

The Perilous State of

# Flood Insurance

# *The National Flood Insurance Program is under water. Can the private sector help?*

By Annmarie Geddes Baribeau

**FOR 45 YEARS**, the federal government has been the primary insurer of the nation's flood peril for residences and small businesses. The reason: Insurers aren't convinced that writing this coverage, at rates that are deemed affordable, makes any kind of business sense.

The tide, however, may be turning.

Congress is looking for ways to address the National Flood Insurance Program's (NFIP) growing deficit. Last year, it passed the Biggert-Waters Flood Insurance Reform Act of 2012. Among several provisions, the law requires federal agencies to evaluate the private sector's potential for sharing the insurance load. One bill was introduced this year to privatize the fund.

Privatization, of course, has its advantages and disadvantages. This much is certain: The NFIP desperately needs to collect enough premium to cover losses and pay off its \$24 billion deficit (see Table 2, Page 31). While Biggert-Waters includes some provisions that address the NFIP's financial challenges, if insurers can take on more of the burden, so much the better.

## **Federal-Private Interplay**

Formed in 1968, the NFIP is administered by the Federal Emergency Management Authority (FEMA). The NFIP provides coverage of up to \$250,000 per home and \$500,000 per commercial property. Private insurers

cover flood losses mostly as excess coverage for relatively expensive homes and large commercial properties.

Insurers that don't offer flood coverage still are affected by the NFIP. "It has an interplay with coverage and coverage disputes," said Jim Whittle, assistant general counsel and chief claims counsel for the American Insurance Association (AIA).

In the case of hurricanes that damage property with both wind and water, for example, policyholders lacking NFIP coverage have argued to their insurers that their property damage was caused by wind, which is covered, rather than flood. This problem was pervasive after Hurricane Katrina, Whittle said, and has sparked initiatives to address similar cases in the future.

Further, when flood claims are not handled expeditiously, people perceive it as being the fault of insurers. "This was a challenge with Superstorm Sandy," Whittle said, "where insurers risked the implications of reputation injury." Such injury includes market share losses and lawsuits.

NFIP's website lists 85 private insurers that service the majority of about 5.55 million policyholders. Through the NFIP's Write-Your-Own (WYO) Program, they are compensated per premium dollar. They generally now receive an allowance equal to 30 percent of premium, but that formula is changing.

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Table 1: Top 10 Most Expensive U.S. Storms

| Rank | Event                  | Date           | Number of Paid Losses | Amount Paid      | Average Paid Loss |
|------|------------------------|----------------|-----------------------|------------------|-------------------|
| 1    | Hurricane Katrina      | August 2005    | 167,724               | \$16,273,771,640 | \$97,027          |
| 2    | Superstorm Sandy*      | October 2012   | 96,342                | \$4,522,796,068  | \$46,945          |
| 3    | Hurricane Ike          | September 2008 | 46,425                | \$2,665,415,763  | \$57,413          |
| 4    | Hurricane Ivan         | September 2004 | 27,658                | \$1,590,436,206  | \$57,504          |
| 5    | Hurricane Irene        | August 2011    | 43,920                | \$1,306,117,014  | \$29,739          |
| 6    | Tropical Storm Allison | June 2001      | 30,663                | \$1,103,877,235  | \$36,000          |
| 7    | Louisiana Flood        | May 1995       | 31,343                | \$585,071,593    | \$18,667          |
| 8    | Tropical Storm Isaac   | August 2012    | 11,579                | \$506,964,607    | \$43,783          |
| 9    | Hurricane Isabel       | September 2003 | 19,869                | \$493,452,308    | \$24,835          |
| 10   | Hurricane Rita         | September 2005 | 9,505                 | \$472,323,558    | \$49,692          |

\*Sandy figures continue to be updated.

Source: FEMA; data as of Feb. 28, 2013

“Biggert-Waters wants us to use actual expense data to base the WYO companies’ compensation,” said Tom Hayes, chief actuary at FEMA.

Carriers aren’t beating a path to the NFIP’s door. “The fact that there are on the order of 3,000 property/casualty insurers in the United States and so few involved with the NFIP suggests that this is not the cash cow people might think it is,” Whittle said.

Servicing the NFIP, which requires reauthorization from Congress to continue operating, is challenging. Since 2008, when the NFIP lost authorization, Congress has passed 17 short extensions and the program has expired four times. When the program runs out of money, WYOs await congressional approval to receive funding to pay outstanding claims. (Biggert-Waters extended funding for the program until Sept. 31, 2017.)

The reauthorization lapses have created a significant burden for these insurers, according to officials at FEMA. State Farm—which handled approximately 15 percent (or 840,000) NFIP policies—stopped participating in 2010 partly because of program interruptions.

It will be more difficult for other WYO insurers to follow suit. Biggert-Waters allows FEMA to refuse the transfer of flood

insurance policies written and administered by insurers, agents, and brokers.

### Sharing the Load

U.S. insurers stopped offering flood insurance for small risks in 1929. A study on flood losses released by the AIA in 1956 reinforced the perception that flood insurance wasn’t commercially feasible.

“Regular insurance companies choose not to offer this kind of coverage,” said Stuart B. Mathewson, vice president and senior pricing actuary for Swiss Reinsurance America Corp. and chairperson of the Academy’s Flood Insurance Subcommittee. Nothing legally bars private industry from offering coverage, but the problem remains: “You still cannot charge enough to make it profitable,” Mathewson said.

Congress wants to know more. Biggert-Waters mandated several studies, due at various times, to look into private options. FEMA, for instance, is studying the reinsurance market’s capacity to assume a portion of the NFIP insurance risk. While clarifying its authority to secure reinsurance from the private market, the agency also is required to obtain reinsurance proposals that could lead to a transfer of portions of the risk.

## Table 2: NFIP Treasury Borrowings and Repayments

| Fiscal Year                  | Amount Borrowed         | Amount Repaid          | Cumulative Debt         |
|------------------------------|-------------------------|------------------------|-------------------------|
| Prior to 1981*               | \$917,406,008           | \$0                    | \$917,406,008           |
| 1981                         | \$164,614,526           | \$624,970,099          | \$457,050,435           |
| 1982                         | \$13,915,000            | \$470,965,435          | \$0                     |
| 1983                         | \$50,000,000            | \$0                    | \$50,000,000            |
| 1984                         | \$200,000,000           | \$36,879,123           | \$213,120,877           |
| 1985                         | \$0                     | \$213,120,877          | \$0                     |
| 1994**                       | \$100,000,000           | \$100,000,000          | \$0                     |
| 1995                         | \$265,000,000           | \$0                    | \$265,000,000           |
| 1996                         | \$423,600,000           | \$62,000,000           | \$626,600,000           |
| 1997                         | \$530,000,000           | \$239,600,000          | \$917,000,000           |
| 1998                         | \$0                     | \$395,000,000          | \$522,000,000           |
| 1999                         | \$400,000,000           | \$381,000,000          | \$541,000,000           |
| 2000                         | \$345,000,000           | \$541,000,000          | \$345,000,000           |
| 2001                         | \$600,000,000           | \$345,000,000          | \$600,000,000           |
| 2002                         | \$50,000,000            | \$640,000,000          | \$10,000,000            |
| October 2002                 | \$0                     | \$10,000,000           | \$0                     |
| 2003 (November to September) | \$0                     | \$0                    | \$0                     |
| 2004                         | \$0                     | \$0                    | \$0                     |
| 2005                         | \$300,000,000           | \$75,000,000           | \$225,000,000           |
| 2006                         | \$16,660,000,000        | \$0                    | \$16,885,000,000        |
| 2007                         | \$650,000,000           | \$0                    | \$17,535,000,000        |
| 2008                         | \$50,000,000            | \$225,000,000          | \$17,360,000,000        |
| 2009                         | \$1,987,988,421         | \$347,988,421          | \$19,000,000,000        |
| 2010                         | \$0                     | \$500,000,000          | \$18,500,000,000        |
| 2011                         | \$0                     | \$750,000,000          | \$17,750,000,000        |
| 2012                         | \$0                     | \$0                    | \$17,750,000,000        |
| 2013 to date                 | \$6,250,000,000         | \$0                    | \$24,000,000,000        |
| <b>Total</b>                 | <b>\$29,957,523,955</b> | <b>\$5,957,523,955</b> | <b>\$24,000,000,000</b> |

Borrowings through 1985 were repaid from congressional appropriations.  
 Borrowings since 1994 have been repaid from premium and other income.

\* Balance forward from U.S. Department of Housing and Urban Development

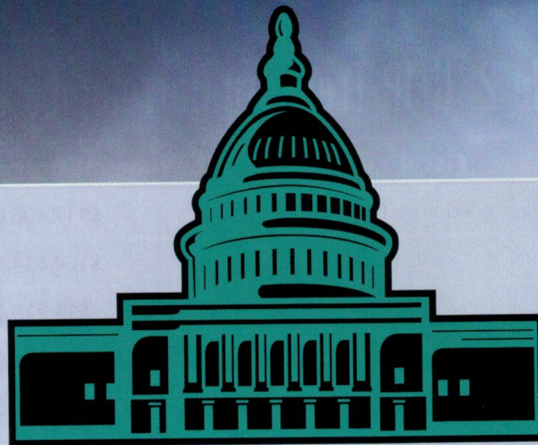
\*\* Of the \$100 million borrowed, only \$11 million was needed to cover obligations.

Source: FEMA; data as of March 31, 2013

## Legislative Initiatives

**AS IMPLEMENTATION** of the Biggert-Waters Flood Insurance Reform Act of 2012 moves forward, there has been a flurry of new legislative initiatives in Congress. Some try to push back reform provisions—particularly those designed to encourage progress toward rates that are actuarial. Others encourage further reform. While most of the new bills are unlikely to reach a floor vote, they offer a political gauge of potential future changes in the area of flood insurance. They include:

- Flood Victim Premium Relief Act of 2013 (H.R. 960), which would extend the premium increase timeline for primary residences in federal disaster areas after July 6, 2012, from five to eight years. Introduced March 5 by Rep. Michael Grimm (R-N.Y.);
- Homeowners Insurance Protection Act of 2013 (H.R. 240), which would establish a program to provide reinsurance for state natural catastrophe insurance programs. Introduced Jan. 14 by Rep. Dennis Ross (R-Fla.);
- Flood Insurance Premium Relief Act of 2013 (H.R. 1267), which would freeze all rate hikes for one year and slow the growth of rate increases to flood insurance policies over the next 10 years. Introduced March 19 by Rep. Steven Palazzo (R-Miss.);
- Flood Mitigation Expense Relief Act of 2013 (H.R. 1268), which would grant tax credits to NFIP policyholders who take steps to mitigate future flood risks. Introduced March 19 by Rep. Steven Palazzo (R-Miss.);
- National Flood Insurance Program Termination Act of 2013 (H.R. 1194), which would terminate the NFIP and related mandatory purchase and compliance provisions. Introduced March 14 by Rep. Candice Miller (R-Mich.);
- Homeowner Catastrophe Protection Act of 2013 (H.R. 549), which would create policyholder disaster protection funds, catastrophe savings accounts, and tax credits for natural disaster mitigation expenditures. Introduced Feb. 6 by Rep. Michael Grimm (R-N.Y.);
- A bill to require a study of voluntary community-based flood insurance options for the National Flood Insurance Program, no title (H.R. 1035). Introduced March 7 by Rep. Gwen Moore (D-Wis.);
- A bill to ease the impact of increasing flood insurance premiums mandated by Biggert-Waters by allowing the rise of flood insurance premiums by 12.5 percent each year for eight years instead of 25 percent each year for four years, no title (H.R. 1485). Introduced April 11 by Rep. Frank Lobiondo (R-N.J.), cosponsored by Rep. Jon Runyan (R-N.J.);
- Fire-Damaged Home Rebuilding Act of 2013 (S. 667), which would amend the National Flood Insurance Act of 1968 to allow the rebuilding, without elevation, of certain structures that are located in areas having special flood hazards and are substantially damaged by fire, among other provisions. Introduced April 8 by Sen. Dianne Feinstein (D-Calif.).



The viability of any such move will be dependent on improvements to the scheme's revenue structure, said Rade Musulin, a member of the Academy's flood subcommittee. "Historically the NFIP price was set based on expected losses. Reinsurers also base prices on that, but appropriately add a cost of capital (risk load)," Musulin explained. "Unless the NFIP builds such a load into its pricing at the consumer level, buying reinsurance can actually leave it in worse condition because it's in effect using the expected losses to fund the reinsurer risk load." Musulin added that the law requires that rates reflect "all costs associated with

the transfer of risk."

Meanwhile, the law requires the Federal Insurance Office (FIO) to study the claims-paying capacity of insurers for natural catastrophic coverage. And the Government Accountability Office (GAO), like FEMA, has been asked to look at assessing options for privatizing the NFIP.

The GAO is tasked with identifying agencies and program areas that are high risk because of their vulnerabilities to fraud, waste, abuse, and mismanagement or are most in need of transformation, explained Orice Williams Brown, managing director of financial

# Along Comes Sandy

## GETTING OVER SUPERSTORM SANDY

will not be easy. The nation's second-most expensive weather catastrophe in history hit just as the National Flood Insurance Program (NFIP) was beginning to untangle the implications of the Biggert-Waters Flood Insurance Reform Act of 2012.

Moving up the mid-Atlantic to the Northeast coast, the October storm had already cost \$1.7 billion with 140,000 claims by the end of December. Sandy is another reminder of why the hard-fought legislation was necessary. She also underscored why Congress is considering private flood insurance solutions.

Because more money was needed to pay Sandy claims, a new law, passed in January, increased the NFIP's borrowing authority by \$9.7 billion. This extends the program's deficit potential from about \$20 billion to \$30 billion. Costing an estimated \$7.2 billion for 142,000 claims, the new legislation raised the deficit to its current \$24 billion (see Table 2, Page 31). Given that the NFIP collects about \$3.5 billion annually and, according to the NFIP's 2011 rate filing, spends less than half of that on expected losses, crashing the deficit floor—again—appears to be just one major weather event away.

Sandy's arrival significantly complicated implementation of Biggert-Waters, according to federal sources. "We have been trying to implement bill provisions while dealing with Hurricane Sandy," said Tom Hayes, chief actuary at the Federal Emergency Management Agency.

markets and community investment for the GAO. The NFIP has been on the GAO's "high-risk" list since 2006.

As part of the study required by Biggert-Waters, the GAO is looking at the private market for business interruption coverage, additional living expenses, and the feasibility of the NFIP providing similar coverage. The legislation also requires the GAO to examine the impact higher NFIP coverage limits would have had on consumers, private insurers, and the program itself had the limits been in place in 2005 and 2006.

### The Case for Privatizing

There are many private options for covering flood loss. Industry experts, however, have mixed views.

President Harry S. Truman wanted the federal government to set itself up as a reinsurer in the early 1950s. This remains a good idea, Mathewson said.

Because of reports that indicate the possibility for profit in flood insurance, Whittle said, there are private actors in the marketplace looking at the potential market. But, Whittle said, drawing from participation in the NFIP could likely lead to adverse selection at a time when the NFIP is trying to broaden its coverage base.

Industry support for privatization varies. The AIA doesn't have a formal position. The National Association of Professional Insurance Agents supports the continued implementation of reforms to the NFIP but opposes privatization without a sustainable private-market solution.

Dave Treutel, president of Treutel Insurance Agency and chairman of the Independent Insurance Agents & Brokers of

America's flood task force, is in favor of privatization. "As an agent, it is difficult to adequately provide property insurance for a homeowner or a small business in a flood zone, since flood insurance still does not offer loss of use or loss of business income and is usually offered on only an actual cash value (depreciated) basis," Treutel said.

Treutel would like to see a multi-peril private industry solution to the flood insurance issue with a federal backstop. "For terrorism we found a compromise between industry and government through the Terrorism Risk Insurance Act (TRIA)," he said.

Treutel favors the multi-peril approach, saying it could enhance efficiency in risk financing through greater pooling and risk diversification. Flood coverage could be distributed more broadly though the larger homeowners insurance market so more Americans would be covered.

Reinsurers are strongly in favor of the possibility of backing privately insured flood risk. "The reinsurance market has both capacity and an appetite for flood risk," said Franklin Nutter, president of the Reinsurance Association of America. "Privatization of the NFIP for a reinsurance placement should be successful if properly structured."

Steve Weisbart, senior vice president and chief economist for the Insurance Information Institute (III), said reinsurers have plenty of experience in flood insurance—especially from Europe. "There is a belief on the part of the reinsurers that at this level they can put in place safeguards to allow them to write this line profitably over the long run," he said.

Reinsurers are motivated by gaining a more geographically

## Table 3: NFIP Program Statistics

(Data as of Dec. 31, 2011; \$ nominal)

| Calendar Year | Number of Policies in Force | Total Written Premium | Total Face Value of Coverage (\$) | Total Number of Claims Paid | Total Payments Made to Policyholders |
|---------------|-----------------------------|-----------------------|-----------------------------------|-----------------------------|--------------------------------------|
| 1972-1977     | NA                          | NA                    | NA                                | 4,441                       | 18,035,658                           |
| 1978          | 1,446,354                   | 111,250,585           | 50,500,956                        | 29,122                      | 147,719,253                          |
| 1979          | 1,843,441                   | 141,535,832           | 74,375,240                        | 70,613                      | 483,281,219                          |
| 1980          | 2,103,851                   | 159,009,583           | 99,259,942                        | 41,918                      | 230,414,295                          |
| 1981          | 1,915,065                   | 256,798,488           | 10,259,859                        | 23,261                      | 127,118,031                          |
| 1982          | 1,900,544                   | 354,842,356           | 107,296,802                       | 32,831                      | 198,295,820                          |
| 1983          | 1,981,122                   | 384,225,425           | 117,834,255                       | 51,584                      | 439,454,937                          |
| 1984          | 1,926,388                   | 420,530,032           | 124,421,281                       | 27,688                      | 254,642,874                          |
| 1985          | 2,016,785                   | 452,466,332           | 139,948,260                       | 38,676                      | 368,238,794                          |
| 1986          | 2,119,039                   | 518,226,957           | 155,717,168                       | 13,789                      | 126,384,695                          |
| 1987          | 2,115,183                   | 566,391,536           | 165,053,402                       | 13,400                      | 105,432,378                          |
| 1988          | 2,149,153                   | 589,453,163           | 175,764,175                       | 7,758                       | 51,022,523                           |
| 1989          | 2,292,947                   | 632,204,396           | 265,218,590                       | 36,245                      | 661,658,285                          |
| 1990          | 2,477,861                   | 672,791,834           | 213,588,265                       | 14,766                      | 167,896,816                          |
| 1991          | 2,532,713                   | 737,078,033           | 223,098,548                       | 28,549                      | 353,681,702                          |
| 1992          | 2,623,406                   | 800,973,357           | 236,844,980                       | 44,650                      | 710,225,154                          |
| 1993          | 2,828,558                   | 890,425,274           | 267,870,761                       | 36,044                      | 659,059,461                          |
| 1994          | 3,040,198                   | 1,003,850,875         | 295,935,328                       | 21,583                      | 411,075,128                          |
| 1995          | 3,476,829                   | 1,140,808,119         | 349,137,768                       | 62,441                      | 1,295,578,117                        |
| 1996          | 3,693,076                   | 1,275,176,752         | 400,681,650                       | 52,677                      | 828,036,508                          |
| 1997          | 4,102,416                   | 1,509,787,517         | 462,606,433                       | 30,338                      | 519,537,378                          |
| 1998          | 4,235,138                   | 1,668,246,681         | 497,621,083                       | 57,348                      | 886,327,133                          |
| 1999          | 4,329,985                   | 1,719,652,696         | 534,117,781                       | 47,247                      | 754,970,800                          |
| 2000          | 4,369,087                   | 1,723,824,570         | 567,568,653                       | 16,362                      | 251,720,536                          |
| 2001          | 4,458,470                   | 1,740,331,079         | 611,918,920                       | 43,589                      | 1,277,002,489                        |
| 2002          | 4,519,799                   | 1,802,277,937         | 653,776,126                       | 25,312                      | 433,644,094                          |
| 2003          | 4,565,491                   | 1,897,687,479         | 691,786,140                       | 36,838                      | 780,492,440                          |
| 2004          | 4,667,446                   | 2,040,828,486         | 765,205,681                       | 55,825                      | 2,232,042,331                        |
| 2005          | 4,962,011                   | 2,241,264,140         | 876,679,658                       | 212,778                     | 17,713,105,660                       |
| 2006          | 5,514,895                   | 2,604,844,133         | 1,054,087,148                     | 24,592                      | 640,623,771                          |
| 2007          | 5,655,919                   | 2,843,422,049         | 1,141,242,230                     | 23,129                      | 612,351,594                          |
| 2008          | 5,684,275                   | 3,066,729,200         | 1,197,659,846                     | 74,266                      | 3,450,249,017                        |
| 2009          | 5,704,198                   | 3,202,267,224         | 1,233,005,263                     | 30,821                      | 772,390,723                          |
| 2010          | 5,559,313                   | 3,348,222,091         | 1,227,932,424                     | 27,165                      | 708,992,043                          |
| 2011          | 5,585,797                   | 3,477,338,993         | 1,264,043,635                     | 65,315                      | 1,847,881,892                        |

Source: The National Flood Insurance Program: Status and Remaining Issues for Congress, Congressional Research Service, Feb. 6, 2013

diverse risk profile and collecting more funds for investment, Weisbart added. "They want to reinsure private companies because they operate by a more sensible set of rules."

Weisbart believes insurers would do a better job at covering flood damage. With privatization, he said, insurers would secure more reliable maps that could provide more accurate pricing on a more granular block-by-block level than the NFIP's broader approach.

### Assessing the Risk

To consider insurer viability, the question is basic. Are improvements made since 1968 enough to ensure profitability amid predictions of more severe weather events in a growing flood-vulnerable population?

"Clearly we know a lot more than we did in 1968," Mathewson said. Catastrophe models, used for large commercial insurance, have improved greatly. FEMA's new digitized maps also provide more information to appropriately determine rates, he said.

But there are several reasons why offering flood coverage would still be unattractive to insurers.

"My empirical take is based on the observation that the insurance industry is full of companies looking for niche markets," Mathewson said. "However, for the most part, nobody is grabbing at the market. That tells me people have looked at it and don't know how to make it work."

Private carriers today have the same restraints as 45 years ago. Unlike the NFIP, they must have upfront capital, meet state requirements, maintain contingent reserves, purchase reinsurance, and pay federal and premium taxes.

"We have the issues of growing populations, climate change, weather patterns changing, more flooding, more development that causes more runoffs into rivers," Mathewson said. But the real issue, he said, "is trying to quantify how climate change will affect future losses."

Despite legislative improvements and the billions of dollars spent to improve infrastructure and mitigate potential loss, the risks continue to grow. According to FEMA, the costs of floods and flood damage associated with extreme rainfall events have risen from \$6 billion to \$10 billion each year, despite billions spent on flood control. While billions more are being spent to alleviate flood loss, there seems to be no end to how much investment is needed.

Musulini suggested that the fact that the NFIP covers flooding from hurricanes complicates matters further because it's relatively hard to mitigate against storm surge on the coast in the same way you can with river flooding.

Flooding is already the most costly and prevalent natural

disaster risk in the United States. And weather experts predict that exposure to flood risks is on the rise. Floods that would historically occur once every 20 years are now projected to happen every four to six years, according to a February report by the Congressional Research Service (CRS), *The National Flood Insurance Program: Status and Remaining Issues for Congress*.

At the same time, the report said, the population of the United States living in flood-prone areas continues to grow. More than half now lives in coastal watershed counties or floodplain areas, and approximately 50 percent of the nation's gross domestic product is generated in the Gulf and Atlantic coastal areas.

### The Quest for Better Rating

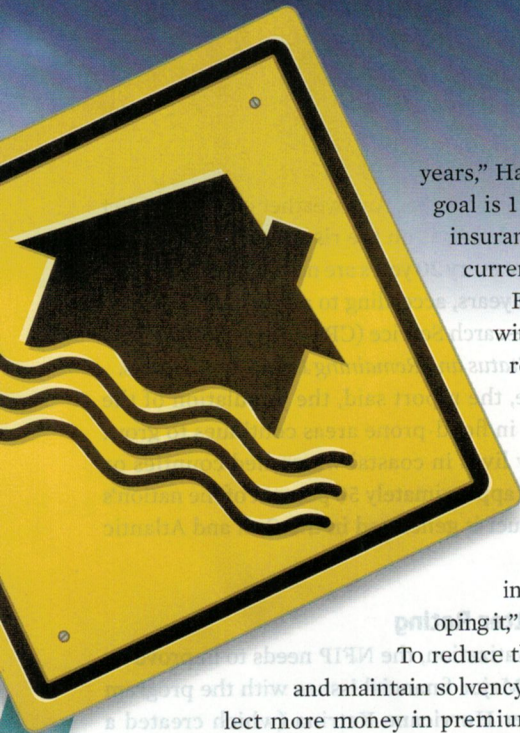
With or without privatization, the NFIP needs to improve its financial condition. Major financial issues with the program became obvious after Hurricane Katrina (which created a nearly \$18 billion deficit). Before that, the NFIP had been self-supporting since the mid-1980s even though it deviated from accepted actuarial practices, according to a 2011 monograph by the Academy's Flood Insurance Subcommittee, *The National Flood Insurance Program: Past, Present...and Future*.

After Katrina, other headlining storms—including hurricanes Rita and Ike—dug the deficit hole deeper. "It was clear to me and others that it would take decades to pay it back," said Mathewson, whose subcommittee provided written testimony for Congress on behalf of the Academy in 2011. "With a debt of \$21 billion and growing, and taking in about \$3.5 billion a year in premiums, there is not a lot left to start the payback process."

Superstorm Sandy, the second-most expensive storm in U.S. history, blew the deficit hole wide open (see *Along Comes Sandy*, Page 33).

In an effort to create financial stability in the program, Biggert-Waters introduced a catastrophe fund, developed a process by which premium subsidies would be eventually eliminated, encouraged participation, and reinforced FEMA's ongoing effort to ensure adequate maps. But while insurers must charge premiums sufficient to hold capital or reinsurance required to withstand large catastrophes, the historical funding formulas used by the NFIP have left it unprepared to handle catastrophic events without borrowing, Musulin said.

Biggert-Waters does require FEMA to start building a National Flood Insurance Reserve Fund using an assessment on the 80 percent who pay full rates—except those with preferred-risk policies. NFIP will be charging an initial 5 percent assessment for all policies effective on or after Oct. 1, 2013. "This is the initial rollout. FEMA will continue to revise the assessment in future



years,” Hayes said. The fund’s goal is 1 percent of the total insurance in force, which is currently about \$12 billion.

FEMA also is charged with putting together a repayment schedule to reimburse the U.S. Treasury. “Congress wants us to develop a 10-year repayment schedule. We are in the process of developing it,” Hayes said.

To reduce the deficit and reach and maintain solvency, NFIP needs to collect more money in premiums. Increasing rates is one way toward that goal. But reaching rate adequacy has been elusive. And it’s not at all clear exactly what rate adequacy means in the context of a government program, Musulin said. “The original intent of the NFIP was to make insurance available at what was perceived to be an affordable price. That objective may be in direct conflict with the NFIP reaching rate adequacy,” Musulin said.

According to a 2011 white paper by the Property Casualty Insurers Association of America (PCI), the NFIP has been providing overall flood insurance at half the true-risk cost. In fact, the PCI’s 2011 report states, rates are only one-third the true-risk cost in higher-risk areas.

For the NFIP, financial solvency conflicts with policyholder affordability and maximum participation. The average NFIP policy is around \$650 annually. Policies range from \$129 for \$20,000 of building coverage and \$8,000 of contents coverage to \$70,000 for properties built in especially hazardous areas, Hayes said.

Purely from a business perspective, the affordability issue appears easier to solve. If having a car is a privilege that requires insurance, Treutel said, why shouldn’t flood insurance for homes be the same?

As a federal program, the NFIP continues to be plagued politically and financially. This explains some of the legislation introduced this year (see Legislative Initiatives, Page 32). While Biggert-Waters raised the rate increase ceiling from 10 to 20 percent and phased out subsidies enjoyed by about 20 percent of policyholders, rates still are based on different assumptions. Some policyholders’ specific known risks are ignored for ratemaking purposes, sometimes temporarily and other times permanently, according to the Academy’s Flood

Insurance Subcommittee monograph. Also, said the GAO’s Brown, catastrophic losses didn’t have to be factored into rates until Biggert-Waters was passed. “Therefore, the losses from the 2005 and 2006 hurricane seasons were not fully factored into subsequent rate increases,” Brown said.

Precise rates also depend on the right information and the accuracy of FEMA’s maps. Opinion on the maps, however, is mixed. According to III’s Weisbart, the maps are, at best, misleading. In his opinion, Weisbart said, “the maps have been pretty useless.”

Treutel, who lost his office and handled thousands of flood and wind claims during Hurricane Katrina, strongly urges all his clients to carry flood insurance. “Outdated FEMA flood maps and the ease of getting flood grants for those with no flood insurance versus the time it took to process flood claims highlighted problems with the current flood program,” he said.

FEMA has been working to improve its maps since 2011. Biggert-Waters has provisions to enhance the maps by taking into account anticipated sea-level rise and residual risk behind levees so that people can better prepare for their risk. But for now, Treutel said, policyholders in Mississippi are paying different rates from those across the state line in Alabama even though the topography is the same.

For NFIP purposes, there are two types of policyholders: those who pay full rates and those who pay subsidized rates. About 80 percent of policyholders (or 4.48 million of 5.6 million policies) pay rates based on expected future losses, according to FEMA. Of that number, about half pay so-called full-risk rates that are determined through a hydrologic/financial model. For the other half, where there isn’t enough information for the model, premiums are determined by actuarial and engineering judgments and underwriting experience, according to the Academy’s monograph. The other 20 percent of policyholders have been paying subsidized rates. In its 2011 white paper, the PCI found that these have caused an annual cash-flow deficit of \$2 billion. The NFIP began gradually reducing subsidies this year, but the financial effect on policyholders and timeliness will vary greatly.

While most properties with subsidized rates will see a 20 percent increase until full rates are met, some insured properties will see a 25 percent increase. Further, some lawmakers have introduced legislation to spread out the subsidy phaseout program for longer than the reform’s five-year period (see Page 32).

### Toward a Larger Pool

Another obvious way to boost collected premium is to attract more policyholders—and there are plenty more to be found. When Superstorm Sandy hit, for example, Manhattan and most of its neighboring boroughs had less than 5 percent participation

in the program, according to analysis conducted by Carolyn Kousky and Erwann Michel-Kerjan for Resources for the Future. At the same time, a poll conducted last November by the III found that only 14 percent of 1,000 polled homeowners reported having flood insurance.

Boosting participation doesn't seem to be a difficult goal. But, Mathewson said, "it's clear that almost nobody buys flood insurance unless they have to." While coverage became mandatory in 1973, enforcement has been weak. To increase participation, Congress in 1994 required all flood-prone properties with federally backed mortgages to get coverage. To address the lack of enforcement, Biggert-Waters increased the civil penalty for lending institutions from \$350 to \$2,000 per violation.

These actions haven't offered magical cures. In Oregon, some homeowners are reacting because lenders are including properties near, but not in, flood zones. Those who are contesting the banks have to hire surveyors at \$500 per survey. Further, property owners who are required to buy flood coverage when they sign for their mortgage often drop it later. "It is difficult to identify who has flood insurance and who does not," the GAO's Brown said. "You are required to have it when you close on your mortgage. Whether a policyholder renews the policy is much more complicated to determine."

One hope is that since Biggert-Waters more strongly encourages lenders to escrow for homeowners and NFIP coverage (as with property taxes), flood insurance participation could increase or stay steady.

But the true need for flood insurance relates to location. Because mandatory coverage is based on mortgages and not simply location, other fully owned properties in the same flood-prone area can legally forgo coverage. "There are a lot of people without mortgages who really need it," Mathewson said.

Often, property owners either don't know or don't accept their need for flood insurance. Many in flood-prone areas choose not to buy flood insurance, assuming that federal disaster assistance will be available. "People say to me, 'Why should I carry flood insurance when I will get money quicker if I do not have coverage?'" Treutel said. They are taking a chance, of course, because not everyone gets assistance. But this belief was reinforced when FEMA responded so dramatically in the aftermath of Hurricane Katrina, he said.

In the CRS' February report, author Rawle O. King explained the difficulty in addressing these public assumptions. "In economic theory," King wrote, "the assurance of federal assistance in the event of repeated disaster-related losses may create a 'moral hazard' by lowering the incentives to take appropriate steps to mitigate loss."

The provision of federal disaster insurance also conflicts with one of the original purposes of the NFIP: to reduce federal

spending to compensate victims of floods.

Many homeowners also believe that NFIP insurance is only for those in a major flood zone or that it's not necessary because the risk isn't that great. According to the CRS report, this reflects common misconceptions about the laws of probability or what a 100-year flood, for example, really means: "Behavioral scientists have noted that many individuals in flood-prone areas often dismiss low-probability catastrophic events, misunderstand the risk-spreading function of insurance, and tend to be optimistic regarding the prospects of damage to their property."

The lack of accurate maps doesn't help property owners understand the risk, Weisbert said. And legislators can exacerbate the problem. During the legislative process to pass Biggert-Waters, some sought to delay or avoid using the NFIP's revised flood maps by raising accuracy and affordability issues, the CRS report said. This, in many cases, makes it easier to ignore flood risk.

For its part, FEMA is trying to raise public awareness on the need for flood coverage and is doing a better job at it than in the past, said Weisbert, whose organization also encourages Americans to have flood coverage.

And, sadly, disasters help. Awareness from Hurricane Katrina appeared to boost participation from 4.96 million policies in 2005 to 5.51 million in 2006. For the following years, 2007 through 2012, the average number of policies was 5.64 million.

As the U.S. landscape is changing, so must the ways the country manages flood risk. How the federal government and the private sector will handle future risk remains uncertain, but one thing is certain: The problem isn't being ignored. That's a good thing because the problem also isn't going away. □

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#### Resources

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