Perverse Incentives and Preparing for Managed Retreat: The Case to Reform the NFIP

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"Reauthorization of the National Flood Insurance Program, Part I"

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Introduction

Chairman Brown, Ranking Member Toomey, and Members of the Committee,

My name is R.J. Lehmann, and I am a Senior Fellow with and Editor-in-Chief of the International Center for Law & Economics. ICLE is a nonprofit, nonpartisan research center that promotes the use of law & economics methodologies to inform public policy debates. Working with a roster of more than 50 academic affiliates and research centers from around the globe, we develop and disseminate academic output to build the intellectual foundation for rigorous, economically grounded policy.

I have been an active observer of the challenges facing the National Flood Insurance Program (NFIP) for 18 years. In my former life as a business journalist, I was from 2003 to 2011 the Washington bureau chief of two major trade publications covering the business of insurance. That stint included covering the 2004 and 2008 NFIP reauthorization debates and, of course, the devastating impact of Hurricane Katrina in 2005. In 2012, I co-founded the R Street Institute, where I remained until joining ICLE six months ago. Among my duties at R Street was running the Institute's insurance policy research program, and I made NFIP reform a major part of my research focus.

I thank the committee for conducting this hearing, its first in four years on the topic of NFIP reauthorization. It has been nearly a decade since Congress last approved a long-term reauthorization of the NFIP. The program remains in need of structural reform, and the series of short-term extensions on which it has relied for the past four years leaves many parties—homeowners, business owners, builders, lenders, realtors, insurers, and insurance agents—without the clarity they need to make forward-looking decisions. One hopes Congress will be able to reach agreement this session on legislation that provides that clarity, while also making the adjustments needed to address the long-term challenges this program faces.

The past year has given us all an up-close view of how Americans respond when faced with the realization of remote and nominally "unforeseen" catastrophic risks. But, of course, the COVID-19 pandemic was not unforeseen at all. Public health officials and catastrophe modelers have long known that a viral contagion of this sort was not only possible, but inevitable. The 1918 influenza pandemic was within the lifetime of some Americans. Much more recently, another H1N1 influenza spread as a pandemic in 2009; we were merely fortunate that it did not prove to be terribly deadly. And we have in recent years seen other coronaviruses like SARS and MERS reach epidemic levels abroad.

Similarly, there is nothing unforeseen about the challenges facing the National Flood Insurance Program. It was established more than 50 years ago to provide coverage that private insurers would

not; to reduce the nation's reliance on post-hoc disaster assistance; to provide incentives for communities to invest in mitigation; and to be self-sustaining.

What is now clear is that the NFIP has not been—and, as currently structured, cannot be—self-sustaining. Since Hurricane Katrina, the program has been forced to borrow nearly $40 billion from the U.S. Treasury. Reforms passed as part of the Biggert-Waters Flood Insurance Reform Act of 2012 were intended to place the program on a path toward long-term fiscal sustainability by phasing out explicit premium subsidies and shifting more risk to the private insurance, reinsurance, and capital markets. But some of those reforms were scaled back or repealed almost immediately in the Grimm-Waters Act, passed in 2014. And even with $16 billion of the program's debt erased by Congress in 2017, the NFIP remains $20.5 billion in debt to U.S. taxpayers as of the first quarter of Fiscal Year 2021,[1] with no feasible plan ever to repay that debt in full.

Post-hoc disaster spending also continues to grow, with more than 90 percent of all federally declared disasters involving floods. And while the program has provided incentives for mitigation, by making cheap flood insurance available, it also has played a role encouraging development in flood-prone and environmentally sensitive regions. Moreover, due to the looming threat of climate change—which we know will drive both rising sea levels and more frequent and more severe precipitation events—it is more crucial than ever that Congress address the NFIP's structural issues and the ways to correct its perverse incentives for where and how Americans live.

Structural Problems of the NFIP

At its inception in 1968, the NFIP was not designed as a risk-based program. Property owners in participating communities were charged flat rates, irrespective of the level of flood risk their properties faced. That design was intentional, as the overarching goal was to encourage take-up, particularly by residents of the riskiest communities.

Shortly thereafter, in 1973, the program was redesigned to account for risk with the introduction of Flood Insurance Rate Maps (FIRM) that assign properties to various risk-rated zones and assess premium rates commensurate with the flood risk faced by that zone. Federally related mortgages on homes in high-risk zones that face a greater than 1 percent annual chance of flooding—also known as Special Flood Hazard Areas or 100-year flood zones—are required to purchase flood insurance.

But exceptions to risk-based ratings were built into the FIRM process from early on. Properties that joined the program prior to the introduction of rate maps could continue to pay non-risk-based rates

[1] "The Watermark Fiscal Year 2021, First Quarter, Volume 13," Federal Emergency Management Agency, p. 2. https://www.fema.gov/sites/default/files/documents/fema_watermark-report_12-2020.pdf.

through what are known as "subsidized" policies, which historically were assessed rates that were only 45 percent of their true actuarial liability.[2]

Moreover, while the Federal Emergency Management Agency (FEMA) is required by statute to revise and update all its maps at least once every five years, mapping changes do not force rate changes for existing structures. These are treated as "grandfathered" properties, which continue to pay the rates assigned when their community joined the program or when its prior rate designation was finalized.

As a result, the NFIP has always taken in less in policyholder premiums than actuarial assessments would recommend. In the years just prior to Biggert-Waters, from 2002 to 2013, the Government Accountability Office (GAO) estimates the program collected $11 billion to $17 billion less in premiums than was actuarially prudent.[3]

Biggert-Waters and the subsequent Homeowner and Flood Insurance Affordability Act of 2014 (HFIAA) placed business properties and second homes on a glidepath toward actuarial rates, with annual premium increases that are capped at 25 percent, while rate increases on subsidized primary homes are capped at 15 percent. Biggert-Waters would have placed grandfathered properties on a glidepath to actuarial soundness with a rate cap of 20 percent, but HFIAA amended that provision such that it only takes effect if a grandfathered property's map changes again in the future. If it does, the grandfathered property would see rate increases that likewise would be capped at 15 percent.

Were the NFIP actuarially sound, it would have the resources to sustainably administer the program—including marketing and claims-adjustment expenses—and pay all expected claims that fall within the ordinary distribution of potential outcomes. But the NFIP would still experience—and in recent years, has experienced—outsized claims events like Hurricane Katrina, Superstorm Sandy, and Hurricane Harvey that fall in the tail end of the probability distribution. Indeed, those three events alone account for the overwhelming majority of the $40 billion the program has had to borrow since 2005.

Since Hurricane Katrina, the NFIP has made $5.06 billion in interest payments to service its debt to the Treasury but has managed to repay just $2.8 billion of principle. It is, by all accounts, completely infeasible that it will ever repay its debt in full. Indeed, in 2017, the Congressional Budget Office (CBO) estimated that, under its existing structure, the NFIP is expected to post an average annual loss of $1.4 billion.[4]

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[2] Bill Jones, "Biggert-Waters Flood Insurance Reform Act of 2012 Summary," Nebraska Dept. of Natural Resources, February 2013. https://agriculture.ks.gov/docs/default-source/dwr-floodplains/summary-of-the-biggert-waters-act.pdf?sfvrsn=ce3ffec1_0.

[3] "Forgone Premiums Cannot Be Measured and FEMA Should Validate and Monitor Data System Changes," Government Accountability Office, GAO-15-111, Dec. 11, 2014. https://www.gao.gov/products/GAO-15-111.

[4] "The National Flood Insurance Program: Financial Soundness and Affordability," Congressional Budget Office, Sept. 1, 2017, p. 1. https://www.cbo.gov/publication/53028.

That the program has proven structurally unsustainable was foreseen by its creators. In 1966, Lyndon Johnson's Presidential Task Force on Federal Flood Control Policy warned Congress that creating a federal flood insurance program "in which premiums are not proportionate to risk would be to invite economic waste of great magnitude."[5]

Congress could assess that the benefits to homeowners and business owners in flood-prone regions merit the cost of subsidies. Even if that were the determination, however, the program's existing structure largely functions not through express taxpayer subsidies, but by enabling cross-subsidies from inland NFIP policyholders to those in coastal regions. The CBO has found that 85 percent of NFIP properties exposed to coastal storm surge (properties classified as "Zone V") pay below full risk-based rates. Altogether, 69 percent of Zone V properties are grandfathered, 29 percent are subsidized, and 13 percent are both grandfathered and subsidized.[6]

In addition to subsidies flowing from inland policyholders to coastal policyholders, NFIP subsidies broadly flow from higher-income areas to lower-income areas. In 2013, the GAO reported that 29 percent of subsidized policies were in counties in the top decile of median household income and 65 percent were in counties among the top three deciles, while just 4 percent were in the bottom decile and 10 percent in the bottom three deciles.[7]

Should Congress determine that it does expressly want to subsidize property owners in flood-prone regions, those subsidies should properly flow directly from the taxpayers. Laying the burden on inland and lower-risk NFIP policyholders discourages take-up of flood insurance, at the margin, when the goal should be much broader take-up to close the protection gap. Moreover, to the extent that subsidies are necessary to protect at-risk populations from displacement, it would be proper to transition to an income-based voucher system, rather than the existing system of subsidies and grandfathering tied to when the property joined the NFIP.

Rising Waters, Rising Risks

Over the past 50 years, the NFIP has helped to shape the landscape, with significant impact on the country's built environment. In the first four decades after its passage, from 1970 through 2010, the number of Americans living in coastal counties grew by 45 percent and now comprises more than half the U.S. population.[8] Nowhere is this shift more apparent than in my state of Florida. At the

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[5] Gary William Boulware, "Public Policy Evaluation of the National Flood Insurance Program (NFIP)," doctoral dissertation, University of Florida, December 2009, p. 14. https://ufdc.ufl.edu/UFE0041081/00001.

[6] "The National Flood Insurance Program: Financial Soundness and Affordability," Congressional Budget Office, Sept. 1, 2017, p. 1. https://www.cbo.gov/publication/53028.

[7] "Flood Insurance: More Information Needed on Subsidized Policies," Government Accountability Office, July 2013. https://www.gao.gov/assets/gao-13-607.pdf.

[8] Ross Toro, "Half of US Population Lives in Coastal Areas (Infographic)," LiveScience, March 12, 2012. https://www.livescience.com/18997-population-coastal-areas-infographic.html.

beginning of World War II, Florida was the least-populated state in the Southeast. As the recent 2020 U.S. Census figures confirmed, it is now the third most populated state in the nation. The NFIP was not the sole driver of that growth, of course. Air-conditioning also played a part. But by providing guaranteed and affordable coverage for the most common catastrophe risk facing property owners in a place like Florida, the NFIP has been a key enabler of the mass conversion of wetlands and barrier islands—nature's built-in defenses against tropical storms and flooding—into acres and acres of manicured lawns and suburban tract housing.

But even as Americans spent much of the past half-century moving to areas at greater risk of catastrophic flooding, we have begun to see how anthropogenic climate change will make that problem much worse. Global sea levels rose by 2.6 inches from 1993 through 2014 and are projected to continue to rise by an average of one-eighth of an inch per year for the foreseeable future.[9] Projections for the 21st century anticipate sea level rise of between 20 inches, should we manage to make sharp and immediate cuts to global carbon emissions,[10] and six and a half feet, should the Antarctic ice sheet break up.[11]

And yet, even facing these challenges, there has been no slowdown in Americans preferring to build and live in flood-prone areas. A 2018 analysis of FEMA records conducted by *Governing* magazine found that 15 million Americans lived in 100-year floodplains, where current rules for federally related mortgages require the purchase of flood insurance. That was a 14 percent increase from the turn of the 21st century, compared with 13 percent population growth in all other zones.[12] Even more strikingly, a 2019 report by ClimateCentral looked at areas projected to have a 10 percent risk of coastal flooding by 2050. They found that, in eight coastal states, there were more homes built within this project 10-year flood zone than in all other areas.[13] Development was twice as fast in the 10-year flood zone than outside of it in Delaware, Mississippi, New Jersey, and Rhode Island, while in Connecticut, it was three times as fast.

Losing land to the sea is not an entirely new phenomenon, of course. Sen. Kennedy's home state of Louisiana has lost more than 2,000 square miles of land since the 1930s. But the scale of land loss we may now face, combined with the surge in development in flood-prone areas, is new. In 2016, a

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[9] "Is sea level rising?", U.S. National Oceanic and Atmospheric Administration, Feb. 26, 2021. https://oceanservice.noaa.gov/facts/sealevel.html.

[10] Carling C. Hay et al., "Probabilistic reanalysis of twentieth-century sea-level rise," Nature 517 (Jan. 14, 2015), pp. 481–84. https://www.nature.com/articles/nature14093.

[11] Robert E. Kopp et al., "Evolving Understanding of Antarctic Ice-Sheet Physics and Ambiguity in Probabilistic Sea-Level Projections," Earth's Future 5 (Dec. 13, 2017), pp. 1217–33. https://agupubs.onlinelibrary.wiley.com/doi/full/10.1002/2017EF000663.

[12] Mike Maciag, "Analysis: Areas of the U.S. With Most Floodplain Population Growth," Governing, August 2018. https://www.governing.com/gov-data/census/flood-plains-zone-local-population-growth-data.html.

[13] "Ocean at the Door: New Homes and the Rising Sea," ClimateCentral, July 31, 2019. https://ccentralassets.s3.amazonaws.com/pdfs/2019Zillow_report.pdf.

piece in the journal *Nature Climate Change* overlaid anticipated population growth with projected sea-level rise of roughly three feet to six feet, finding that between 4.2 and 13.1 million Americans would be displaced by inundation.

The changing nature of flood risk makes it even more crucial that FEMA, as the NFIP's administrator, regularly update its Flood Insurance Rate Maps to keep up with changes on the ground. The evidence, however, is that the agency is failing to do that. A 2017 Department of Homeland Security Inspector-General's report found that FEMA was up to date on just 42 percent of the NFIP's flood hazard miles, far short of a goal of 80 percent set in 2009, and that the agency had not properly ensured that "mapping partner quality reviews are completed in accordance with applicable guidance."[14] In 2017, the CBO found that, of the 166 counties that produce more than $2 million in average annual flood claims, half were using maps that were more than five years old.[15]

Sea-level rise and other impacts from climate change threaten to radically transform how we must deal with the risk of flooding. A 2019 study in *Nature Communications* had a grim projection about the frequency and severity of flooding and coastal storm surge: By the end of this century, today's 100-year flood events in the Southeast and Gulf Coast will be expected every 1 to 30 years. Today's 100-year events in New England and the mid-Atlantic can be expected every single year.[16]

It is inevitable that, in at least some locations, we will have to consider pulling back from the coasts and moving Americans to higher ground. But an important first step is to stop making the problem worse.

Baby Steps Toward Managed Retreat

"Managed retreat" is a controversial phrase, both because it connotes surrender in the battle against climate change and because it is taken to mean a radical realignment in the way we live. And yet, in some respects, managed retreat is longstanding policy. It is seen most clearly in FEMA's Hazard Mitigation Grant Program (HMGP), the Flood Mitigation Assistance (FMA) Grant Program, and Pre-Disaster Mitigation (PDM) Program, all of which execute buyouts of flood-prone properties, which are then demolished, and the vacated land dedicated in perpetuity to open space.

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[14] "FEMA Needs to Improve Management of Its Flood Mapping Programs," U.S. Department of Homeland Security Office of the Inspector-General, Sept. 27, 2017, p. 3. https://www.oig.dhs.gov/sites/default/files/assets/2017/OIG-17-110-Sep17.pdf.

[15] "Age of Flood Maps in Selected Counties That Account for Most of the Expected Claims in the National Flood Insurance Program: Supplemental Material for The National Flood Insurance Program: Financial Soundness and Affordability," Congressional Budget Office, November 2017, p. 3. https://www.cbo.gov/system/files?file=115th-congress-2017-2018/reports/53028-supplementalmaterial.pdf.

[16] Reza Marsooli et al., "Climate change exacerbates hurricane flood hazards along US Atlantic and Gulf Coasts in spatially varying patterns," Nature Communications 10:3785 (Aug. 22, 2019). https://www.nature.com/articles/s41467-019-11755-z.

While buyouts are likely to continue to be part of the solution to rising flood risk, there are serious questions about whether they could ever scale anywhere close to meet the scope of the problem. A 2019 report from the Natural Resources Defense Council found that, at the pace FEMA executed buyouts in the 30 years between 1989 and 2019, it would only be able to buy out another 115,000 properties by the end of the 21st century.[17] For comparison, current projections are that as many as 13 million properties will be completely inundated by the year 2200.

Rather than tearing down the flood-prone properties that already exist, a more immediate approach would be to remove the incentives to build new ones. I authored a report last year that proposed doing so directly—by barring any new construction in 100-year floodplains from NFIP eligibility. Based on my review of NFIP claims data, had this policy been in place starting in 1980, the program's payouts between 1990 and 2019 would have been roughly 13 percent smaller, representing $16.5 billion in savings.[18]

What I could not quantify in my research, but which is likely even more crucial to the pressing challenge of climate adaptation, is how many of those severely flood-prone properties would not have been built in the first place, but for guaranteed NFIP coverage. In some cases, property owners in such areas might turn to the emerging private market for flood insurance, but they would be assessed risk-based premiums that, in many cases, likely would be prohibitive.

Of course, an additional benefit of this approach is that, unlike phasing out subsidies, it does not lay any new burden on existing policyholders. Similar approaches can be found in the Coastal Barrier Resources System (CBRS), a 37-year-old program that bars federal subsidies to development across a 3.5-million-acre zone of beaches, wetlands, barrier islands, and estuaries along the Atlantic Ocean, Gulf of Mexico, and the Great Lakes. Likewise, in Florida, the Legislature adopted a similar rule in 2015 that bars the state-sponsored Citizens Property Insurance Corp. from writing coverage for new construction located seaward of the state's Coastal Construction Control Line.[19]

But it is not enough simply to tell people where they cannot build; we must also tell people where they can. Many areas remain gripped by a serious housing affordability crisis caused by stringent land-use controls that make it excessively difficult to build new housing in places where people wish to live.

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[17] Anna Weber and Rob Moore, "Going Under: Long Wait Times for Post-Flood Buyouts Leave Homeowners Underwater," Natural Resources Defense Council, Sept. 12, 2019. https://www.nrdc.org/resources/going-under-long-wait-times-post-floodbuyouts-leave-homeowners-underwater.

[18] R.J. Lehmann, "Do No Harm: Managing Retreat By Ending New Subsidies," R Street Institute, February 2020. https://www.rstreet.org/wp-content/uploads/2020/02/195.pdf.

[19] Jane Smith and Michelle Quigley, "Along the Coast…A line in the sand," The Coastal Star, Aug. 30, 2017. https://thecoastalstar.com/profiles/blogs/along-the-coast-a-linein-the-sand.

Therefore, in addition to the "stick" of removing the NFIP's incentives to build in flood-prone areas, I propose an additional "carrot" of federal incentives for states that liberalize their land-use policies in areas of lowest flood risk.

Specifically, the Stafford Act currently requires that, when the federal government provides post-disaster relief to repair, restore, or replace damaged facilities, state, and local governments are responsible to pick up 25 percent of the cost. I propose that providing for dense housing in the lowest-risk flood zones—those classified as 1-in-500-year zones, or Zone X and Zone C in the current mapping system—would enable states to "buy down" the local cost share. For example, if a state were to abolish single-family zoning in the lowest-risk flood zones—e.g., allowing construction of accessory dwelling units and up to four-family homes, by right—the federal government's cost-share for post-disaster recovery would rise to 80 percent or even 85 percent. This would begin the process of ensuring that, as rising seas force more Americans to move to higher ground, there will be sufficient housing stock to absorb them.

Other Considerations

- I mentioned earlier that it would be proper to transition the current subsidies to an income-based voucher system. An important element of such a system is that policyholders should be made aware of the full risk-based cost of flood insurance. The same applies to current subsidized and grandfathered policyholders. Any NFIP policy with rates that are less than the full risk-based cost should disclose to policyholders what that cost would be. Similarly, a complete flood history should be made available to buyers as part of all real estate closings.
- Many of the implementation questions that surrounded Biggert-Waters' provisions permitting private flood insurance to satisfy mandatory purchase requirements have, in recent years, been resolved by state authorities and the federal lending regulators. One additional point of clarification this committee could provide is to determine whether consumers who move from the NFIP to private flood insurance and then maintain continuous coverage can later return to the NFIP at the same rate as if they had remained with the program all along. This would protect consumers if, for example, after switching to a private policy, the private insurer raised rates or exited the market.
- Some have proposed forgiving the NFIP's current $20.5 billion debt to the Treasury. Should Congress opt to do so, the program's existing $30.425 billion borrowing authority would be far too large to offer any meaningful check. Congress should instead simply set the borrowing authority cap 1 percent of the NFIP's total insurance in-force. Based on its current total of $1.3 trillion, this would mean the NFIP could borrow up to $13 billion without needing further authorization.

With that, I would be glad to answer any of the Committee's questions.