2009, these conversations were given official high-level status when FEMA Administrator W. Craig Fugate launched a multi-year NFIP Reform Working Group. The Working Group involved consultation with chief executives from several Write-Your-Own companies to discuss a more 'optimal' balance in flood coverage between the public and private sectors that might reduce taxpayer exposure, considering the NFIP's large debt (Fugate, 2011, p. 37). This new balance would be pursued by prefigurative practices of *servicing* private industry needs for legislative changes that removed obstacles to its participation.

Historically, Fugate told Congress in 2011, 'the private insurance market has taken the position that flood is either uninsurable or prohibitively expensive' (p. 37). But in the 40 years since the NFIP was established, "the landscape has changed" (p. 36). The federal government had digitally mapped and identified flood risk for 88 percent of the population; it had developed public sector modelling tools for riverine and coastal flooding; and participating NFIP communities had adopted building codes and practices to mitigate flooding (albeit unevenly; Fugate, 2011, pp. 36–37). In important ways, the federal government had worked strenuously to change the technical and commercial proposition.

Over the same period, private insurers had also been continuing to work on natural hazard risk modeling, steadily developing simulation techniques that made it possible to estimate loss experience, even in the face of incomplete, unreliable or mooted historical data (Collier, 2008). Insurers started putting these tools to use in the late 1980s and early 1990s, prompted by a series of hurricanes that put several private wind insurers out of business. Three major catastrophe modeling firms were founded in this period: AIR Worldwide, Risk Management Solutions (RMS) and EQECAT (Jarzabkowski *et al.*, 2015). By the early 2000s, catastrophe modeling produced by these vendors was commonly used by private insurers and reinsurers underwriting other perils (Bougen, 2003; Grossi and Kunreuther,

2005; American Academy of Actuaries, 2018). These developments in modelling had allowed for ‘a small and selective group of insurers’ to underwrite flood insurance privately for valuable commercial properties as an offer of ‘surplus’ insurance beyond the coverage limits of an NFIP policy (Government Accountability Office, 2013).

At a June 2011 Senate hearing, Senator Jack Reed (Democrat, Rhode Island) asked Fugate to comment on the practices used by that ‘small and selective group’ in evaluating flood risk, and how those practices ‘can be utilized in the National Flood Insurance Program’. Fugate responded: ‘Over the last 5 years insurers and reinsurers of large commercial properties have begun to utilize more sophisticated techniques to evaluate the flood risk for individual buildings and for portfolios of buildings’. Generally, those techniques nevertheless started with public sector data, from FEMA and the USGS, supplemented with ‘various additional sources of data to enable them to make probabilistic calculations of flood risk’. Fugate concluded: ‘FEMA is interested in following those developments, and the mapping and actuarial components of FEMA have met with a number of insurance company developers of flood risk models to better understand their techniques’ (U.S. Senate Committee on Banking, Housing, and Urban Affairs, 2011, p. 54).

But even where private insurers were growing more confident that they could assess flood risks, they would not be able to compete commercially with NFIP rates. The NFIP had long charged less than ‘full-risk’ rates to many policyholders, offering various subsidies and discounts meant to keep flood insurance affordable (Elliott, 2021b). And even the NFIP’s full-risk rates were based on maps that were often many years out-of-date; with flood risks generally expanding and increasing, this implied underpriced insurance (Knowles and Kunreuther, 2014).

Congress passed a major reform to the NFIP in July 2012, the Biggert-Waters Act, which sought to ‘remove constraints to the NFIP’s ability to follow actuarial pricing principles’ (Committee on the Affordability of National Flood Insurance Program Premiums, 2015, p. 4) of the kind that guide conventional rate-setting by private insurers. Biggert-Waters immediately ended some premium discounts and phased out others, provisions which quickly became controversial (Elliott, 2017). Less remarked upon at the time, however, were several other changes meant to pave the way for greater private sector involvement in underwriting flood risk. Most importantly, Biggert-Waters allowed mortgage lenders to accept private flood insurance, should it become available, as satisfying the requirement that all property owners with federally backed mortgages keep a flood policy in place (Government Accountability Office, 2016). It also mandated that the GAO study how to increase private sector involvement (Webel and Horn, 2020) and that FEMA look into ‘the best manner in which to accomplish the privatization of the NFIP’ (Horn and Webel, 2023, p. 21).

The GAO study, released in January 2014 and based on consultation with private insurers and risk modelers, indicated that technical confidence was growing but still not sufficient to entice private underwriting: ‘Stakeholders indicated that private insurers would need more information and more sophisticated modeling to assess flood risk before they could begin providing flood insurance’ (Government Accountability Office, 2014, p. 10). Though ‘the industry lacked consensus on the methodology that should be used’, they were nevertheless sure that FEMA wasn’t doing it well enough, as it was relying on ‘a less sophisticated methodology than what is available today’ (Government Accountability Office, 2014, pp. 10–11). Even if FEMA’s methods no longer credibly represented the state-of-the-art, in pursuing it the federal government had collected a vast wealth of important data that

the private industry wanted: ‘Stakeholders said that in addition to advanced computer modeling, access to NFIP policy and claims data would help private insurers assess flood risks and determine which properties they might be willing to insure’ ([Government Accountability Office, 2014](#), p. 11).

But with private insurers now allowed to sell flood insurance as an alternative to the NFIP’s standard policy, risk modelling firms focused on developing the models private insurers would need to ‘comfortably underwrite and price flood policies’ ([Kousky et al., 2018](#), p. 33). A 2018 report on the emerging private residential flood insurance market, funded by the Department of Homeland Security (DHS), noted that the capacity to model ‘all forms of flood at a fairly detailed resolution ... is rapidly becoming more available and more sophisticated’. At the time of the report’s writing, many private insurers were interested in but cautious about using these ‘relatively new and fairly untested’ flood models and some were continuing to rely, at least in part, on FEMA flood hazard maps. Even if, as one insurer told the report’s authors, ‘no major model currently available could support development of actuarially sound rates’, firms that did not currently use the available models ‘generally want to adopt more sophisticated rating methods in the future, particularly given the widespread lack of confidence in FIRMs [flood insurance rate maps]’ ([Kousky et al., 2018](#), p. 33). ‘We were told that many companies were investing in the technology and infrastructure to support flood products’, the authors noted.

In 2016, the GAO undertook another study of potential barriers to increased use of private insurance. The report cited ‘the inability [of private insurers] to compete with discounted NFIP rates’ ([Government Accountability Office, 2016](#), p. 1). The loss of subsidies and discounts mandated by Biggert-Waters had been met with considerable backlash from homeowners, the real estate and home finance industry, and local and national politicians. Actuarial rates would not only be higher, they also threatened property values and the local tax bases that depend on value-assessed property to generate revenue. In March 2014, Congress intervened again to restore some of the discounts and slow down the phase-out of subsidies ([Elliott, 2017](#)). Moreover, many private insurers believed that even the NFIP’s ‘full-risk’ rates were considerably lower than what they would have to charge based on their own flood modelling—they would, for instance, include the catastrophic loss events that FEMA rates excluded. Due to the ‘anomalies of NFIP rating’, there were limited areas where the private sector could price lower than the NFIP ([Kousky et al., 2018](#), p. 42).

This could change, though. The DHS-funded report concluded:

It should be noted, however, that the NFIP is currently undertaking a substantial overhaul to both rating and mapping through an effort called Risk Rating 2.0, shifting to more property-level, risk-based pricing. While this may not be fully in effect for several years, it could shift the dynamic between the NFIP and the private sector. ([Kousky et al., 2018](#), p. 42)

#### 3.4. Reformatting flood insurance with Risk Rating 2.0

In its announcement of Risk Rating 2.0, FEMA boasted that the NFIP ‘is redesigning its risk rating by leveraging industry best practices and current technology’ ([Federal Emergency Management Agency, 2021a](#)). This major transformation would have the NFIP incorporating variables that private insurers had begun using in their own models, such as specific distance to the coast or another flooding source, different types of flood risk and the

cost to rebuild a home. With greater alignment between what a private insurer and the NFIP would charge, from the perspective of the customer, the NFIP would one day appear like one choice of potentially many, in a market that was, if not yet competitive, imagined to be on its way. In the view of FEMA, Risk Rating 2.0 amounted to a *reformatting* rather than a reform; the agency argued it did not need Congressional approval to ‘leverage[e] modern technology and advanced actuarial practices’ (Federal Emergency Management Agency, 2021b).

The major transformation at the heart of this redesign was the abandonment of zone-based rating, where a risk classification shared by many people (i.e. living in ‘special flood hazard area’ on a map, whether that zone is in North Dakota or North Carolina) underpins the determination of a premium. FEMA would still produce maps for the purposes of flood-plain management and to establish purchase requirements, but under Risk Rating 2.0 rates would instead be based on specific annualized probabilities of being individually impacted by flooding, rather than on a designation of being either inside or outside a flood zone. This was a newly ‘individualized picture of a property’s risk’, listed as one of Risk Rating 2.0’s ‘key benefits to policyholders’ (Federal Emergency Management Agency, 2021a). To produce this individualized picture, FEMA indicated it been ‘building on years of investment in flood hazard information by incorporating private sector data sets, catastrophe models and evolving actuarial science’ (Federal Emergency Management Agency, 2021b).

In FEMA’s view, the change will help FEMA build ‘a culture of preparedness by closing the insurance gap ... This requires FEMA to change the way it has historically viewed flood risk and priced flood insurance’ (Federal Emergency Management Agency, 2021a). Its existing approach, based on the ‘relatively static measurements’ (Federal Emergency Management Agency, 2021b) of flood zones on a map, meant flood insurance requirements did not apply outside of those officially designated zones—even though actual floods have not helpfully stopped at the boundaries indicated, especially where those maps have not been updated in many years. This was potentially misleading people about the actual flood risk in their areas, making them believe that if they were officially outside of special flood hazard areas on FEMA’s maps, they were safe from flooding and did not need an insurance policy (Michel-Kerjan *et al.*, 2012).

Dispensing with the maps and zone-based rating, and including more variables, enacts a different framing of who is at risk of flooding: everyone potentially faces *some* degree of flood risk, whether inside or outside of an official flood zone. Therefore everyone should have a flood insurance policy to protect them—a need that could now ostensibly be serviced by private insurers once they could compete on price with a reformatted NFIP. The individualization of flood risk is in this way accompanied by its generalization to the extent that Risk Rating 2.0 makes possible calculations of flood risk—no matter how small—to which *all* properties are exposed.

Flood risks are expected to rise with further climate change and population growth (Wing *et al.*, 2022). FEMA expects Risk Rating 2.0 will grow the market for flood insurance by making more homeowners, especially those outside mapped flood zones, aware that they are at some risk of flooding. The ‘culture of preparedness’, in this gloss, hinges on more individuals taking more responsibility for understanding, financing, and where possible mitigating their individual exposure to flood risk. FEMA hoped to double flood insurance coverage by 2023, a ‘moonshot’ goal announced in March 2017 (Department of Homeland Security, 2017). But this would depend on the voluntarism of new policyholders

joining the NFIP or purchasing private policies, as mandatory purchase requirements still only apply inside high-risk zones. Private insurers could leverage their existing commercial networks, some of which were developed through participation in the WYO program, to market new flood products to their customers. In a March 2017 statement, FEMA's Deputy Associate Administrator for Insurance and Mitigation told the Senate Committee on Banking, Housing, and Urban Affairs, '*FEMA recognizes that there is a growing interest by private insurers to offer flood insurance protection. FEMA supports this because an insured survivor—regardless of where they purchase their coverage—will recover more quickly and more fully*' (Wright, 2017, p. 7, emphasis original). Reforming the NFIP so that it might eventually be just one flood insurer among many reflects a 'deep-seated belief that private competition and consumer choice can solve insurance access problems in the United States' (Horan, 2021, p. 195).

Growing the insured pool—specifically by convincing lower-risk property owners to purchase insurance—improves the business conditions for private insurers to sell policies. The 2014 GAO study on increasing private sector involvement indicated that according to industry representatives, the limited scope of the risk pool had been an obstacle to their participation.

Insurers need to be able to manage their risk exposure by having a large, diverse risk pool with premiums at a level that property owners are willing and able to pay. Having a large and diversified risk pool would enable an insurer to better estimate losses based on loss data it collected over time and to spread the losses over a large number of properties. (Government Accountability Office, 2014, p. 14)

In addition, aligning methodologies with the private sector under Risk Rating 2.0 would remove some of the longstanding 'anomalies' in rating that also worked to prevent private insurers from competing on price. For example, the NFIP has long allowed the grandfathering of rates, so that when a map is updated to show higher risk, policyholders can retain their older, cheaper rates. But with rates no longer based on mapped flood zones, there would be no zone change that would need to be grandfathered. When a homeowner goes to buy a policy, they may find little difference between what they can get from a private company versus from the federal government. The NFIP then becomes one flood insurer among many in a competitive marketplace.

#### **4. Conclusion: the implications and limitations of prefiguration**

In this article, I have situated Risk Rating 2.0 in the NFIP's longer history to show that the apparent privatization of the NFIP is not a simple story of private market innovation 'finally' being incorporated into public governance—the kind of development that is often described as overdue and desirable by proponents of privatization and regarded sceptically by those who are critical of it. Of course, private insurers have produced new tools and products for assessing and commercializing flood risk. And indeed, the very impulse to impose an actuarial design on a public flood insurance program, and to iteratively pursue greater coherence with it, demonstrates the influence of private insurance logics and techniques on statecraft. I have argued, however, that reciprocal strategies of marketcraft have prefigured the private market for flood insurance, producing the ability and appetite of private insurers to commercially underwrite flood risk. As scholars of insurance point out,

‘insurability is not given, it is made’ (Lehtonen and Van Hoyweghen, 2014, p. 538; Ewald, 1991). Over the course of decades, the federal government has made this insurability through marketcraft: collecting data; developing modelling and actuarial techniques; simulating private business; removing obstacles to the private sector; and under Risk Rating 2.0, reformatting the public program to foster private sector competitiveness and to grow and diversify the risk pool. The story of the NFIP, for much of its history, has not been a story of keen and technologically precocious private insurers repudiating state risk management institutions and trying to overcome a public monopoly. It is a story of a reticent private industry, whom federal policymakers and officials have solicited and coaxed along. When it comes to the organizational forms of insurance markets, there is indeed ‘no escaping the state’ (Pearson, 2021, p. 1062)—not only because states regulate private insurers, or because they provide alternatives, as other histories of insurance have described, but because in circumstances where no private markets or actors yet exist, state actors may both imagine and work to instantiate those markets and actors.

Further research on marketcraft can probe the analytical usefulness of prefiguration in other domains and contexts. In insurance specifically, different organizational forms result not only from distinct bureaucratic and legal frameworks (Pearson, 2021), but also from different imaginaries of the ‘social value of insurance’ (Booth *et al.*, 2022) and historically specific practices of governance in public, private and hybrid forms. We can, however, zoom out from insurance and consider the longer history of American political development to identify similar prefigurative moves. As Quinn (2019) chronicles in *American Bonds*, in creating credit programs US government officials also ‘act[ed] as creative market participants, albeit in ways that look very different from the more centralized planning seen in other nations’ (p. 200). In the 1930s, the Roosevelt administration sought to demonstrate the viability of another market: a secondary market for Federal Housing Association mortgages (Quinn, 2019, p. 143). As in the case of flood risk assessment, the federal government also pursued innovation in new financial techniques (see also Morgan and Reisenbichler, 2022). Quinn’s story ends in 1968, the year the NFIP was established. This is not to overstate the coherence of the vision or the strategy over time or across domains and actors. Policymakers and officials solve the problems in front of them, as they perceive them at the time, and there are false starts (e.g. the failure to jump-start the market in the 1970s), half-measures (e.g. making the NFIP balance its books but not price-in catastrophic events), and unintended consequences (e.g. once private insurers feel more confident about assessing and pricing flood risk, they believe they cannot compete with the government). Prefigurative marketcraft, like prefigurative politics, is experimental.

Researchers have observed that the turn to markets for the provision of welfare has yielded ambiguous results. In the case of US housing finance and health insurance, Morgan and Reisenbichler (2022) find that ‘intentionally created competitive marketplaces often destabilise welfare provision and then require government intervention’ (p. 1317). When policymakers pursue social welfare goals *via* creating and sustaining competitive market forces, they are ‘riding a tiger’, making themselves ‘vulnerable to market dynamics over which they have limited control’ (Morgan and Reisenbichler, 2022, p. 1333). And the roll-out of Risk Rating 2.0 has been rocky. Despite all the promises of innovation, FEMA was forced to defer implementation following concern from members of Congress about effectively unaffordable market prices for insurance, particularly for those most in need of protection. Risk Rating 2.0 went into effect for new homebuyers on October 1, 2021 even as

members of Congress put forth bills to slow rate increases ([Insurance News Net, 2021](#)). In April 2023, St Charles Parish, Louisiana sued FEMA following projections that homes in the area would see average premium increases of 239%, with one ZIP code projected to see 752% hikes. The Parish alleged that FEMA failed to respond to public records requests related to how new rates are being calculated. The issue stems directly from the tensions attendant on prefiguration. FEMA responded to the suit that ‘The modeling information is very valuable and the company that produced it would be at a significant loss if it were to be made public’ (quoted in [Smith, 2023](#)). To create and sustain the conditions of private sector participation in the flood risk market, FEMA must protect the interests of industry. But as a public agency, FEMA has distinct obligations related to transparency and to responding to citizens’ distress.

For some people, an individualized, actuarial premium, however technically sound or ‘market-based’, will simply be too high to bear—especially as the underlying risks intensify with further effects of climate change. This is a problem for both private and public insurers, in the US and beyond. For instance, Germany has long had a small private market for flood insurance—but as an optional, bundled supplement to buildings insurance. Take-up rates have historically been low, with much loss compensation coming instead from public disaster relief. Following the catastrophic summer floods of 2021, several German states have called for compulsory natural hazard insurance, but the German insurers’ organization has warned that premiums could double ‘within the next 10 years as a result of climate damage alone’ (quoted in [Amelang, 2023](#)). Private companies can, and do, respond to such challenges by innovating, creating new models and products that meet intensifying risks. But they can also respond by putting up prices or refusing to renew. Insurers have done this for fire risk, which is privately underwritten, following recent wildfires in the American west that burned longer and spread further than ever before.

The NFIP cannot simply withdraw; under it, no risk is too bad to get access to an insurance policy. As sanguine as he was about the growing private market, the Deputy Associate Administrator at FEMA went on to tell Congress in 2017, ‘if the private market were to glean only the lower-risk policies, the NFIP would be left with all of the highest-risk policies’ (i.e. adverse selection against the NFIP) ([Wright, 2017](#), p. 8). Even with premiums on a ‘glide path’ to actuarial rates, there would be several years in which the NFIP would have lost revenue from low-risk policyholders while still shouldering claims from remaining high-risk ones (i.e. higher loss ratios), potentially worsening the public liability. In the time that Risk Rating 2.0 has been in place, NFIP policies have dropped. But it is not yet clear if those policyholders are picking up newly available private policies or simply going uninsured in the face of higher rates ([Frank, 2002](#)).

What we may be seeing then is not a movement of risk off the balance sheet of government and onto a newly dynamic private market, but rather the enlargement of an ‘insurance protection gap’: an increase in uninsured economic losses. As [Jarzabkowski et al. \(2023\)](#) observe, globally that gap is already large and growing: ‘Climate change, accompanied by increasing urbanization and geopolitical changes, is making policyholders, geographical areas, and even specific disasters uninsurable in the private insurance sector’ (p. 10). Their research, drawing on case studies from 49 countries, suggests that when those protection gaps emerge, they are best filled not by prefiguring a private market but rather through collaborations between government, industry and other stakeholders to ‘save insurance from itself’ ([Jarzabkowski et al., 2023](#), p. 43). If a ‘market-based’ price, achieved by decades of

prefigurative efforts, destabilizes individual lives and collective fortunes, we might expect not a reduced role for the state but simply a different or even expanded one, as scholars have observed in the wake of other market reforms (Vogel, 1996; Krippner, 2005; Quinn, 2019; Morgan and Reisenbichler, 2022). Imagining and actualizing a private market for flood insurance may well create business for private insurers and involve them in indemnifying some of the losses that will only grow with future climate disasters. But it may also intensify demands on states to play a larger role in avoiding those losses altogether, through more ambitious flood protection and hazard mitigation, as well as underscore rather than erode the importance of the state's role as insurer of last resort.

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