

COMMENT

FEDERAL FLOOD INSURANCE POLICY: MAKING MATTERS WORSE*

TABLE OF CONTENTS

- I. INTRODUCTION472
- II. NATIONAL FLOOD INSURANCE PROGRAM475
 - A. *Constitutionality of Federal Responses to Disaster*477
 - B. *Incentive Model Legislation*478
 - C. *Program Details*480
- III. THE NFIP MODEL: THE PRIVATE INSURANCE INDUSTRY.....483
 - A. *Calculation*.....484
 - B. *Distribution*.....485
 - C. *Profitability*.....486
 - D. *Reinsurance*.....487
 - E. *Conclusion*.....488
- IV. NFIP: WELFARE SYSTEM OR INSURANCE?.....489
 - A. *Calculation*.....490
 - B. *Distribution*.....492
 - C. *Profitability*.....494
 - D. *Conclusion*.....496

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V. ASSESSING NFIP AS A PUBLIC POLICY TOOL.....	497
A. <i>Improper Land Use</i>	497
B. <i>Mitigation Failures</i>	501
C. <i>Actuarial Unsoundness Threatens Tax Dollars</i>	502
VI. SOLUTION: REVISE OR DISMANTLE THE PROGRAM	503
A. <i>Revise the Program</i>	504
B. <i>Dismantle the Program</i>	505

I. INTRODUCTION

Hurricane Katrina devastated much of the Gulf Coast in August 2005.¹ Graphic images of chaos and suffering from the largest city affected by the storm, New Orleans, demonstrated the inadequacies of America's emergency response system.² The rhetoric following the storm centered on racism,³ classism,⁴ and short-term needs.⁵ However, the more fundamental question that needed to be asked, and one the federal government has not addressed completely in its

1. See, e.g., *New Orleans Shelters to Be Evacuated*, CNN, Aug. 31, 2005, <http://www.cnn.com/2005/WEATHER/08/30/katrina> (outlining the devastation along the Gulf Coast).

2. See, e.g., *Congress OKs Massive Hurricane Recovery Bill*, CNN, Sept. 9, 2005, <http://www.cnn.com/2005/US/09/08/katrina.impact/index.html> (mentioning the slow initial response of relief efforts and the pending congressional investigation); *Floodwaters, Tensions Rise in New Orleans*, CNN, Aug. 31, 2005, <http://www.cnn.com/2005/WEATHER/08/30/katrina.neworleans/index.html> (painting an image of New Orleans after Katrina as a city devastated by flooding, looting, and emotional suffering); *Setbacks After Katrina*, CNN, Sept. 10, 2005, <http://www.cnn.com/2005/US/09/09/katrina.setbacks/index.html> (describing the frustrations victims faced, including the inability to get out of New Orleans and the chaos in Houston); "Take Care of the Kids and Grandkids": *Victims Deal with Deaths of Loved Ones, Devastation*, CNN, Aug. 30, 2005, <http://www.cnn.com/2005/WEATHER/08/30/katrina.people/index.html> (relating the horror Katrina victims suffered in effected states).

3. See, e.g., Lori Rodriguez & Zeke Minaya, *New Orleans' Racial Makeup up in Air*, HOUS. CHRON., Sept. 29, 2005, at B1 (revealing the racial tension underlying response efforts and initial plans for rebuilding); see also Editorial, *Nondiscriminatory: Katrina's Damage Was Colorblind, and So Must Be the Recovery, in New Orleans and All Along the Coast*, HOUS. CHRON., Sept. 29, 2005, at B10 (citing information that indicates the slow federal response to Katrina did not stem from racism).

4. See, e.g., Jack Gohn, Commentary, *Some Lessons of Katrina—So Far*, DAILY RECORD, Sept. 16, 2005, available at 2005 WLNR 14830101 (getting to the heart of factors complicating redevelopment in New Orleans: socioeconomic strife in America).

5. See, e.g., Michael Hedges, *Emergency Relief: FEMA Aims to Improve Record*, HOUS. CHRON., Aug. 30, 2005, at A9 (discussing preparations to provide food and water immediately after the storm to people who refused to evacuate).

rebuilding efforts,⁶ is why do we let our fellow citizens live in such vulnerable situations?⁷

Houston, another Gulf Coast city, should have asked the same question after Tropical Storm Allison.⁸ Allison brought with it the worst flood in downtown Houston's recent history,⁹ causing the mayor to request that employers give employees a "day of recovery" without the responsibility of going to work.¹⁰ The flood consumed entire neighborhoods.¹¹ Today, nearly seven years later, one might expect to see open floodplains and wide drainage areas replacing the flooded homes to prevent similar catastrophes.¹² Rather, entirely new neighborhoods of beautiful townhouses replace the destroyed bungalows and sit in the path of future floods.¹³

If the predictions of experts come to pass, both Houston and New Orleans will be rebuilding again soon. In the last decade,

6. Many articles focused myopically on immediately recreating the city, and these articles reflect the federal, city, and state governments' narrow set of post-Katrina concerns. *See, e.g.*, Cain Burdeau, *Big Easy Dreams of Even Bigger Future*, HOUS. CHRON., Jan. 11, 2006, at A4 (describing plans to let all areas of the city rebuild); Julie Mason, *Bush: On Rebuilding, Locals Know Best*, HOUS. CHRON., Jan. 13, 2006, at A4 (explaining President Bush's attempt to distance himself from controversial rebuilding discussions, leaving decisions up to local leaders); Adam Nossiter, *Fight Grows in New Orleans on Demolition and Rebuilding*, N.Y. TIMES, Jan. 6, 2006, at A16 (discussing city leadership's preference for rebuilding all areas of the city and contrasting that preference with the state recovery agency's recommendation of selective building).

7. *See The Future of the National Flood Insurance Program: Hearing Before the S. Comm. on Banking, Housing and Urban Affairs*, 109th Cong. 12 (2005) [hereinafter *NFIP Hearing*], available at 2005 WLNR 16919013 (statement of David Maurstad, Acting Director, Mitigation Division, FEMA) (suggesting this question is the appropriate one to ask by emphasizing the need to balance competing desires to rebuild quickly and wisely); *see also* Gohn, *supra* note 4 ("[I]t would be madness to rebuild much of New Orleans . . . It is showing no disrespect for the poor, those who occupied the lowlands most devastated by the catastrophe, to say that the lowlands should never be reoccupied; it is only showing a proper respect for what nature will inevitably do in the future.")

8. *See* Eric Berger, *Coast Leaving Scientists with a Sinking Feeling*, HOUS. CHRON., June 5, 2005, at A1 (examining the implications of the Gulf Coast's subsidence on the topography surrounding New Orleans and Houston).

9. Allan Turner, *Allison's Legacy*, HOUS. CHRON., June 2, 2002, at 1A.

10. Rachel Graves, *Storm Leaves City Drained*, HOUS. CHRON., June 11, 2001, at 1A.

11. *See, e.g.*, Ross E. Milloy, *Tropical Storm Leaves 16 Dead in 2 Gulf States*, N.Y. TIMES, June 11, 2001, at A1 (discussing several flooded Houston neighborhoods, including the northeast area, downtown, and Medical Center).

12. *Cf.* Dan Feldstein, *After the Storm: Experts Now Determining How, Why City Flooded*, HOUS. CHRON., Dec. 23, 2001, at 1A (noting a proposed solution for repeatedly flooded homes in which the government would fund a buyout program). After Allison, homeowners were encouraged to sell their property as part of a program to convert flood-prone residential areas into parks; however, a lack of funding and the requirement that home sales be *voluntary* limited the extent of the program. *Id.*

13. *See id.* (describing modern development requirements in Houston that mandate elevating the foundation to avoid flooding).

the frequency and intensity of hurricanes hitting the United States has increased.¹⁴ Scientists debate the cause: some blame global warming and others attribute the change to multi-decadal shifts in sea surface temperature.¹⁵ Whatever the cause, coastal communities on the Atlantic and Gulf can expect more flooding due to active hurricane seasons.¹⁶

Flooding threatens more than just the coastal communities situated on the Atlantic Ocean and the Gulf of Mexico.¹⁷ In 1993, the Mississippi demonstrated the potential severity of river flooding.¹⁸ With 60,000 left homeless and \$15 billion in damages, the so-called "Midwestern Flood" demonstrated that inland flooding poses no less of a threat than coastal flooding.¹⁹

It is erroneous to dismiss these catastrophic events as "Acts of God" about which humans had no warning. The confluence of natural and human factors produces the devastation experienced from major storms: "Loss of life is a function of the physical factors of a storm surge and inland flooding, as well as storm frequency and many sociological conditions, including population density, land use, design and implementation of local and regional preparedness plans, past storm experience, communication, and forecast accuracy."²⁰

14. See *The Future of the National Flood Insurance Program: Hearing Before the S. Comm. on Banking, Housing and Urban Affairs*, 109th Cong. 12 (2005) [hereinafter Landsea's Testimony], available at 2005 WLNR 16872931 (written statement of Chris Landsea, National Oceanic and Atmospheric Administration) (indicating an annual average of three to four hurricanes of category three or higher between 1995 and 2005 and only one or two hurricanes of the same strength between 1971 and 1994).

15. *Id.* Hurricanes are driven by warm ocean temperatures; therefore, a rise in ocean surface temperature can be expected to increase the intensity and frequency of hurricanes. *Id.* "However data indicate that warm water alone is not enough to determine whether a storm will intensify. The winds between the upper and lower levels of the atmosphere . . . also play a major role." *Id.*

16. See *id.* ("Today, major hurricanes account for just over 20% of the landfalling United States tropical storms and hurricanes but cause more than 80% of the damage."); see also Bryant J. Spann, Note, *Going down for the Third Time: Senator Kerry's Reform Bill Could Save the Drowning National Flood Insurance Program*, 28 GA. L. REV. 593, 599 (1994) (citing the National Hurricane Center's expectation that the frequency of large-scale hurricanes will increase); Martin F. Grace, et al., *Overview of Catastrophe Insurance Markets in the U.S.* 1 (Wharton Catastrophe Risk Mgmt. Project, Working Paper No. 98-6), available at http://rmictr.gsu.edu/papers/cat_overview_12-98.pdf ("The risk of human and economic losses from natural disasters has grown tremendously in the U.S. within the last decade.").

17. See *NFIP Hearing*, *supra* note 7 (comments of Sen. Richard C. Shelby) (recognizing flooding damage outside of the Gulf states).

18. See Spann, *supra* note 16, at 593.

19. *Id.*

20. Landsea's Testimony, *supra* note 14. Put another way, "[e]rosion problems' occur only when people build expensive developments near eroding shorelines." Spann, *supra* note 16, at 620-21.

With modern technology and the aid of hindsight, experts know the risks of building in flood-prone areas.²¹ Furthermore, experts have a fairly good understanding of the boundaries of flood-prone areas.²² Allowing continued development in areas previously devastated by floods is, at best, negligent.²³

This Comment examines the federal response to floods and suggests that the primary tool used today, the National Flood Insurance Program (NFIP), encourages irresponsible behavior and contributes to loss of life. While much of this Comment will discuss the financial cost of the failures of the NFIP, this paper's primary concern—and what should be Congress's—is loss of life that results from inappropriate flood policies. Discussing dollar values is a matter of convenience, not an indication of priorities.

Part II details the NFIP, including the authority upon which it is founded and the mechanics of the program. Part III presents the model against which to compare the federal insurance program: the private insurance industry. Part IV evaluates the NFIP's success in creating a true insurance program, as defined by the private insurance industry. Part V examines the NFIP from the perspective of a public policy tool as opposed to an insurance program. This examination of the program leads to two recommendations in Part VI for improving the flood program: overhaul it or dismantle it.

II. NATIONAL FLOOD INSURANCE PROGRAM

Starting in the 1950s, American presidents began exploring the idea of federal flood insurance as a way to reduce the financial burden of responding to flood events.²⁴ In 1956, Congress passed the Federal Flood Insurance Act but never funded or implemented a federal insurance program.²⁵ Congress thwarted the program, viewing public insurance as a subsidy

21. ANNE WHISTON SPIRN, *THE GRANITE GARDEN: URBAN NATURE AND HUMAN DESIGN* 129–34 (1984) (asserting statistics regarding effects and extent of urban development in floodplains).

22. *See infra* notes 60–63 and accompanying text (describing the Federal Emergency Management Agency's (FEMA) continual efforts to stay abreast of changing flood patterns).

23. *See* SPIRN, *supra* note 21, at 131–33 (chronicling devastation resulting from development in flood-prone areas and showing the impact on other properties).

24. Saul Jay Singer, *Flooding the Fifth Amendment: The National Flood Insurance Program and the "Takings" Clause*, 17 B.C. ENVTL. AFF. L. REV. 323, 334–35 (1990) (giving a detailed history of the development of the National Flood Insurance Program).

25. *Id.* at 335; *see also* Federal Flood Insurance Act of 1956, ch. 1025, § 2(b)(1), 70 Stat. 1078, 1078 (1956) (repealed 1968) (“[A]uthoriz[ing] the establishment of a program of Federal insurance and reinsurance against the risks of loss resulting from flood . . .”).

that would increase development in floodplains and worsen flood losses.²⁶ In 1968, Congress enacted the National Flood Insurance Act (NFIA), amending the 1956 Act.²⁷ The NFIA responded to Congress's concerns by providing federal flood insurance only to communities that expressed a willingness to regulate development in flood-prone areas.²⁸

The NFIA states seven purposes: (1) to provide flood insurance nationwide; (2) to create a flexible program capable of balancing risks between the general public and those protected; (3) to encourage proper land use regulations at state and local levels; (4) to direct new development away from flood-prone areas; (5) to enlist lending institutions to assist in implementation of the program; (6) to coordinate federal assistance impacting flood-prone areas; and (7) to assess the success of the program on an ongoing basis.²⁹ These seven objectives are frequently paraphrased as being two-fold: providing insurance and creating appropriate land use policies in flood-prone areas.³⁰

26. Singer, *supra* note 24, at 335 (opining that a lack of regulation of floodplains and available insurance would encourage risky development). Because Congress never implemented the Federal Flood Insurance Program, this Comment uses "federal flood insurance" and "national flood insurance" interchangeably, both referring to the program initiated in 1968.

27. National Flood Insurance Act of 1968, Pub. L. No. 90-448, § 1303(c), 82 Stat. 572, 573 (amending the Federal Flood Insurance Act of 1956) (codified in various sections of 42 U.S.C. §§ 4001-4128). Although this Comment references only the National Flood Insurance Act (NFIA), three additional laws amended the original statute: Housing and Urban Development Act of 1969, Pub. L. No. 91-152, 83 Stat. 379 (1969); Flood Disaster Protection Act of 1973, Pub. L. No. 93-234, 87 Stat. 975 (1973); and Title VII, Pub. L. No. 95-128, 91 Stat. 1144 (1977). See *Adolph v. FEMA*, 854 F.2d 732, 734 n.1 (5th Cir. 1988). All four laws, as pertinent to this Comment, are codified in various sections of 42 U.S.C. §§ 4001-4128. *Id.*

28. See National Flood Insurance Act of 1968, Pub. L. No. 90-448, § 1303(c), 82 Stat. 572, 573; Singer, *supra* note 24, at 335-36 (explaining why the National Flood Insurance Act (NFIA) succeeded where previous insurance proposals failed).

29. 42 U.S.C. § 4001(d)-(e) (2000) (declaring the purposes of national flood insurance).

30. *NFIP Hearing*, *supra* note 7, at 3-4 (comments of Sen. Richard C. Shelby). Despite Congress's apparently broad range of objectives, commentators tend to cite one of the several purposes as "the" purpose of the act. Compare *Gowland v. Aetna*, 143 F.3d 951, 953 (5th Cir. 1998) ("Congress established the National Flood Insurance Program to provide insurance coverage at or below actuarial rates."), and DAVID L. CALLIES, ROBERT H. FREILICH & THOMAS E. ROBERTS, *CASES AND MATERIALS ON LAND USE* 733 (3d ed. 1999) ("[The National Flood Insurance Program's (NFIP)] purpose is to discourage development—and in particular the building of structures—in flood prone areas."), with Spann, *supra* note 16, at 611 ("Congress's purpose from the NFIP's very beginning has been to reduce individuals' exposure to flood hazards and thereby reduce the need for disaster relief bailouts.").

A. Constitutionality of Federal Responses to Disaster

The Constitution defines and limits the powers of the federal government.³¹ However, “[t]he text of the Constitution is curiously silent on the matter of national crises,” including natural disasters.³² The police power gives states the authority to respond as needed to situations within their territories.³³ The federal government does not have a general power analogous to the police power.³⁴ As a result, most federal disaster relief statutes give federal agencies the ability to complement, rather than displace, state efforts.³⁵ At the same time, the federal government’s willingness to supplement state action indicates recognition that some emergencies exceed states’ remedial capabilities.³⁶

Four legal theories support the federal government’s authority to provide disaster response assistance. First, the Constitution imbues the federal government with authority to “provide for the common defence.”³⁷ Even though this provision does not grant a police power to the federal government, courts interpret this authority as granting the federal government power to respond to national emergencies.³⁸ Second, the federal government acquires power out of necessity.³⁹ In the words of

31. See, e.g., *Gregory v. Ashcroft*, 501 U.S. 452, 457–60 (1991) (discussing this fundamental precept in a state action context); Rebecca M. Kahan, Comment, *Constitutional Stretch, Snap-Back, and Sag: Why Blaisdell Was a Harsher Blow to Liberty Than Korematsu*, 99 NW. U. L. REV. 1279, 1285 (2005) (referring to the federal government as a “strong but limited” government”).

32. Kahan, *supra* note 31, at 1286.

33. See Steve Hughes, *The Next New Madrid Earthquake*, 61 J. MO. B. 186, 193 (2005) (“Response to disasters is considered to be one of the ‘police powers’ left to state and local governments.” (citing GARY L. WAMSLEY, *COPING WITH CATASTROPHE: BUILDING AN EMERGENCY MANAGEMENT SYSTEM TO MEET PEOPLE’S NEEDS IN NATURAL AND MANMADE DISASTERS* 28 (1993))).

34. *Id.*

35. See *id.* at 186–88 (highlighting the communication between local and national agencies that must take place prior to the provision of federal aid); see also 42 U.S.C. § 5121(a)(2) (2000) (finding that federal action “to assist the efforts of the affected States” in disaster situations is necessary (emphasis added)); 42 U.S.C. § 5195 (2000) (vesting both federal and state governments with emergency preparedness responsibilities).

36. Kahan, *supra* note 31, at 1283 n.18 (“When a disaster is entirely contained within a particular state, it could be argued that it is the responsibility of the state government to handle the aftermath. However, when the disaster reaches a certain scale, even state government cannot muster a sufficiently broad and coordinated relief effort . . .”).

37. U.S. CONST. pmbl.

38. See, e.g., Kahan, *supra* note 31, at 1283, 1286 n.35 (noting that “the protective function of the state, part of which is the capacity to handle inevitable crisis” is one of the purposes driving the formation of nation–states (footnote omitted)).

39. *Id.* at 1283–84 (discussing three types of crises a nation will face and noting

Thomas Jefferson, the boundaries of governmental authority are defined by “the laws of necessity, of self-preservation, of saving our country when in danger To lose our country by a scrupulous adherence to written law, would be to lose the law itself”⁴⁰ These two rationales explain the federal government’s ability to respond in true emergency situations.

The authority to plan responses to disasters before they occur rests on entirely different Constitutional bases: the Interstate Commerce Clause and the Spending Power. The Interstate Commerce Clause grants Congress broad authority in a variety of contexts.⁴¹ The power to control interstate commerce encompasses the power to regulate navigable waters.⁴² Federal courts interpret the Commerce Clause as giving Congress the authority to implement flood-control programs.⁴³ Historically, these programs focused on attempting to control nature by the construction of flood-control structures.⁴⁴ By creating a social program, the NFIA authorized a plan that departed appreciably from these historic programs. Congress’s powers to tax, spend, and provide for the “general Welfare of the United States” sustain the NFIA against challenges of unconstitutionality.⁴⁵

B. Incentive Model Legislation

Land use regulation traditionally falls under states’ police powers.⁴⁶ The NFIA changes this allocation of power by transferring substantial control over local land use planning to

natural disasters of a large scale create devastation on a magnitude that requires response by the “centralized power”).

40. *Id.* at 1287 (quoting Thomas E. Baker, *Civil Rights and Civil Liberties in a Crisis: A Few Pages of History*, 3 NEV. L.J. 23, 24 (2002)) (first omission in original).

41. U.S. CONST. art. I, § 8, cl. 3.

42. *See, e.g.,* Okla. *ex rel.* Phillips v. Guy F. Atkinson Co., 313 U.S. 508, 523 (1941) (holding that Congress may exercise control over nonnavigable stretches of water to preserve or promote commerce on its navigable portions); *Trinityfarm Constr. Co. v. Grosjean*, 291 U.S. 466, 471–72 (1934) (concluding that the authority under the commerce clause encompasses the power to construct and maintain levees, which aid in the navigation of rivers).

43. *See* *Bayou Des Familles Dev. Corp. v. U.S. Corps of Eng’rs*, 541 F. Supp. 1025, 1041 (E.D. La. 1982) (upholding the Flood Control Act of 1928 against a facial challenge).

44. *See infra* note 203 (detailing the detrimental effects of many types of government efforts to control flooding).

45. U.S. CONST. art. I, § 8, cl. 1; *see also* *Tex. Landowners Rights Ass’n v. Harris*, 453 F. Supp. 1025, 1030–31 (D.D.C. 1978) (citing U.S. CONST. art. I, § 8) (presenting the federal government’s argument that the federal power to “tax and spend” and the “General Welfare Clause” support the NFIA).

46. DANIEL P. SELMI & JAMES A. KUSHNER, *LAND USE REGULATION: CASES AND MATERIALS* 59 (2d ed. 2004).

Congress,⁴⁷ which effectuated this transfer via the incentive model of legislation. Incentive model legislation avoids violating the precepts of federalism by encouraging, rather than mandating, compliance at the state level.⁴⁸ The federal government uses the incentive model to obtain consistent nationwide standards that otherwise fall outside the federal government's realm of influence, such as lower speed limits and a twenty-one-year-old drinking age.⁴⁹ Under this model, the federal government confers a benefit on states in exchange for implementation of legislation consistent with federal policy.⁵⁰ Federal courts view the incentive model as a valid exercise of congressional power because states have the option of preventing federal encroachment by rejecting the promised benefit.⁵¹ However, states frequently view the choice presented by Congress as akin to blackmail because of the importance of the promised federal benefit.⁵²

In the context of flood insurance, the choice created by the federal government places the federal government at the center of local land use decisions.⁵³ Under the NFIA, the federal government makes flood insurance available to communities if their state implements floodplain regulations consistent with federal standards.⁵⁴ These regulations include zoning provisions,

47. See *supra* notes 29–30 and accompanying text (listing seven purposes of the NFIA that suggest Congress sought control over local issues through the Act, particularly the third goal—encouragement of appropriate land use planning).

48. CALLIES ET AL., *supra* note 30, at 733. The “incentive model” alternatively is called a quid pro quo system. See Singer, *supra* note 24, at 323.

49. See *Adolph v. FEMA*, 854 F.2d 732, 735–36 (5th Cir. 1988) (providing a list of federal regulations that condition funding for vital projects on states’ acceptances of federal stipulations).

50. See *id.*

51. See *Tex. Landowners Rights Ass’n v. Harris*, 453 F. Supp. 1025, 1028–31 (D.D.C. 1978) (upholding the NFIA against a Tenth Amendment challenge), cited in *Adolph*, 854 F.2d at 735–36; see also *Nat’l Wildlife Fed’n v. FEMA*, 345 F. Supp. 2d 1151, 1156 (W.D. Wash. 2004) (remarking that communities participate in the NFIP voluntarily and FEMA has no control over implementation of required ordinances).

52. See, e.g., *Tex. Landowners Rights Ass’n*, 453 F. Supp. at 1028–29. In *Texas Landowners*, the plaintiffs argued that the NFIA exceeded the parameters of incentive model legislation by linking the availability of certain federal mortgage programs to participation in the federal flood insurance program. *Id.* at 1027–29. The court paraphrased the plaintiffs’ argument: “Here, [the State] claim[s], the local communities lose more by not accepting the Program than they would stand to gain by complying with the national flood plain standards and purchasing federal flood insurance.” *Id.* at 1029.

53. Spann, *supra* note 16, at 597 (discussing how the program requires participating communities to enact building codes that comply with FEMA’s guidelines in order to achieve a central goal of the program—“[c]onstricting floodplain development and guiding new construction into safer areas . . .”).

54. 42 U.S.C. § 4011(a) (2000) (authorizing the Director of FEMA to create and implement the NFIP); 42 U.S.C. § 4011(b) (2000) (imposing the requirement on local

construction limitations, and various other elements designed to reduce losses during floods.⁵⁵ If local governments comply with these federal guidelines, both individuals and businesses may purchase federal flood insurance.⁵⁶ If the municipality fails to implement or enforce appropriate regulations, everyone in the community loses program eligibility.⁵⁷ The Federal Emergency Management Agency (FEMA), an agency within the Department of Homeland Security, operates the program.⁵⁸ The choice put to the states by the federal government proved no choice at all: no state elected to forgo the NFIP, and every state has enacted regulations to minimize the effects of flooding. Congress succeeded in making flood insurance available nationwide.⁵⁹

C. Program Details

The NFIP delegates four distinct activities to FEMA. First, FEMA identifies and maps flood hazards.⁶⁰ The agency revisits these maps every five years, as mandated by the NFIA.⁶¹ Both man-made and natural changes alter the landscape in ways that change the flood hazard and therefore warrant FEMA's constant monitoring.⁶² After identifying a flood hazard, FEMA notifies affected communities; the impetus then shifts to the local

communities to implement land use policies in exchange for making flood insurance available); see also Elise Jones, *The Coastal Barrier Resources Act: A Common Cents Approach to Coastal Protection*, 21 ENVTL. L. 1015, 1028 (1991) (commenting on the structure of the NFIP as a tradeoff in which the federal government provides insurance, community governments implement mitigation, and residents obtain the benefit); Singer, *supra* note 24, at 323 (defining the "quid pro quo" NFIP the requires).

55. See *Criger v. Becton*, 902 F.2d 1348, 1349 (8th Cir. 1990) (mentioning, in regards to the substantially similar 1982 version of the NFIA, FEMA's role in setting guidelines for local land use policy in flood-prone areas).

56. 42 U.S.C. § 4012(a)–(b) (2000) (authorizing the NFIP for residences, businesses, and other uses, but setting a priority for making insurance available to residential properties).

57. *Nat'l Wildlife Fed'n v. FEMA*, 345 F. Supp. 2d 1151, 1157 (W.D. Wash. 2004) (noting FEMA can suspend communities from the NFIP for failure to maintain proper enforcement).

58. 6 U.S.C. § 313 (Supp. IV 2004) (transferring FEMA to the Department of Homeland Security).

59. See *CALLIES ET AL.*, *supra* note 30, at 733 (indicating that beyond a few specific coastal areas, flood insurance is now available everywhere in the United States); *NFIP Hearing*, *supra* note 7 (comments of David Maurstad, Acting Director, Mitigation Division, FEMA) ("[T]here are 20,100 communities in all 50 states and U.S. territories participating in the NFIP.").

60. See *Nat'l Wildlife Fed'n*, 345 F. Supp. 2d at 1155, 1163; see also Singer, *supra* note 24, at 324–26 (describing the studies FEMA has undertaken in connection with the NFIP in determining that the flood peril is increasing).

61. 42 U.S.C. § 4101(e), (f)(1) (2000); *Nat'l Wildlife Fed'n*, 345 F. Supp. 2d at 1155.

62. See *infra* notes 195–96, 201–03 and accompanying text (explaining that changes in the land and density of development change anticipated flood risks).

government, which must demonstrate its willingness to participate in the federal program by completing an NFIP application.⁶³

The second function that the NFIP delegates to FEMA is the creation of minimum standards that dictate where and how structures can be built in flood-prone areas. These standards seek “to reduce threats to lives and to minimize damages to structures and water systems during flood events.”⁶⁴ FEMA must approve a community’s building code regulations before residents may purchase federal flood insurance.⁶⁵ If a community subsequently fails to enforce the ordinances, such that construction places community members at greater risk of flood damage, FEMA can remove the community from the program.⁶⁶ The agency’s control over local flood management constitutes the “mitigation” aspect of the NFIP.⁶⁷

Third, once a community implements FEMA-approved ordinances, residents become eligible to purchase flood insurance.⁶⁸ FEMA promulgates flood insurance policies and establishes insurance rates appropriate for the community.⁶⁹ Private insurance companies put the program into operation by acting as FEMA’s insurance agents, under the “Write Your Own” (WYO) Program.⁷⁰ WYO companies sell flood insurance policies to individuals that own structures existing at the time the NFIP

63. Spann, *supra* note 16, at 597–98; *see also Nat’l Wildlife Fed’n*, 345 F. Supp. 2d at 1156 (citing 42 U.S.C. § 4102(c) (2000)) (noting that “FEMA *must* provide flood insurance to communities which have ‘evidenced a positive interest in securing flood insurance coverage’ and have given assurances that they will enact “adequate land use and control measures”).

64. *Nat’l Wildlife Fed’n*, 345 F. Supp. 2d at 1156 (citing 44 C.F.R. § 60.3 (2004)); *see also Adolph v. FEMA*, 854 F.2d 732, 734 n.2 (5th Cir. 1988) (identifying three beneficiaries from the NFIP’s mitigation policies: (1) people “who would otherwise develop or occupy the flood-prone land”; (2) neighbors otherwise adversely affected by inappropriate development; and (3) the general public that otherwise must fund post-flood recovery efforts).

65. *See* Spann, *supra* note 16, at 598 (detailing the approval process).

66. *Nat’l Wildlife Fed’n*, 345 F. Supp. 2d at 1157; *see also Adolph*, 854 F.2d at 734 n.2.

67. The failed Flood Insurance Act of 1956 was criticized for not regulating floodplains which, coupled with the availability of subsidized insurance, was expected to lead to increased flood claims. Singer, *supra* note 24, at 335. In contrast, the NFIP requires participating communities to adopt “hazard mitigation plans” to regulate floodplain development. *Id.* at 336.

68. *Nat’l Wildlife Fed’n*, 345 F. Supp. 2d at 1156 (citing 42 U.S.C. § 4012(c) (2000)) (noting that once a community demonstrates it is adopting the required ordinances, FEMA no longer has discretion to deny flood insurance to community members); Spann, *supra* note 16, at 598 (describing the NFIP process).

69. 42 U.S.C. § 4102 (2000) (authorizing FEMA to conduct studies needed to produce appropriate land use policies).

70. *Nat’l Wildlife Fed’n*, 345 F. Supp. 2d at 1156.

takes effect in the community.⁷¹ At this stage, WYO companies sell the policies at the subsidized rates initially set by FEMA. Over time, FEMA conducts actuarial studies to determine rates for flood insurance that take into account the actual risk of flooding. Once completed, FEMA then promulgates these new nonsubsidized rates.⁷² New construction and substantially improved properties pay the higher, risk-based rates, while the original, subsidized policyholders retain the subsidized rate.⁷³ Congress created the two-tiered implementation program to encourage and expedite participation in the NFIP.⁷⁴ In addition, Congress uses a stick to encourage participation by individuals. Uninsured persons that receive federal disaster relief after a major flood event are required to purchase flood insurance.⁷⁵

Fourth, the NFIA delegates to FEMA the task of encouraging local communities to treat the federal guidelines as a starting point from which to create even more effective flood-control measures. FEMA incentivizes creative flood-control measures through the “Community Rating System.”⁷⁶ This program offers lower flood insurance premiums to residents in communities that enact ordinances above FEMA’s minimum criteria.⁷⁷

As the next section demonstrates, these four activities make the NFIP a unique type of insurance program. Prior to the NFIP,

71. Spann, *supra* note 16, at 597–98; *see also Adolph*, 854 F.2d at 734 n.2 (suggesting that a policy of deterring new development in flood-prone areas, rather than convenience, explains the rationale for offering different rates on existing structures than those offered on new construction).

72. Spann, *supra* note 16, at 598 (clarifying the different rate structures).

73. *Id.*

74. *See Singer*, *supra* note 24, at 336 (describing the expedited procedure—called the “Emergency Program”—that was created in 1969 to increase participation in the NFIP).

75. Spann, *supra* note 16, at 601. This statement must be understood in the larger federal disaster relief framework. 42 U.S.C. § 5154a(a) does not make emergency relief contingent upon purchasing insurance; the Department of Defense will rescue stranded people from roof tops of uninsured properties. *See* 42 U.S.C. § 5154a(a) (2000) (specifying that “no Federal disaster relief assistance made available in a flood disaster area may be used to make a *payment*” and thereby making clear that this provision applies only to financial aid) (emphasis added)). However, no federal financial assistance from any federal agency can be given to a person who had previously received disaster relief funds that were contingent upon the purchase of flood insurance and who then failed to comply. *Id.* Persons receive previous disaster relief funds via two channels: Small Business Administration (SBA) loans and FEMA Individual & Family Grants, limited to \$11,900. Spann, *supra* note 16, at 601 n.55. If, after receiving a SBA loan or a FEMA grant, the person does not maintain flood insurance as required, the person is precluded from any future disaster relief payments. *Id.*

76. *Nat'l Wildlife Fed'n v. FEMA*, 345 F. Supp. 2d 1151, 1163–64 (W.D. Wash. 2004).

77. *Id.*

the federal government responded to floods with disaster relief—a form of welfare.⁷⁸ Welfare is “aid provided by the government to poor and needy people.”⁷⁹ The NFIP seeks to change the government’s response to floods from welfare payments to insurance payments.⁸⁰ In fashioning this conversion to insurance-driven relief, the government combined a welfare system with a market-driven tool. Before assessing the government’s success at abandoning the welfare model of responding to flood crises, the point of reference—the private insurance industry—must be understood.

III. THE NFIP MODEL: THE PRIVATE INSURANCE INDUSTRY

“Insurance is not the mere act of paying funds to reimburse a person or entity for losses. Instead, it entails the transfer of risk from one party to another.”⁸¹ From a client’s perspective, the insurance industry merely entails the payment of premiums, submission of claims, denial of coverage, and eventual payment of some portion of the claim.⁸² The insurer must carefully

78. David W. Sar, Feature, *Helping Hands: Aid for Natural Disaster Homeless vs. Aid for “Ordinary Homeless,”* 7 STAN. L. & POL’Y REV. 129, 130 (1995) (describing the aid that generally flows to disaster areas as unconditional—an equivalent of welfare). For example, the Tennessee Valley Authority was created partially to control flooding in the area. Singer, *supra* note 24, at 334. In 1936, Congress passed legislation authorizing flood-control projects nationwide. Oliver A. Houck, *Rising Water: The National Flood Insurance Program and Louisiana*, 60 TUL. L. REV. 61, 65 (1985); Sar, *supra*, at 130; Spann, *supra* note 16, at 595.

79. THE WORLD BOOK DICTIONARY 2375 (Clarence L. Barnhart & Robert K. Barnhart eds., 1987).

80. See *supra* notes 24–28 and accompanying text (discussing the history of the NFIA and Congress’s motivation for passing it).

81. Michelle E. Boardman, *Known Unknowns: The Illusion of Terrorism Insurance*, 93 GEO. L.J. 783, 809 (2005) (providing an in-depth discussion of the insurance industry in light of the federally mandated changes made to the industry following September 11, 2001, and planting the seed that changes to the insurance industry cannot be understood without first understanding the fundamentals of insurance—and, hence, suggesting the structure for this paper); see also Mark Boran, Note, *To Insure or Not to Insure, That Is the Question: Congress’ Attempt to Bolster the Insurance Industry After the Attacks on September 11, 2001*, 17 ST. JOHN’S J. LEGAL COMMENT. 523, 530–31 (2003) (citing GEORGE J. COUCH ET AL., 1 CYCLOPEDIA OF INSURANCE LAW § 1:2 (2d ed. 1984)) (taking a less philosophical approach to the definition of insurance by noting that it is commonly defined as a contract by which the insurer promises to pay a given sum upon destruction of property in which the promisee has an interest, in exchange for the promisee’s regular payment of premiums).

82. Eugene R. Anderson et al., *Draconian Forfeitures of Insurance: Commonplace, Indefensible, and Unnecessary*, 65 FORDHAM L. REV. 825, 826 (1996) (commenting on the high frequency with which insurance companies reject perfectly good claims based on technicalities). The authors of the above article are plaintiffs’ attorneys, representing policyholders attempting to collect from insurance companies. *Id.* at 825 n. *.

evaluate three variables to win at this numbers game: calculation, distribution, and profitability.⁸³

A. Calculation

In essence, a private insurance company must assess a risk against the potential gains of assuming that risk before entering into an insurance contract.⁸⁴ This assessment requires “innumerable calculations.”⁸⁵ Three of these calculations stand out as the most significant. First, the insurer must assess the risk itself. Risk consists of two parts: the likelihood and the severity of an event.⁸⁶ With the risk estimated, an insurer turns to consider the market reality. The second calculation is an assessment of the premium levels that risk assumption would command in the market.⁸⁷ Finally, the insurance company must calculate the reserve levels required to maintain the risk.⁸⁸

83. *Id.* at 813–14. One author emphasizes that insurance is not merely a business but rather a private industry that affects the public interest. *Id.* at 828–30. While recognizing this fact, this Comment examines only the business side of private insurance because the public interest gains associated with insurance are byproducts of a successful business model.

84. *See* Boardman, *supra* note 81, at 813; *see also* Grace, *supra* note 16, at 19 (linking an insurance company’s need to estimate future risk with its ability to plan pricing and to structure reinsurance policies).

85. Hence, the statement: “innumerable calculations lie behind any insurance agreement” Boardman, *supra* note 81, at 813. Boardman hints that these calculations are the essential difference between a subsidy and an insurance policy because risk cannot be effectively transferred unless insurers properly pool the risk that they take on, and proper pooling cannot be accomplished absent these calculations. *Id.* at 809–10, 813–14.

86. Boardman, *supra* note 81, at 813; *see also* WEBSTER’S THIRD NEW INTERNATIONAL DICTIONARY 1961 (1986) (defining “risk” as “the product of the amount that may be lost and the probability of losing it”).

87. Boardman, *supra* note 81, at 812–13. The determination of premium levels involves consideration of actuarial factors, particularly the “risky characteristics” for each insured, Ryan A. Earhart, *Lifting the Iron Curtain of Automobile Insurance Regulation*, 49 S.C. L. REV. 1193, 1200–01 (1998), as well as a balancing of factors unique to the insurance industry, which are discussed above. *See* Boardman, *supra* note 81, at 812 (discussing other factors that insurers consider, such as maintaining a sufficient reserve and achieving adequate risk distribution).

88. Boardman, *supra* note 81, at 813. The “reserve” kept by each insurance company is integral to the corporation; it is the amount that the company must have available “to remain solvent in the worst of times.” *Id.* at 812. As with other financial institutions, such as banks, no insurance company would be able to cover the full amount of its outstanding obligations, if called all at once. *Cf.* Boran, *supra* note 81, at 532 (explaining that insurance companies themselves must purchase insurance policies so that the company is not “expose[d] . . . to a level of risk that could cause the company to become insolvent”). Rather, the insurance company calculates the amount likely to be called at any one time and maintains this quantity as its reserve. Boardman, *supra* note 81, at 812. “[The] amount [is] astoundingly smaller than [the insurance company] would need if it had to assume that all risks would come due at once.” *Id.* Improperly calculating the required reserve levels could result in the company’s default. *See id.* at 830 (reporting

Making these calculations requires extensive data.⁸⁹ Science and history provide reliable starting points⁹⁰ to direct insurers towards the “insurable middle”—the set of risks the insurance company may profitably assume. The insurable middle exists where the risk is neither too uncertain nor too catastrophic for the insurance company to assume the risk comfortably, but the risk is still sufficiently uncertain and dangerous for consumers to seek protection.⁹¹

B. Distribution

The second variable that insurers must assess is the distribution of the risks assumed by the insurer.⁹² Because each risk has a different cause and likelihood of occurrence, an insurer that assumes a variety of risks lowers the likelihood that all of its customers will file a claim in the same year.⁹³ Therefore, an insurance company stabilizes payouts by assuming a variety of risks.⁹⁴ This pooling of risks helps the insurance company better predict the bottom line.⁹⁵ The beneficial effects of pooling risks,

that “gross miscalculations . . . cause[d] Florida insurers to suffer large reserve losses after Hurricane Andrew hit in 1992” and that “nine insurers . . . became insolvent as a result of Andrew”).

89. See Grace, *supra* note 16, at 19 (pointing out that this risk assessment is even more complicated for catastrophic risks, “which are affected by a wide range of factors, and subject to considerable uncertainty”).

90. See Boardman, *supra* note 81, at 815–20 (indicating that terrorism is an uninsurable risk because there is neither historical nor scientific data upon which to base calculations). Boardman explains the usefulness of historical data in calculating risk: “If we know the statistical likelihood [of an event], the risk is manageable. Moreover, across groups and time, our uncertainty may not seem like uncertainty at all—patterns may emerge [through history], lending shape to the greater whole.” *Id.* at 811.

91. *Id.* at 810–11. Boardman coins the phrase “insurable middle” with reference to potential clients who would choose to purchase insurance based on varying degrees of uncertainty regarding the risk. *Id.* The term works equally well for describing the risks that the insurance company elects to insure. See Sar, *supra* note 78, at 140 (describing the balancing act played by policy holders and insurers, with each seeking just the right level of risk and cost to make the system efficient).

92. Boardman, *supra* note 81, at 813.

93. *Id.* at 809–10, 812 n.138.

As the number of ventures in a . . . ‘pool’ is increased, there is a greater likelihood that the favorable and the harmful experiences will tend to be balanced—that is, grouping a large number of ventures in a pool increases the probability that the losses suffered by all the ventures will be spread over time.

Id. at 813; see also Sar, *supra* note 78, at 140 (indicating ways in which insurers can reduce risk).

94. Boardman, *supra* note 81, at 812 n.138 (“[I]f ten percent of small businesses experience a fire each year, an insurer with only ten policyholders will anticipate one fire each year, but the loss in any given year may be zero, or three. However, if the insurer covers 100,000 policyholders, the loss each year will converge on ten percent.”).

95. See *id.* at 809–10 (explaining how insurance companies reduce or even totally

however, decrease if the risks are correlated—meaning that each insured is likely to experience the risk due to the same harmful event.⁹⁶ A hurricane represents a correlated risk because every person in the area affected by the hurricane will suffer similar harm.⁹⁷ Conversely, a robbery exemplifies an uncorrelated risk because it is highly unlikely that every insured storefront in an area will be robbed in the same night.⁹⁸ By purchasing insurance, individuals shift risk to the insurance company.⁹⁹ In issuing policies, insurance companies must keep a broad perspective, looking at how all of the policies written by the company interact—whether the company has assumed a pool of risks that are well distributed and not correlated. The company diminishes *its* overall exposure to financial risk by appropriate distribution, in other words by balancing its overall risk portfolio.¹⁰⁰

C. Profitability

Only private insurers must consider profitability as a variable.¹⁰¹ When government enters the insurance business, it does so for public policy reasons, rather than to make a profit.¹⁰² When the premiums calculated by a private insurance company¹⁰³ are set at a level the public is willing to pay, the insurance will be profitable.¹⁰⁴ For example, before 1968, private insurers could not

eliminate risk for themselves “[b]y distributing individual risks across a large pool [of policyholders]”); *see also* Grace, *supra* note 16, at 19 (describing additional methods of risk diversification in addition to choosing an appropriate risk portfolio, including modifying the insurance policy’s contract terms).

96. Boardman, *supra* note 81, at 820 (defining and describing uncorrelated risks).

97. *See id.* (“Natural disasters are highly correlated . . .”).

98. *Id.*

99. *See* Sar, *supra* note 78, at 140 (explaining that insurance is purchased because individuals are motivated to “decrease . . . disaster-caused costs by bearing diminished risk”).

100. Boardman, *supra* note 81, at 813.

101. *See id.* at 814 (describing the conditions that make a risk “insurable” to private insurers). The National Association of Insurance Commissioners (NAIC) defines profit in the insurance industry as the balance of premiums collected, expenditures, taxes, investment income, and payouts. Grace, *supra* note 16, at 25.

102. *See* Boardman, *supra* note 81, at 812 (explaining that “the government can provide a source of relatively unlimited funds[,]” in contrast to private insurers, which cannot insure against extremely large losses that could threaten their financial viability); *see also* Boran, *supra* note 81, at 537 (looking to the federal government as the most secure insurer because it can use tax money to cover losses); *cf.* National Flood Insurance Act, 42 U.S.C. § 4001(a)(3) (2000) (“[A]s a matter of national policy, a reasonable method of sharing the risk of flood losses is through a program of flood insurance . . .”). *But see* Boardman, *supra* note 81, at 809–12 (claiming that the government’s ability to cover costs does not constitute insurance but rather subsidization).

103. *See supra* note 87 (identifying how insurance companies calculate premiums).

104. Boardman, *supra* note 81, at 814 (explaining that private insurers cannot be

offer flood insurance at premiums that homeowners could afford;¹⁰⁵ practically speaking, flood insurance was unavailable to the public.¹⁰⁶ By subsidizing premiums, the federal government closed the gap between market-rate insurance and the payment level private individuals found affordable.¹⁰⁷ By making it possible for insurance companies to make a profit, the government satisfied one of the variables required for private insurers to enter the flood insurance market.

D. Reinsurance

An insurer bases its market entrance decision on the reasonableness of the three variables examined above—calculation, distribution, and profitability. However, most insurers do not simply rely on their own calculations; they seek additional security in the reinsurance market.¹⁰⁸ “Reinsurance involves a contract under which one insurer agrees to indemnify another for loss sustained under the latter’s policy of insurance.”¹⁰⁹ As insurers, reinsurers consider the same concepts as primary insurers.¹¹⁰ For instance, reinsurers undertake similar

profitable unless they are “able to attract any buyers at the set premiums”); *see also* Grace, *supra* note 16, at 10 (designating several factors, in addition to price, that impact demand for insurance, including the client’s “degree of risk aversion”).

105. 42 U.S.C. § 4001(b) (2000) (“Congress also finds that . . . many factors have made it uneconomic for the private insurance industry alone to make flood insurance available to those in need of such protection on reasonable terms and conditions”); *see also* Boardman, *supra* note 81, at 828–29 (quoting the statute); Spann, *supra* note 16, at 595–96 (same).

106. Another example of an insurance crisis occurred last decade when insurers realized the full cost of underwriting property in Florida; without state intervention to interrupt market preferences, property insurance would have been unavailable in the state. Jan Gorrie, *Property Insurance in Florida: The 1997 Legislative Reform Package*, 25 FLA. ST. U. L. REV. 351, 351–52 (1998).

107. *See* Spann, *supra* note 16, at 596–98 (describing the “basic method of operation” of the NFIA); *see also* Boardman, *supra* note 81, at 829 (“The Flood Program has undergone numerous mutations since its enactment, with government subsidized premiums as the point of consistency.”).

108. Boran, *supra* note 81, at 531–32; *see also* Grace, *supra* note 16, at 19 (indicating that reinsurance is particularly important with regard to catastrophic risk).

109. *Francis v. United Jersey Bank*, 432 A.2d 814, 817 (N.J. 1981). Stated in a more playful way: Reinsurance is insurance for an insurance company. *See* Charles F. Corcoran, III, *Reinsurance Litigation: A Primer*, 16 W. NEW ENG. L. REV. 41, 41 (1994) (“[A] reinsurer is an insurance company’s insurer.” (quoting Donald W. Rees & Carol E. Reese, *Reinsurance: The Basics and Bad Faith Considerations*, 39 FED’N INS. & CORP. COUNS. Q. 323, 323 (1989))).

110. *See Francis*, 432 A.2d at 817 (implying that reinsurers are not a discrete type of company but rather an insurance company that chooses to indemnify another insurance company).

calculations regarding the assessment of risks, premiums, and reserve levels.¹¹¹

Reinsurers typically operate on a global scale; thus, the risk is distributed widely by virtue of geographic dispersion.¹¹² They contract with primary insurers, rather than with the insured, to assume a portion of the total risk to which the primary insurer is exposed.¹¹³ Just as with primary insurers, reinsurers operate only to make a profit.¹¹⁴ Reinsurance might be the ultimate example of transferring risk from one party to another to diminish the former party's overall risk exposure.¹¹⁵ In fact, without reinsurance, primary insurers would exit several markets because they could not assume the level of risk on their own.¹¹⁶

E. Conclusion

Insurance entails much more than the simple task of indemnifying a party after an adverse event.¹¹⁷ A business—not a welfare system—seeks to provide benefits for the corporation as well as for its client.¹¹⁸ By thoughtfully balancing exposure to risk with potential gain, the private insurance industry survives.¹¹⁹ The industry must be seen as a complete system, including primary insurers and reinsurers.¹²⁰ Taken as a whole, this

111. See Boardman, *supra* note 81, at 806–08 (discussing the same concepts with respect to reinsurers that the article later analyzes in depth with regard to primary insurers).

112. *Id.* at 806 & nn.117–19 (“[R]einsurance markets are global in scope . . .”); see also *supra* text accompanying notes 92–100 (discussing distribution).

113. Corcoran, *supra* note 109, at 42–43. The arrangement between the primary insurer and its reinsurer may take several forms. See *Francis*, 432 A.2d at 817. The insurer may seek assistance with a particularly large policy, or the insurer may contract for coverage of an entire line of policies. *Id.*

114. *Francis*, 432 A.2d at 817 (detailing the precise mechanics of a typical insurer–reinsurer contract); cf. Boran, *supra* note 81, at 531–32 (describing the contracts entered into between primary insurers and reinsurers and noting that compensation in these contracts takes the form of ceding a portion of the premium received by the primary insurer).

115. See Boardman, *supra* note 81, at 809 (hinting that even when primary insurers are not able to balance a particular risk against itself, reinsurers are able to balance the risk against other risks).

116. Boran, *supra* note 81, at 532 & nn.47–48.

117. See *supra* note 81 and accompanying text (asserting that insurance involves the more complex process of risk transfer).

118. See *supra* Part III.C (observing that insurers will not consider a risk to be insurable unless insuring against the risk is profitable); see also Anderson et al., *supra* note 82, at 828–29 (suggesting that the benefits of insurance extend not only to the policy holder, but to others, such that “insurance is affected with a public interest”).

119. See *supra* text and accompanying notes 84–116 (describing the private insurance industry as a balancing act of risk and reward).

120. See *supra* Part III.D (explaining the basic principles of reinsurance).

industry permits private individuals to plan for the future by shifting some of the risks of everyday life to a corporation capable of assuming that risk.

IV. THE NFIP: WELFARE SYSTEM OR INSURANCE?

The NFIP mirrors the basic structure of the private insurance industry.¹²¹ In fact, most property owners purchase the NFIP flood insurance policies, which are backed by the federal government, from private insurers.¹²² Under the WYO Program, private insurers sell flood policies, retain a portion of the premium to cover their costs, and forward the remainder to the federal government.¹²³ FEMA also has the authority to provide insurance through its own brokers¹²⁴ but rarely uses this option.¹²⁵

Flood insurance policies mirror other insurance contracts in form. FEMA creates terms and conditions that private insurers use to write federally backed policies, promulgating them as administrative regulations.¹²⁶ As with private insurance policies, the FEMA-written terms and conditions specify covered risks in detail.¹²⁷ Flood insurance covers damage to realty, but not personal property,¹²⁸ business interruptions, or living expenses.¹²⁹ Currently, the NFIP covers up to \$250,000 per event for a residential structure.¹³⁰ And, as with private insurance, there is a thirty-day delay between purchasing the policy and effective

121. Compare *supra* Part II.C (summarizing the NFIP), with Part III (providing an overview of the private insurance industry).

122. CALLIES ET AL., *supra* note 30, at 733; Purva Patel, *Flood Insurance Becomes Hot Topic*, HOUS. CHRON., Sept. 29, 2005, at D1 (reporting that homeowners generally purchase flood insurance “through the National Flood Insurance Program, a federally funded program administered by private insurance companies”).

123. Nat'l Wildlife Fed'n v. FEMA, 345 F. Supp. 2d 1151, 1156 (W.D. Wash. 2004) (citing 44 C.F.R. §§ 62.23, 62.24 (2004)).

124. *Id.*

125. Palmieri v. Allstate Ins. Co., 445 F.3d 179, 183 (2d Cir. 2006) (“Although FEMA may issue policies directly under the Government Program, ‘more than 90% are written by WYO companies.’” (quoting C.E.R. 1988, Inc. v. Aetna Cas. & Sur. Co., 386 F.3d 263, 267 (3d Cir. 2004))).

126. Criger v. Becton, 902 F.2d 1348, 1349 (8th Cir. 1990) (quoting 42 U.S.C. § 4013(a) (1982)).

127. See, e.g., *id.* at 1350 (explaining that because Criger’s home was an “elevated structure[,]” flood “damage to the structure’s lower level enclosure and its contents” was not covered by his NFIP policy “as required by the regulations and the [Standard Flood Insurance Policy] terms then in effect”).

128. *NFIP Hearing*, *supra* note 7, at 8 (statement of Sen. Jim Bunning). Separate policies can be purchased to cover personal property, but the current limit on coverage is \$100,000. Patel, *supra* note 122, at D1.

129. Patel, *supra* note 122, at D1 (commenting that many people fail to recognize the limited nature of flood insurance coverage).

130. *Id.*

coverage.¹³¹ This delay protects the insurer against opportunistic individuals who purchase insurance when they see a risk materializing.¹³²

Based on these similarities, an insured probably would classify the NFIP as insurance rather than welfare.¹³³ Stepping away from the insured–insurer interface, however, the NFIP begins to take a different shape. To constitute insurance, the NFIP must deal appropriately with the three variables affecting insurance: calculation, distribution, and profitability.¹³⁴

A. Calculation

Flood maps, created and maintained by FEMA, provide data for assessing the likelihood and severity of potential flood risks.¹³⁵ Even with appropriate data, however, the nature of floods makes the risk for any given property difficult to calculate accurately.¹³⁶ Traditional calculations of actuarial risk are based on high frequency, low-cost events.¹³⁷ Floods are low frequency, high-cost events, which complicates risk calculations and decreases the likelihood of accurate predictions.¹³⁸

After estimating the risk, private insurers set premium levels by looking at what the market will bear and what reserves are needed to cover the company's risk exposure.¹³⁹ FEMA struggles with these calculations because it does not have the

131. 42 U.S.C. § 4013(c)(1) (2000); *see also* Patel, *supra* note 122, at D1 (“Some homeowners are surprised to hear about the 30-day lag period before most policies kick in . . .”).

132. *See* FED. EMERGENCY MGMT. AGENCY, MANDATORY PURCHASE OF FLOOD INSURANCE GUIDELINES 34 (1999), *available at* <http://www.fema.gov/pdf/nfip/mandpur1.pdf> (“The express intent of Congress in mandating a 30-day waiting period was to prevent the purchase of flood insurance at times of imminent flood loss.”).

133. The NFIP certainly differs from the direct federal grants available to individuals and households for various needs, including housing, which may be doled out at the discretion of the President in the wake of a “major disaster.” *See* 42 U.S.C. § 5174 (Supp. III 2003) (providing for direct financial assistance to individuals for the repair or replacement of private housing).

134. *See supra* text accompanying note 83 (stating the importance of these three variables).

135. *Nat'l Wildlife Fed'n v. FEMA*, 345 F. Supp. 2d 1151, 1155 (W.D. Wash. 2004). FEMA must review flood maps every five years and revise them if necessary. *Id.* (citing 42 U.S.C. § 4101(e)–(f)(1) (2000)).

136. *See* Singer, *supra* note 24, at 333 (distinguishing floods from traditional risks private insurers cover based on their low frequency and high cost, in addition to a “greater risk of inaccuracy” associated with calculating the risk).

137. *Id.*

138. *Id.*

139. *See supra* notes 87–88 and accompanying text (explaining the reiterative calculations required: first, assess risk; second, assess premium levels in the market; third, assess adequate reserve amounts).

flexibility that private insurers have to respond to external factors.¹⁴⁰ First, political pressures encourage FEMA to set the NFIP premium levels unrealistically low.¹⁴¹ In fact, Congress built unrealistic rates into the NFIA with the two-tiered implementation program. As discussed above, under this program, FEMA initially assesses low rates that are disassociated from the risk levels on structures that exist in a community before the NFIP's availability.¹⁴² These structures retain the subsidized, initial rate until a new structure is built or substantial reconstruction of that property is undertaken.¹⁴³ The NFIP assesses actuarial rates on subsequently built structures, but many doubt that these "actuarial rates" accurately reflect risk levels.¹⁴⁴ Furthermore, under the Community Rating System, FEMA reduces premiums in communities that enact stricter flood policies without correlating the reduced premium to reduced risk.¹⁴⁵ While potentially promoting a desired policy outcome, this program further dissociates premium levels from appropriate insurance concerns.¹⁴⁶

Second, FEMA faces administrative barriers that prevent the agency from conducting appropriate calculations. As with all federal agencies, FEMA's enabling legislation strictly delineates the agency's powers.¹⁴⁷ The NFIA only permits FEMA to insure

140. See *infra* text accompanying notes 141–52 (describing constraints imposed on FEMA by the NFIP system).

141. See *Hearing on National Flood Insurance Reform Before the S. Comm. on Banking, Housing and Urban Affairs*, 109th Cong. (forthcoming 2006) [hereinafter *NFIP Reform Hearing*], available at 2006 WLNR 1433129, 1433106, 1433155, 1433142, 1433119 (statement of Sen. Elizabeth Dole) (belying the difficulty of balancing constituents' preferences with the program's needs and refusing to support a proposal to increase the 10% per year cap on premium increases to 25% per year, indicating that she would reject proposals designed to strengthen the program if they resulted in such premium increases).

142. See *supra* notes 71–74 and accompanying text (explaining the two-tiered system).

143. *Id.*

144. *NFIP Hearing, supra* note 7 (statement of Sen. Richard C. Shelby) (stating outright that many insured parties pay premiums "that are far from being actuarially sound"); see Jones, *supra* note 54, at 1029 (implying that FEMA sets premiums artificially low by noticing the flood insurance fund's lack of reserves). In fact, 42 U.S.C. § 4014(d) expressly dissociates risk and premium levels for certain areas of Louisiana that are singularly flood prone. See 42 U.S.C. § 4014(d) (2000) (providing that FEMA must offer insurance "at premium rates that shall not exceed those which would be applicable if such additional hazards did not exist").

145. See *supra* notes 76–77 and accompanying text (introducing the Community Rating System).

146. Cf. *supra* notes 87–91 and accompanying text (suggesting that appropriate insurance concerns include risk assessment and determining appropriate premiums to cover the insurer's risk portfolio while leaving appropriate reserve levels).

147. See 2 AM. JUR. 2D ADMIN. LAW § 50 (2004) ("Being a creature of the legislature,

losses associated with floods,¹⁴⁸ thereby eliminating consideration of other risks associated with flood-prone areas, such as gradual erosion.¹⁴⁹ While FEMA may be aware of the risks faced by policyholders, the agency lacks the ability to demand commensurate premium levels and, therefore, does not behave as the private industry would with respect to calculation.

B. Distribution

Private insurance companies lower overall risk by offering a range of policies—for example, automobile, home, and business insurance policies—that cover uncorrelated risks.¹⁵⁰ But the NFIP does not abide by this industry standard.¹⁵¹ The only distribution of risk in the NFIP derives from the nationwide scope of the program; unlike private insurance, there is no distribution of risks among policy types. To make matters worse, the one type of risk that the NFIP covers correlates intrinsically within each covered community.¹⁵² Additionally, “[f]lood, as a hazard, is . . . subject to adverse selection—the situation where only the less desirable risks with higher expected losses choose to insure.”¹⁵³ Homeowners have many reasons for not purchasing flood insurance, ranging from prohibitive cost¹⁵⁴ to

administrative agencies have no general, inherent, or common-law powers, but only those powers conferred upon them by statute or constitution.” (footnotes omitted)).

148. 42 U.S.C. § 4001 (2000) (authorizing FEMA to implement a flood insurance program). The NFIA defines “flood” to include “inundation from rising waters or from the overflow of streams, rivers, or other bodies of water, or from tidal surges, abnormally high tidal water, tidal waves, tsunamis, hurricanes, or other severe storms or deluge[,]” as well as “inundation from mudslides,” and “collapse or subsidence of land” due to erosion caused by “water exceeding anticipated cyclical levels.” 42 U.S.C. § 4121(a)–(c) (2000). Notably, however, Congress excluded damage due to gradual erosion caused by normal water levels. Spann, *supra* note 16, at 621.

149. Spann, *supra* note 16, at 603, 621 (lamenting the NFIP’s inability to account for erosion risks and noting inaccurate premium levels as a result).

150. See Anne Gron & Alan O. Sykes, *Terrorism and Insurance Markets: A Role for the Government as Insurer?*, 36 IND. L. REV. 447, 454 (2003) (noting that insurers “diversify risks . . . by directly adjusting their exposures sold”); see also *supra* notes 92–100 and accompanying text (describing the distribution variable).

151. See *supra* notes 92–100 and accompanying text (describing the distribution variable).

152. See Singer, *supra* note 24, at 332–33 (commenting that flood insurance cannot be demographically diversified because it only involves people living in flood-prone areas, as contrasted to fire insurance, which people living in all environments purchase).

153. *Id.* at 332; see also Katherine Swartz, *Justifying Government as the Backstop in Health Insurance Markets*, 2 YALE J. HEALTH POL’Y L. & ETHICS 89, 90 (2001) (defining adverse selection in the health insurance industry as “the phenomenon in which people who anticipate high [risks] will be most likely to purchase . . . insurance”).

154. See Spann, *supra* note 16, at 600–01 (proposing several explanations for low participation, including lack of funds to purchase insurance). This explanation seems particularly plausible with regard to homeowners living in flood-prone areas. See *id.* at

underestimating the risk¹⁵⁵ to relying on disaster response assistance.¹⁵⁶ Accordingly, only those people who live in flood-prone areas are likely to purchase flood insurance.¹⁵⁷

Currently, the NFIP insures over 4.5 million properties, representing at least \$500 billion in coverage.¹⁵⁸ FEMA estimates that this includes only about 40%–60% of properties that are *required* to have flood insurance.¹⁵⁹ The NFIP's mandatory provisions only apply to properties subject to federally subsidized loans; coverage of threatened properties is even lower.¹⁶⁰ In certain areas, coverage hovers around 5% of threatened properties.¹⁶¹ In areas of such low participation, only owners of property most likely to flood can be expected to invest in insurance.¹⁶²

This concept applies not just at the community level, but at the macro level as well. The highest risk areas are hurricane-prone areas along the coast,¹⁶³ so the NFIP concentrates its business among the most risky of all properties in the country. Coastal homeowners are more likely than people living near

618–19 (suggesting people too poor to remove themselves from danger simply make due). Consider New Orleans, where historically, wealthy neighborhoods were located on higher ground and poor neighborhoods, such as the Ninth Ward, were established in lower-lying areas. *See* Editorial, *Hard Decisions for New Orleans*, N.Y. TIMES, Jan. 14, 2006, at A14. Therefore, the people most at risk were also the people least able to protect themselves by purchasing insurance. *Cf. id.* (arguing against rebuilding low-lying areas of New Orleans to avoid reinstating previous land use patterns, which left the poorest population most vulnerable to devastation).

155. *See* Singer, *supra* note 24, at 326 (“[T]here is compelling statistical evidence that even inhabitants of flood-prone communities, let alone the public at large, do not adequately consider the extent of their flood peril.”).

156. *See* Spann, *supra* note 16, at 601 & n.54 (suggesting that federal disaster relief assistance discourages participation in the NFIP).

157. *See* Singer, *supra* note 24, at 332 (“Inhabitants of river valleys, coastal dwellers, and residents of frequent flood areas and floodways are the traditional NFIP policyholders.”).

158. *C.E.R. 1988, Inc. v. Aetna Cas. & Sur. Co.*, 386 F.3d 263, 266 (3d Cir. 2004); *see also NFIP Hearing, supra* note 7 (statement of David Maurstad, Acting Director, Mitigation Division, Federal Emergency Management Agency) (noting a slightly higher participation rate at 4.7 million policies covering over \$800 billion in assets).

159. *NFIP Reform Hearing, supra* note 141 (statement of David Maurstad, Acting Director, Mitigation Division, Federal Emergency Management Agency).

160. *See* *Tex. Landowners Rights Ass'n v. Harris*, 453 F. Supp. 1025, 1028, 1033 (D.D.C. 1978) (summarizing the NFIA's mandatory provisions and reminding the reader that federally insured institutions provide only a portion of total loans).

161. *NFIP Reform Hearing, supra* note 141 (statement of Sen. Paul Sarbanes).

162. *See* Spann, *supra* note 16, at 604–05 (noting low participation in flood insurance programs).

163. *See* Daniel D. Barnhizer, *Giving Recapture: Funding Public Acquisition of Private Property Interests on the Coasts*, 27 HARV. ENVTL. L. REV. 295, 308 (2003) (commenting on landowner reluctance to build near hurricane-prone coastal areas).

rivers to purchase flood insurance.¹⁶⁴ Changes in hurricane patterns that increase flood risks will exacerbate the NFIP's risk exposure.¹⁶⁵ Rather than distributing risk by geography, type of policy, or likelihood of occurrence, the NFIP insures mainly the highest risk properties.¹⁶⁶

In an attempt to increase participation, presumably to diversify the NFIP's risk portfolio, Congress mandated national flood insurance "for acquisition or construction" loans extended by federally regulated lending institutions.¹⁶⁷ While this change increases participation among people newly entering flood-prone areas, this requirement fails to ensure continued coverage.¹⁶⁸ In fact, many property owners allow flood insurance to lapse after the initial policy term.¹⁶⁹

C. Profitability

As a publicly funded undertaking, the NFIP does not need to consider profitability to continue operating.¹⁷⁰ American taxpayers cover any losses the NFIP suffers, and profits

164. Spann, *supra* note 16, at 600.

165. *Cf. supra* notes 14–16 and accompanying text (elucidating weather trends that exacerbate flooding).

166. *See supra* notes 151–65 and accompanying text (discussing the NFIP's lack of distribution).

167. *Tex. Landowners Rights Ass'n v. Harris*, 453 F. Supp. 1025, 1027–28 (D.D.C. 1978) (citing 42 U.S.C. § 4012a(a)–(b) (1976) (noting the impact of the Flood Disaster Protection Act of 1973, which enlisted federally insured banks to help increase participation rates in the NFIP by requiring that purchase or construction loans for properties in flood-prone areas be denied absent flood insurance)); *see also* 42 U.S.C. § 4012a (2000) (prohibiting the approval of federal construction loans for use in communities that refuse to participate in the NFIP).

168. *See NFIP Hearing, supra* note 7 (statement of Sen. Paul Sarbanes) (listing several problems with the NFIP, including the failure "to ensure that homeowners keep the [NFIP] coverage in force").

169. *CALLIES ET AL., supra* note 30, at 739; Spann, *supra* note 16, at 600–01. One author suggests that low participation in the NFIP indicates success rather than failure. Boardman, *supra* note 81, at 828–29. Prior to 1968, uncertainty surrounding flood events necessitated government participation in the market in order to bring down premiums. *Id.* Improved scientific data decreases uncertainty and thereby premium rates. *Id.* As rates fall, the need for government subsidization disappears. *Id.* Professor Boardman claims only 35% of flood policies remain subsidized today—the highest risk policies—for which it is not uncertainty but rather the certainty of flooding that creates high premiums. *Id.* Even if this statistic is accurate, it highlights the failure of the NFIP to distribute risk; it does not suggest the program's success. Furthermore, the statistic does not seem reliable. FEMA estimates that it writes 95% of all flood policies in the country. *NFIP Hearing, supra* note 7 (statement of David Maurstad, Acting Director, Mitigation Division, Federal Emergency Management Agency).

170. *See supra* note 102 and accompanying text (making this assertion).

(theoretically) fill the flood insurance fund.¹⁷¹ Rather than profitability, FEMA seeks solvency.¹⁷²

Assessments differ on FEMA's performance in this regard.¹⁷³ FEMA director David Maurstad described the NFIP as "self-supporting" and claimed it has been since 1986.¹⁷⁴ However, he later conceded that the NFIP borrows money from the U.S. Treasury when needed.¹⁷⁵ In four of the last fourteen years, the NFIP did just that.¹⁷⁶ Apparently because the NFIP repays the loans with interest, Maurstad considers the program solvent.¹⁷⁷

Senators Dole and Sarbanes declared in January 2006 that the program would be bankrupt by mid-February 2006.¹⁷⁸ In an average year, the NFIP collects \$2.2 billion in premiums, pays out about \$1 billion in claims, spends \$40 million on mapping, \$200 million on "operations," and puts \$350 million into the Flood Insurance Fund; the remaining \$650 million compensates the WYO companies.¹⁷⁹ The program has no cushion for the anticipated years that surpass average claims levels.¹⁸⁰ The program has \$1 billion available to pay claims annually, but it is

171. See 42 U.S.C. § 4017(b) (2000) (establishing the National Flood Insurance Fund, credits to which come from premiums and U.S. Treasury loans).

172. As defined by Merriam-Webster, "solvency" means the ability to meet one's legal obligations. MERRIAM-WEBSTER'S COLLEGIATE DICTIONARY 1188 (11th ed., 2003). When considering a program backed by the federal treasury, insolvency may seem unlikely. However, Mr. Maurstad implied that even if the federal government has the money to pay debts, there is a chance that this legal and moral obligation could be lost in political haggling. See *NFIP Hearing, supra* note 7 (statement of David Maurstad, Acting Director, Mitigation Division, Federal Emergency Management Agency) (noting that the estimated NFIA claims after Hurricanes Katrina and Rita are not "new obligation[s,]" but rather "the result of a legal promise").

173. See CALLIES ET AL., *supra* note 30, at 739 (describing the debate between supporters, who claim the program is self-supporting, and detractors, who point to over \$800 million borrowed during the program's life, regarding the NFIP's solvency).

174. *NFIP Hearing, supra* note 7 (statement of David Maurstad, Acting Director, Mitigation Division, Federal Emergency Management Agency).

175. *Id.*

176. THOMAS L. HAYES ET AL., ACTUARIAL RATE REVIEW: IN SUPPORT OF THE MAY 1, 2006, RATE AND RULE CHANGES 6 (2007), available at <http://www.fema.gov/library/viewRecord.do?id=2363>; see also NICHOLAS I. KEPHART & DOUGLAS J. ELLIOTT, NATIONAL FLOOD INSURANCE PROGRAM 4 (2005), available at <http://www.coffi.org/pubs/Summaries/NFIP%20Summary%20revised%20Sept%2026%202005-1.pdf> (summarizing the nuts and bolts of the NFIP and its budgeting).

177. *NFIP Hearing, supra* note 7 (statement of David Maurstad, Acting Director, Mitigation Division, Federal Emergency Management Agency).

178. *NFIP Reform Hearing, supra* note 141 (statement of Sen. Elizabeth Dole and Sen. Paul Sarbanes) (indicating that FEMA would not be able to pay claims past February of 2006 unless Congress raises the agency's borrowing authority).

179. *Id.* (statement of David Maurstad, Acting Director, Mitigation Division, Federal Emergency Management Agency) (breaking down the NFIP's annual cash flow).

180. *Id.* (statement of Sen. Jim Bunning) (suggesting that in the future the NFIP should have a system of reserves).

estimated that the NFIP insures a risk portfolio hovering around \$500 billion.¹⁸¹ The program's structure necessitates periodic loans from the U.S. Treasury.¹⁸²

The 2005 hurricane season overwhelmed the NFIP.¹⁸³ Katrina alone produced \$22 billion in claims—\$8 billion more than the aggregate of all the NFIP's payouts throughout its thirty-seven-year history.¹⁸⁴ Annual interest on this loan amounts to \$1 billion—almost half of the program's annual revenues.¹⁸⁵ Consequently, without significant changes, the NFIP will never repay the loans from 2005.¹⁸⁶ Regardless of the assessment before 2005, today the NFIP clearly does not satisfy the solvency test.

D. Conclusion

The NFIP fails to ensure that each of the three variables required by the private insurance industry are reasonable. Even when considering solvency, a less stringent standard than profitability, the NFIP still fails.¹⁸⁷ Consequently, the NFIP cannot be considered a true insurance program. Rather, the NFIP should be recognized for what it is: a welfare system.¹⁸⁸ Essentially, the government seeks a contribution, in the form of premiums, from people living in flood-prone areas to offset the probable expenditures when the next flood occurs.¹⁸⁹

181. See *supra* note 158 and accompanying text (presenting this \$500 billion estimate).

182. *NFIP Reform Hearing*, *supra* note 141 (statement of Donald Marron, Acting Director, Congressional Budget Office) (observing that “the program, as currently designed, is designed to lose money”).

183. See *id.* (statement of Sen. Richard C. Shelby) (describing how the financing flaws of the NFIP were exposed by Hurricanes Katrina, Rita, and Wilma).

184. *Id.* (statement of David Maurstad, Acting Director, Mitigation Division, Federal Emergency Management Agency).

185. Cheyenne Hopkins, *HR4320—National Flood Insurance Program Commitment to Policyholders and Reform Act of 2005*, CQ BILLANALYSIS, Feb. 13, 2006, available at 2006 WLNR 2645526.

186. *NFIP Reform Hearing*, *supra* note 141 (statement of David M. Walker, U.S. Comptroller General, Government Accountability Office) (“[FEMA is] not going to be able to repay the \$18.5 billion under the current structure. You’re going to need to reform the program.”).

187. See Singer, *supra* note 24, at 327–28 (explaining that the NFIP does not follow the traditional definition of actuarial soundness but merely seeks to cover costs in an average loss year).

188. This term is not used in any pejorative sense. Welfare merely indicates that government has recognized a need among individuals and has elected to provide assistance, using taxpayer monies. See *supra* text accompanying note 79 (defining welfare objectively).

189. Spann, *supra* note 16, at 593–94 (offering the view of proponents of the NFIP that the program's ability to offset disaster relief costs is one of the primary benefits of the program).

V. ASSESSING THE NFIP AS A PUBLIC POLICY TOOL

The NFIP does not represent a neutral policy that simply needs tweaking; rather, the NFIP, as currently structured and implemented, detrimentally impacts U.S. land use policy and tax dollars. First, the NFIP actively promotes improper land use decisions that place people and property in danger's way. Second, FEMA lacks sufficient strength to ensure proper enforcement of federal mitigation policies. These two failures doom the program to exacerbate the very problems it strives to correct. Third, the NFIP lacks actuarial soundness. As a result, the program not only affects the landscape of the United States, it also strains the U.S. Treasury.

A. *Improper Land Use*

Two elements contribute to the risk of living in flood-prone areas: natural threats and man-made problems.¹⁹⁰ Natural threats are on the rise, as storm severity and frequency increase.¹⁹¹ Likewise, human decisions about where and how to build in flood-prone areas worsen flood risks.¹⁹²

Water-based transportation historically encouraged commercial development near water.¹⁹³ Today, this popularity continues—whether for economic reasons, like locating near a major national port, or for aesthetic reasons.¹⁹⁴ The population along America's coasts is increasing.¹⁹⁵ “Three-quarters of all the U.S. population soon will live within fifty miles of a tidal or Great

190. See *supra* note 20 and accompanying text (indicating the two components of flood risk).

191. See *supra* notes 14–16 and accompanying text (demonstrating this point).

192. Feldstein, *supra* note 12, at 1A (“It floods [in Houston] for two primary reasons: Local rain events are extreme, and people have built in places where nature wants to drain the water.”).

193. See Walter L. Fisher, *Waterways: Their Place in Our Transportation System*, 23 J. OF POL. ECON. 641, 642 (1915) (noting that commerce tended to follow waterways because they were the best available means of transportation).

194. *Coastal Cities: Living on the Edge*, 110 ENVTL. HEALTH PERSPS. A674, A676 (2002) (offering various reasons for increases in coastal populations, including the appeal of beaches).

195. See, e.g., Landsea's Testimony, *supra* note 14 (commenting that the increased population along the coast increases the potential damage from hurricanes); *NFIP Hearing*, *supra* note 7 (statement of Sen. Jack Reed) (discussing the Senate's need to address the increased growth in coastal regions, wetlands, and ocean beaches); Jones, *supra* note 54, at 1015–16 (indicating the increased population in coastal areas generates new development, even though it is generally recognized that the most dangerous storms occur on the coast); Spann, *supra* note 16, at 599 (observing the population increase on the nation's coasts).

Lakes shoreline.”¹⁹⁶ Both flooding¹⁹⁷ and the associated problems of erosion¹⁹⁸ and mudslides¹⁹⁹ threaten coastal properties along rivers, oceans, and lakes. The dangers of living in a coastal region are not new,²⁰⁰ but the combination of human decisions to move into flood-prone areas with natural increases in the frequency of storm events causes a rise in flood risk.²⁰¹

Furthermore, construction of impervious surfaces—for example, roads, parking lots, houses—in floodplains increases the area prone to flooding; therefore, people who develop property outside of a floodplain and a safe distance from water can become vulnerable due to the actions of those who build within the floodplain.²⁰² FEMA regulations that allow for any development in flood-prone areas make an implicit value judgment favoring new development, despite potential, detrimental impact on existing properties.²⁰³

196. Spann, *supra* note 16, at 599 (citing Jones, *supra* note 54, at 1022).

197. CALLIES ET AL., *supra* note 30, at 731; Singer, *supra* note 24, at 334 (discussing federal responses to flooding, which started with attempts to control flooding along the Mississippi River in 1927 and later expanded to incorporate hurricane-prone areas).

198. Spann, *supra* note 16, at 620–21 (emphasizing erosion as a problem faced by coastal properties).

199. Joseph Z. Fleming, *Coping with Chaos—Disaster Planning: Introductory Comments*, 27 URB. LAW. 3, 3–4 (1995) (highlighting the peril of living in mudslide-prone communities). In discussing the threats to coastal communities, the Fleming article looks at *First English Evangelical Lutheran Church v. City of Los Angeles*, 482 U.S. 304 (1987), a famous case in which owners of hill-front property challenged the city’s ability to limit construction due to mudslide hazard. *Id.*

200. Singer, *supra* note 24, at 333–34 (noting that “the flood peril” was a problem in the United States as early as the late 1800s).

201. See Landsea’s Testimony, *supra* note 14 (commenting on the increasing flood problems); see also Houck, *supra* note 78, at 80–83 (discussing the U.S. Army Corps of Engineers’ misguided flood-control projects north of Louisiana and suggesting that a significant increase in flooding in the state was due to these upstream public works).

202. SPIRN, *supra* note 21, at 129–34 (providing a detailed description of how floodplain development substantially increases the flood hazard).

203. To complicate matters, efforts to protect property from flooding in coastal areas can have the perverse effect of exacerbating long-term flooding. See Spann, *supra* note 16, at 616–17. Erosion-control measures may save the particular property for which they are designed, but they invariably worsen problems surrounding the control project. *Id.* at 617. A 1936 enactment was the first statute designed to address ongoing riverine flood problems by authorizing the U.S. Army Corps of Engineers to construct barriers “to keep the nation’s rivers in check,” and by 1966, the federal government spent \$7 billion on projects ranging from dams to levees to reservoirs in an effort to control coastal and riverine flooding. *Id.* at 595–96. These structures changed the location of Mother Nature’s undesirable effects, but they were inadequate to stop her. See, e.g., Houck, *supra* note 78, at 67 (noting, well before Katrina proved the folly of depending on levees to protect New Orleans, that “constriction of the floodplain in one area will inevitably increase water stages somewhere else”); Spann, *supra* note 16, at 617 (“[S]tudies have shown that constructing a seawall can lead to increased erosion, and eventually loss, of the beach area seaward of the wall.”); Brian Brus, *Rebuilding New Orleans: OK Engineers, Housing Analysts Outline Necessary Standards*, J. REC., Sept. 8, 2005, available at 2005 WLNR

Proponents of the program suggest that development is inevitable and that some regulation is preferable to uncontrolled building.²⁰⁴ They argue that rather than ignoring market realities, the NFIP attempts to recognize development patterns and to encourage intelligent practices.²⁰⁵ Opponents of the program claim that the existence of building regulations specifically designed for flood-prone areas encourages development as an implicit sanction.²⁰⁶ Studies show development on coasts accelerating in the last twenty years.²⁰⁷ Various explanations may account for this coincidence, apart from the NFIP, but opponents of the NFIP point out that, at the very least, the program does nothing to discourage development in flood-prone areas.²⁰⁸

Even while supporting the NFIA, Congress recognizes a connection between providing insurance and supporting development.²⁰⁹ Congressional findings indicate that the availability of insurance often determines the practicability of development.²¹⁰ Developers themselves declare the connection between feasibility of development in flood-prone areas and the

14231741 (blaming the New Orleans levee system for exacerbating the city's natural subsidence and noting that the city now sits five feet below sea level).

204. See, e.g., *NFIP Hearing*, *supra* note 7 (statement of Sen. Elizabeth Dole) (calling attention to the life-saving potential of mitigation efforts); Spann, *supra* note 16, at 596–97 (suggesting that the NFIP has shifted construction into safer areas and slowed floodplain development).

205. See *supra* text accompanying notes 64–66 (explaining that FEMA has established standards for local ordinances that address construction in flood-prone areas).

206. See Jones, *supra* note 54, at 1029 (“Because the NFIP provides coastal flood insurance that is largely unavailable from private sources, many feel that the NFIP actually encourages development in flood prone areas . . .” (footnotes omitted)); see also Spann, *supra* note 16, at 593–94 (noting the critics’ view that the NFIP encourages development).

207. See *supra* text accompanying notes 195–96 (showing dramatic population growth in coastal areas).

208. *NFIP Reform Hearing*, *supra* note 141 (statement of David M. Walker, U.S. Comptroller General, Government Accountability Office) (taking the next logical leap by saying that the NFIP creates “perverse incentives” to build and rebuild in risky areas).

209. *Nat’l Wildlife Fed’n v. FEMA*, 345 F. Supp. 2d 1151, 1157 (W.D. Wash. 2004). This case presents the pertinent findings from 42 U.S.C. § 4002(a)(2); additionally, it points to FEMA’s environmental impact statement finding that any reduction of federal subsidies has a large impact on private developers’ ability to build because private sources of money are limited in these areas. *Id.* It is also interesting that Congress never funded the first flood insurance program, approved in 1956, see *supra* note 26, because of a general understanding that subsidized insurance would “stimulate” development. Singer, *supra* note 24, at 335.

210. 42 U.S.C. § 4002(a)(2) (2000) (“[T]he availability of Federal loans, grants, guaranties, insurance, and other forms of financial assistance are often determining factors in the utilization of land and the location and construction of public and of private industrial, commercial, and residential facilities . . .”).

NFIP.²¹¹ In *National Wildlife Federation & Public Employees for Environmental Responsibility v. FEMA*, two organizations representing developers' rights implied that their ability to continue operating hinged on the presence of federal assistance.²¹² Despite the mandate to limit construction in flood-prone areas, there appears to be consensus that the NFIP supports, if not encourages, development on dangerous sites.²¹³

Where Congress decides to take sincere action to halt development in sensitive areas, Congress excludes the NFIP. The Coastal Barrier Resources Act (CBRA), passed in 1982, bans all federal financial assistance in particularly sensitive coastal areas.²¹⁴ One commentator pointed out that:

CBRA's underlying premise is that the availability of federal financial assistance provides an incentive to coastal barrier development because, without federal assistance, the cost and risk of such development would be prohibitive to developers. CBRA further assumes that assistance denial will dissuade construction in these sites, which in turn will help protect public safety, coastal resources, and the Federal Treasury.²¹⁵

Essentially, CBRA forces private developers to shoulder the burden of developing these sensitive regions.²¹⁶ Government-subsidized flood insurance is among several types of assistance banned by CBRA; direct investment in roadways is also banned.²¹⁷ CBRA sweeps much more broadly than simply banning the NFIP, so this statute does not lead, in and of itself, to the conclusion that insurance subsidies control developers' decisions regarding where to build. However, Congress made a clear statement with CBRA that it considers flood insurance among

211. See *infra* text and accompanying note 212 (providing one example of a case where developers raised this point).

212. *Nat'l Wildlife Fed'n*, 345 F. Supp. 2d at 1157–58 (presenting the arguments of defendant-intervenors Piazza Construction and Washington Association of Realtors).

213. See *NFIP Reform Hearing*, *supra* note 141 (statement of Sen. Richard C. Shelby) (“Where prior to the program there were areas where construction did not occur because financing was not available for it, we now see expensive homes and commercial properties.”). Prior to the NFIP, the government explicitly acknowledged the link between flood insurance and private development; this link thwarted the first attempt to establish a federal flood program. See *supra* notes 25–26 and accompanying text.

214. Jones, *supra* note 54, at 1015.

215. *Id.* at 1057.

216. *Id.* at 1017.

217. *Id.* at 1033 (noting amendments to the NFIP that prohibit the program's operation in areas protected by the Coastal Barrier Resources Act of 1982, 16 U.S.C. §§ 3501–3510 (1982) (amended 2000), but also indicating that Congress waived the insurance requirement for obtaining mortgages in these areas).

the programs that encourage development in especially risky areas.

B. Mitigation Failures

The NFIP's strength lies in the program's potential ability to promulgate federal guidelines to mitigate damage caused by development in flood-prone areas.²¹⁸ Current NFIP guidelines limit most new construction in 100-year floodplains to structures that are elevated higher than the highest recorded flood waters.²¹⁹ Additionally, the NFIP guidelines prohibit development in floodways, which are areas just beyond the floodplain that are slightly less likely to flood.²²⁰ The guidelines specify construction techniques, such as elevating the first floor, to protect development that proceeds in the area.²²¹

Proponents overstate the program's success in dictating proper flood-management policies. FEMA has no direct control over implementation of local ordinances.²²² Even though FEMA monitors compliance,²²³ case law demonstrates the agency's limited ability to force a locality to correct its policies.²²⁴

In *United States v. Parish of St. Bernard*,²²⁵ FEMA attempted to recoup expenditures for flood damage on insured properties in communities that improperly enforced flood-management ordinances.²²⁶ The Fifth Circuit held that the NFIP did not give FEMA a cause of action.²²⁷ This case narrows FEMA's enforcement tools to detecting noncompliance and withdrawing coverage before a flood event.²²⁸ Under the Fifth

218. See *supra* text accompanying notes 64–67 (introducing the mitigation element of the NFIP); see also *NFIP Hearing, supra* note 7 (statement of Sen. Elizabeth Dole (reminding the committee that mitigation saves lives as well as diminishes damage)).

219. 100-year floodplains are areas with a 1% chance of flooding in any one year. CALLIES ET AL., *supra* note 30, at 732–33 (defining floodplains and noting that development in such areas is prohibited by the NFIP); Feldstein, *supra* note 12, at 1A (defining the 100-year floodplain).

220. CALLIES ET AL., *supra* note 30, at 733.

221. See *supra* notes 64–66 and accompanying text (discussing FEMA's role in providing guidelines to local communities).

222. Nat'l Wildlife Fed'n v. FEMA, 345 F. Supp. 2d 1151, 1156 (W.D. Wash. 2004).

223. See *supra* text accompanying note 66 (mentioning FEMA's power to remove municipalities from the program if they fail to enforce the ordinances).

224. See *infra* text and accompanying notes 225–30 (demonstrating the limitation case law created).

225. *United States v. Parish of St. Bernard*, 756 F.2d 1116 (5th Cir. 1985).

226. *Id.* at 1119.

227. *Id.* at 1122–23 (citing *Till v. Unifirst Fed. Sav. & Loan Ass'n*, 653 F.2d 152 (5th Cir. 1981)). Although FEMA had no cause of action under the NFIP, it could still bring suit under state and common law. CALLIES ET AL., *supra* note 30, at 739.

228. *Parish of St. Bernard*, 756 F.2d at 1121, 1123 (recognizing that FEMA has the

Circuit's holding, it appears that FEMA has no power to discipline a community for failing to comply with the NFIP's dictates.²²⁹ Without the threat of bearing the financial burden of compliance failures, communities have less of an incentive to abide by FEMA's mitigation guidelines.²³⁰

FEMA's weakness with regard to mitigation cannot be easily corrected by Congress. The program, and the mitigation aspect in particular, seeks to step into the states' purview.²³¹ The incentive model avoids federalism concerns, but it also hamstring Congress's ability to strengthen enforcement of the mitigation policies.²³² Congress lacks the power to force communities into compliance with federal mitigation guidelines.²³³

C. Actuarial Unsoundness Threatens Tax Dollars

The same property can produce multiple claims under the NFIP.²³⁴ In 2004, Congress found that 1% of insured properties were expected to produce up to 30% of the losses because of repetitive claims.²³⁵ Under the old law, the NFIP paid for repairs costing less than 50% of the replacement value of the structure.²³⁶ Under this rule, the NFIP repaired homes that suffered severe—but less than 50%—damage.²³⁷ Although Congress mandated

power to suspend a municipality for failing to comply with the NFIP guidelines, but denying its ability to sue a municipality for the damages caused by its noncompliance).

229. *See id.* at 1123.

230. The suggestion that local communities would not take all actions within their power to protect themselves and their constituents from known hazards might seem far-fetched. However, several authors indicate that local communities might lack the incentives to "mitigat[e] their own situations." Kahan, *supra* note 31, at 1283 n.18 (remarking that the presence of federal disaster relief lessens the incentive for localities to plan for disasters); *see also* Grace, *supra* note 16, at 2 ("Market forces and public policy also have failed to encourage hazard mitigation, which has further exacerbated the risk of severe losses when natural disasters do occur.").

231. *See supra* text accompanying notes 46–48 (observing that while land use regulation is traditionally governed by the state, the federal government may ostensibly control it via incentives).

232. *See supra* Part II.B (detailing land use planning under the NFIA).

233. *See supra* Part V.B (pointing out Congress's inability to enforce compliance with the NFIP guidelines).

234. CALLIES ET AL., *supra* note 30, at 733; *see also* Feldstein, *supra* note 12, at 1A (reporting that 10,533 federally insured properties in Houston suffered significant flood damage at least twice between 1978 and 1988 and noting that only New Orleans exceeds Houston in repetitive claims).

235. Bunning–Bereuter–Blumenauer Flood Insurance Reform Act of 2004, Pub. L. No. 108-264, 118 Stat. 712, 713, § 2(6) (2004).

236. Spann, *supra* note 16, at 602 & n.59 (analyzing the repetitive-loss problem with the NFIP's current structure and indicating the extent of this problem in light of the subsidized rates most of these policyholders enjoy).

237. *Id.*

changes to reduce losses from repetitive-loss properties in the Bunning–Bereuter–Blumenauer Amendment, no changes had been implemented as of August 2006.²³⁸

Furthermore, if the structure existed at the time the NFIP became available to the community, the policyholder pays the initial, subsidized rate that is offered during the first phase of the NFIP's implementation.²³⁹ As long as the repairs to the house do not constitute substantial improvement or total reconstruction, the homes will retain the subsidized rates that are divorced from actuarial considerations.²⁴⁰ Opponents of the NFIP identify the program's liability for repetitive-loss properties as one of its primary shortcomings.²⁴¹ These properties represent a disproportionate amount of the NFIP payouts,²⁴² and critics suggest that this pattern encourages families to remain in dangerous locations.²⁴³

VI. SOLUTION: REVISE OR DISMANTLE THE PROGRAM

The NFIP exacerbates the human element of flood risks.²⁴⁴ A true insurance program would find an appropriate balance between risk and premium rates and establish a system in which the insurance provider anticipated liabilities and planned for payouts without borrowing from external sources.²⁴⁵ The NFIP fails to operate as true insurance. Rather, the program is conducted as welfare. Of the seven stated purposes of the

238. See *NFIP Reform Hearing*, *supra* note 141 (statement of David Maurstad, Acting Director, Mitigation Division, Federal Emergency Management Agency) (stating that the Severe Repetitive Loss Pilot Program was in its final stages of development).

239. Spann, *supra* note 16, at 602 & n.59 (citing 42 U.S.C. § 4015(c) (1988)); see also *supra* notes 68–75 and accompanying text (outlining the NFIP's two-tiered structure).

240. Spann, *supra* note 16, at 602 n.59 (noting that, under the NFIP, damaged property that can be fixed for less value than qualifies as “substantial improvement” is not required to be raised above base flood elevation); see also *supra* notes 68–75 and accompanying text.

241. *NFIP Hearing*, *supra* note 7 (statement of David Maurstad, Acting Director, Mitigation Division, Federal Emergency Management Agency) (listing several concerns about the NFIP, including the problem of “repetitive-loss properties” and the need for FEMA to address the issue).

242. See Spann, *supra* note 16, at 602 (reporting that 2% of policy holders accounted for 35% of the NFIP payouts during the 1980s); see also Feldstein, *supra* note 12, at 1A (describing the strain that repetitive-loss properties place on the NFIP).

243. *NFIP Hearing*, *supra* note 7 (statement of Sen. Richard C. Shelby) (suggesting that “continuation of subsidized rates, particularly for properties that have suffered repetitive losses, . . . encourage[s] families to remain living in harm's way”).

244. See *supra* notes 190–92 and accompanying text (indicating that there are two components to flood risks: natural events and human decisions).

245. See *supra* Part III (discussing the private insurance industry as the model against which to compare the NFIP).

program,²⁴⁶ the NFIP clearly has achieved just two—providing flood insurance nationwide²⁴⁷ and engaging lending institutions to assist with implementation.²⁴⁸ A third goal, providing on-going assessment, has been achieved partially.²⁴⁹ However, the inability to enforce flood-management programs and the woefully inappropriate premium rates suggest FEMA has not achieved this goal.²⁵⁰ Even if these three objectives had been accomplished perfectly, they are peripheral to the central intention of the act: lowering flood-related recovery costs.²⁵¹ By supporting development in flood-prone areas, the program brings people and property into harm's way, effectively working against the program's primary goal.

A. *Revise the Program*

As outlined above, the NFIP requires extensive revisions to bring the program in line with expectations. Most glaringly, the program must raise premiums to reflect actual costs. Following the example of the private insurance industry, the NFIP needs to set rates to cover average annual expenses as well as to build reserve levels that are appropriate to support a \$500 billion risk portfolio. Second, Congress should prohibit FEMA from reimbursing NFIP clients with U.S. Treasury money. A true insurance program functions within itself by charging premiums that cover the expected risk and plan for the occasional catastrophic year.

Third, FEMA must work within the limitations of its enforcement power. The courts determined that the agency cannot retroactively revoke coverage upon discovery of a local community's failure to implement all mitigation policies. Therefore, FEMA should develop enforcement strategies that identify noncompliant communities before a catastrophe. Fourth, Congress should assess the guidelines FEMA promulgates for development in flood-prone areas. Currently, these guidelines permit development that enlarges flood-prone areas. Finally, the NFIP can no longer support repetitive-loss properties. The

246. See *supra* note 29 and accompanying text (paraphrasing the NFIP's seven purposes).

247. See *supra* note 59 and accompanying text (commenting on the NFIP's success in this regard).

248. See *supra* note 167 and accompanying text (informing the reader of the NFIP's mandatory insurance requirements).

249. See *supra* notes 60–61 and accompanying text (discussing FEMA's duty to update maps continually).

250. See *supra* Part V.B–C (laying out the shortcomings of the NFIP).

251. See 42 U.S.C. § 4001(a) (2000) (setting forth the reasons for establishing the NFIP, including the increasing burden on the nation's budget caused by flooding).

2007]

MAKING MATTERS WORSE

505

objective of the program is to reduce the cost to the federal government of responding after flood events. Each of the above changes would help the program move towards achieving that goal.

B. Dismantle the Program

While the recommended changes might address the most glaring pitfalls of the program, there is no guarantee that these changes would transform the current welfare system into a true public insurance system. In light of the detrimental effects the program has created, the best solution might be to dismantle it altogether. This approach would force the private sector to realize the full cost of developing in flood-prone areas, likely reducing the pace of development in these dangerous areas. As development is reduced, the cost of responding to floods would likewise be reduced. Ironically, the best way to achieve the program's goals is to eliminate the program itself.

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