

CBO TESTIMONY

**Statement of
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The Budgetary Treatment of Subsidies in the National Flood Insurance Program

**before the
Committee on Banking, Housing, and Urban Affairs
United States Senate**

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Chairman Shelby, Ranking Member Sarbanes, and Members of the Committee, thank you for offering the Congressional Budget Office (CBO) the opportunity to discuss issues related to the National Flood Insurance Program (NFIP), administered by the Federal Emergency Management Agency (FEMA). Established in 1968, the NFIP now includes over 20,000 communities that adhere to certain minimum standards for floodplain management. Within those participating communities, nearly 4.7 million policyholders pay more than \$2.0 billion in premiums each year to receive over \$800 billion in coverage.

By law, some policyholders—primarily those whose properties were built before their local community joined the program—receive coverage at rates that are explicitly subsidized. Lawmakers built those subsidies into the program partly on the grounds that actuarial (full-risk) premiums for many existing structures would be unattractively high. The subsidies have both benefits and costs. The immediate benefits to current property owners encourage communities to participate in the program, thereby reducing future flood losses through improved floodplain management and tighter building standards. Moreover, charging flood insurance premiums, even if they are subsidized, may encourage policyholders to take at least some notice of the risks to their properties. However, subsidized premiums provide less incentive than full-risk premiums would for policyholders to reduce their flood risks—and, of course, they impose costs on taxpayers.

In light of the devastation caused by last fall's hurricanes in the Gulf Coast, resulting in claims for flood damage estimated to exceed \$20 billion, you asked CBO to address the size of the program's actuarial imbalance, the likely effects of reducing or eliminating the subsidies, and Congressional options for reforming the program's treatment in the budget. My testimony will make the following points:

- Almost 1.2 million policyholders, roughly one-quarter of the total, pay subsidized premiums. As a result, the program as a whole is not actuarially sound under current law. Historically, it has collected enough in premiums to pay for the losses experienced in a “usual” or “typical” year, which is why the actuarial imbalance was not more apparent prior to 2005, but it has not built up sufficient reserves to pay (or repay the borrowing) for the losses in a catastrophic year. On the basis of information from FEMA, CBO estimates that the program collects about 60 percent of the premiums needed for actuarial balance, leaving a cost to taxpayers estimated at about \$1.3 billion per year.
- According to the available evidence, eliminating the subsidies would lead relatively few policyholders affected by the increases to drop all coverage but would induce many to cut it enough to keep their premiums roughly unchanged. The total premiums collected would also remain roughly constant. Those findings should be interpreted cautiously, though, because the available evidence is limited and some of the premiums that would be

charged under actuarially fair rates would be well outside the range of past experience.

- Regardless of the responses of policyholders, ending the subsidies entirely would eliminate the NFIP's actuarial imbalance, so the expected annual savings to the program would be \$1.3 billion. Smaller reductions in the subsidies would yield smaller savings. The net savings to the federal government would be smaller if, in response to future floods, expenditures for disaster assistance to uninsured property owners and renters increased.
- Annual spending for the NFIP is inherently unpredictable, so even if the Congress amended the program to charge actuarially sound rates on all of its policies, the program would still require a backup source of funding, such as its borrowing authority. The difference would be that substantial reserves would build up in noncatastrophic years.
- The budget presents the NFIP's financial results and those of most other budget accounts on a cash basis. Adopting an approach similar to that used for loans and loan guarantees, which recognizes the long-run costs of the program by recording an actuarial estimate of the annual federal liability, would better identify the government's exposure to flood risk but would obscure estimates of the cash deficit. The choice of one budgetary treatment over another should be based on which presentation will better inform the policy choices faced by the Congress.

Background

Under the National Flood Insurance Program, currently authorized to sell annual policies through 2008, property owners can obtain coverage for damages to structures and contents of up to \$350,000 for residential properties and \$1 million for commercial properties. Many NFIP policies are purchased under a federal statutory requirement that property owners maintain insurance up to the outstanding balance of their mortgage (or the applicable coverage limit, whichever is less) if their mortgage is federally insured or from a federally regulated lender and the property is located within a 100-year floodplain (an area that has at least a 1 percent chance of flooding in any given year). However, how well that requirement is enforced is uncertain. Most policies are sold and serviced on behalf of FEMA by private insurance companies, which retain a portion of the annual premiums to compensate them for those activities.

The NFIP reviews its insurance rates annually and has the authority to raise them by an average of not more than 10 percent a year for each risk category of property. Since 2001, the program has increased rates between 2 percent to 3 percent annually, on average.

The NFIP has the authority to charge premiums (within parameters set by its authorizing statute) and to spend income from those premiums to cover claims and underwriting expenses. Thus, flood insurance is classified in the budget as a mandatory, or direct spending, program. As a mandatory program, the NFIP does not receive regular appropriations for its activities from the general fund. However, annual appropriation acts for the Department of Homeland Security generally authorize spending for salaries and expenses related to flood insurance operations and flood mitigation, to be financed by a per-policy fee that depends on the type of insured property and that is considered separate from the premiums.

FEMA also has the authority to borrow additional amounts from the U.S. Treasury if the income from premiums falls short of expenses. The program is required to repay borrowed funds, with interest, from surplus premiums collected in years when claims for damages caused by floods are small. Before 2005, FEMA used its borrowing authority primarily as a means of financing claims within a fiscal year, and the agency generally managed to repay borrowed funds within a relatively short time. FEMA's borrowing authority was limited to \$1.5 billion before Hurricane Katrina, but the Congress subsequently raised that limit twice last fall, bringing it to \$18.5 billion. It is highly unlikely that the program will be able to repay that amount of borrowing out of its income from premiums and fees.

In some years, NFIP premiums and fees have exceeded payments for claims and administrative expenses (resulting in net negative outlays); in other years, total payments have exceeded total collections (resulting in net positive outlays). Over the past 20 years (through fiscal year 2005), the program had net negative outlays in 11 years and net positive outlays in nine (see Figure 1). Over that 20-year period, cumulative net outlays of the program, measured in nominal (current) dollars, totaled only about \$300 million. In sharp contrast, net outlays for fiscal year 2006 are likely to top \$20 billion—if additional borrowing authority is enacted to allow the program to spend more than its current limit of \$18.5 billion.

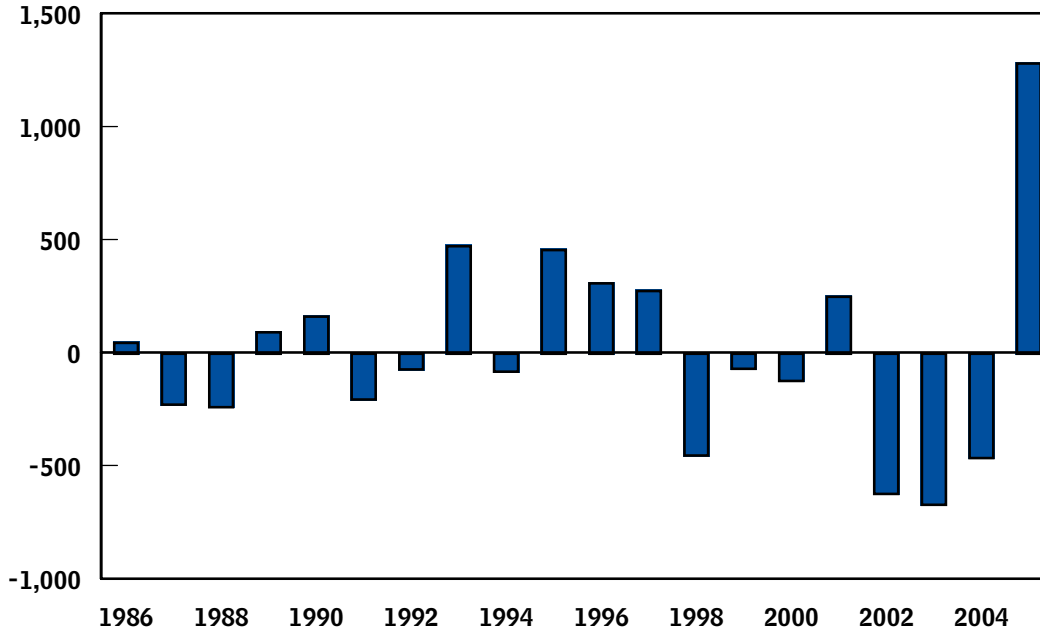
The Actuarial Imbalance in the NFIP

The available estimates of the current subsidies in the flood insurance program are based on FEMA's estimates of actuarially sound premiums. Those estimates could be too low—if, for example, the probabilities of very rare, catastrophic floods or levee failure are greater than FEMA assumes—or too high. CBO has no basis for concluding that the actuarial rates err in either direction, and the analysis underlying this testimony assumes that FEMA's estimates are correct.

Figure 1.

Net Outlays by the National Flood Insurance Fund, Fiscal Years 1986 to 2005

(Millions of nominal dollars)



Source: Congressional Budget Office based on *Budget of the United States Government, Appendix* (various years); and *Monthly Treasury Statement of Receipts and Outlays of the U.S. Government for Fiscal Year 2005 Through September 30, 2005*.

Roughly 1.2 million flood insurance policyholders, about one-quarter of the total, pay rates that are explicitly subsidized—that is, below the level that FEMA estimates would be required for the program to break even in the long run. Those subsidies are built into the program by statute—or, in the case of one small group of properties, by an agreement 20 years ago with the Congressional oversight committees.¹

By far, the largest group of explicitly subsidized policies is those covering “pre-FIRM” structures—meaning structures built before a community’s flood insurance rate map (FIRM) was completed (or before 1975, whichever is later). FEMA estimates that pre-FIRM properties accounted for about 24 percent of all policies in 2005. The basic rationale for those subsidies is twofold: that the detailed information about risks that the flood maps provide was not available when those structures were built and that premiums incorporating their full risks would not

1. Information on the subsidies is drawn largely from Thomas L. Hayes and Shama S. Sabade, *Actuarial Rate Review* (Federal Emergency Management Agency, November 30, 2004).

encourage the desired levels of participation by individuals and communities. FEMA also charges subsidized rates on three smaller groups of properties, together representing about 2 percent of the policies in 2005.²

The explicit subsidies received by those policyholders apply only to a first tier of coverage. For example, subsidies apply to the first \$35,000 of coverage for a one-to-four-family dwelling and the first \$100,000 for nonresidential and larger residential properties. Additional coverage above those limits is purchased at FEMA's estimated actuarial rates. Since 1988, FEMA has set the subsidized rates with an eye to collecting premiums at least sufficient to cover payouts in the "historical average loss year"—that is, average losses observed since 1978. Since the program had never suffered a truly catastrophic loss until last year, that target was clearly below the level required to achieve actuarial balance.

FEMA estimates that the average premium paid on a pre-FIRM structure—taking into account coverage purchased in both the subsidized and actuarial tiers—is about 40 percent of the actuarial, or full-risk, rate. Nonetheless, the subsidized premiums are higher than the unsubsidized premiums, on average, reflecting the fact that properties built before communities joined the NFIP and implemented tighter land-use policies and building standards are typically at much higher risk of flooding. According to FEMA's estimates, the annual premium on the average unsubsidized policy was \$340 in 2005, while the average subsidized policy cost \$710. The corresponding full-risk premium for that subsidized policy would be roughly two and a half times that amount, or almost \$1,800 (see Table 1). The greater risk associated with subsidized properties is illustrated by partial data on properties damaged by Hurricane Katrina: roughly 122,000 of the 200,000 damage claims reported to FEMA by November 30, 2005, or 61 percent, were for subsidized properties.³

Those premium rates and percentage subsidies are averages; the full-risk premium for any individual structure depends on the local flood risk, the structure's elevation, and its insured value. In fact, many pre-FIRM properties are on high enough ground that the actuarial premiums would be lower than the pre-FIRM rates, which do not take the elevation of individual properties into account—in other

2. Those three smaller groups include properties that will be protected against a 100-year flood (more precisely, against a flood whose probability of occurring in a given year is at least 1 percent, or 1 in 100) upon completion of a structural project that is already half finished; properties in areas served by structural measures that have been decertified as no longer protecting against such a flood if a schedule meeting certain criteria exists for restoring that level of protection; and properties subject to coastal flooding that were built between 1975 and 1981, the year when FEMA incorporated new information about wave heights and strengthened the building standards for new construction in such areas.

3. Those data indicate that subsidized policyholders filing claims after Katrina represent at least 10 percent of all subsidized policyholders nationwide.

Table 1.**Flood Insurance Premiums and Subsidies**

Type of Policy	Average Annual Individual Premiums			No. of Properties (Millions) ^a	Total Premiums in the Program (Billions of dollars)		
	Actual (Dollars)	Actuarially Fair (Dollars)	Subsidy (Percent)		Actual	Actuarially Fair	Subsidy
Subsidized	710	1,775	60	1.2	0.9	2.1	1.3
Not Subsidized	340	340	0	3.4	1.2	1.2	0
Average or Total	440	720	39	4.7	2.0	3.3	1.3

Source: Congressional Budget Office based on information from the Federal Emergency Management Agency (FEMA).

Note: Numbers in the table do not always add up to totals because of rounding.

a. The numbers of insured properties are approximate, based on the total number of policies as of September 2005 and FEMA's November 2004 estimates of the distribution of types of policies in 2005.

words, the “subsidies” are negative. In those cases, the property owners can lower their premiums, as many have done, by certifying their elevation and choosing to be rated on the post-FIRM schedule.⁴ Conversely, full-risk rates for those structures at the lowest elevation relative to the local floodplain would be as much as 10 times higher than the subsidized rates.⁵

Using FEMA's 2005 figures on the average subsidy and the relative shares of subsidized and actuarially based policies, CBO estimates that the NFIP collects only 61 percent of the premiums required for long-run actuarial balance. Based on the \$2.0 billion in premiums from 2004, the percentage implies an aggregate subsidy of \$1.3 billion.⁶ That estimate assumes that FEMA's actuarial tables are correct, and thus it does not include any hidden subsidy on (or surplus from) the post-FIRM properties. Nor does it reflect the cost to taxpayers of bearing the risk of the insurance contracts. Ideally, one would estimate the economic subsidy, which includes not only the actuarial subsidy but also the amount required to

4. A study using data from 1998 estimated that, out of a total of 4.4 million insured and uninsured pre-FIRM structures nationwide, 1.9 million (44 percent) would cost less to insure under post-FIRM rates; see PriceWaterhouse Coopers, *Study of the Economic Effects of Charging Actuarially Based Premium Rates for Pre-FIRM Structures* (prepared for the Federal Emergency Management Agency, May 14, 1999), p. 5-4. That share may have fallen since then, if more policyholders in that situation have switched to the post-FIRM rate schedule.

5. Ibid., p. 5-5.

6. The Center on Federal Financial Institutions made the same calculation last fall; see *Federal Flood Insurance After Katrina*, p. 8, available at www.coffi.org.

compensate taxpayers for their risk exposure. CBO has done such estimates in other contexts, in analyzing a loan guarantee to America West Airlines, for example.⁷ Estimating the cost of risk is difficult, however, and in the case of the NFIP, further analysis would be required before CBO could say whether the risk premium is small or large relative to the estimated actuarial imbalance of \$1.3 billion per year.⁸

The Effects of Reducing or Eliminating the Subsidies

The Congress could choose to modify the NFIP's rate structure to reduce or eliminate the current explicit subsidies. The qualitative responses of policyholders to changes in those subsidies are clear: some policyholders would reduce their amount of coverage, and others would drop their flood insurance entirely—in either case leaving themselves more exposed to future flood risks. Reducing or eliminating coverage would probably be more common among voluntary purchasers, but compliance by people whose mortgage requires them to maintain full coverage might decrease.

Quantifying those responses by policyholders is difficult, however.⁹ CBO has identified three studies that analyze the sensitivity of demand for flood insurance, one of which has been published in a peer-reviewed journal.¹⁰ That study, which examined aggregate state-level data for 1984 through 1993, looked separately at the numbers of flood insurance policies and the dollars of coverage in force. The study estimated that the price elasticity of demand for policies was -0.11 and the elasticity for dollars of coverage was -1.0, implying that a 10 percent increase in price would lead to about a 1 percent decrease in the number of policies and a 10 percent decrease in coverage.

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7. Congressional Budget Office, *Estimating the Value of Subsidies for Federal Loans and Loan Guarantees* (August 2004).
 8. On the one hand, the fact that reinsurers include substantial “risk loads” in the premiums they charge for policies covering natural disasters suggests that the risk cost of the NFIP is high. On the other hand, the fact that the risk of catastrophic flooding in the United States has little correlation with the performance of the national or global economy (unlike, say, the risk of widespread bank failures), and hence is relatively diversifiable, suggests that the program's risk cost is low.
 9. The PriceWaterhouse Coopers study in 1999, cited earlier, addressed just that question; but notwithstanding the extensive effort by the study team to identify sample communities and collect data on the age, elevation, presence of basements, and other characteristics of thousands of structures, the study's results rested on very slight evidence about policyholders' response to price changes. In particular, the study relied on a single estimate of price sensitivity from a 1983 analysis by the General Accounting Office (now the Government Accountability Office).
 10. Mark J. Browne and Robert E. Hoyt, “The Demand for Flood Insurance: Empirical Evidence,” *Journal of Risk and Uncertainty*, vol. 20, no. 3 (2000), pp. 291-306; Warren Kriesel and Craig Landry, “Modeling the Decision to Buy Flood Insurance: Results from 62 Coastal Communities,” available at www.agecon.uga.edu/faculty/wkriesel/PDFfiles/section3.pdf; and General Accounting Office, *The Effect of Premium Increases on Achieving the National Flood Insurance Program's Objectives*, GAO/RCED-83-107 (February 1983).

The applicability of those estimates to the questions of interest here is uncertain, however. Major reductions in the existing subsidies would translate into large increases in premiums—and in many cases, those premiums would be well outside the range of the study’s pre-1994 data. So the study’s results may greatly understate the extent to which policyholders would drop their coverage. Conversely, two factors suggest that the results may overstate the sensitivity of demand to changes in the subsidies. First, the requirement making the purchase of flood insurance mandatory for some property owners has been expanded and become better enforced since the period covered by the study. Second, the changes in premiums would apply only to the first tier of coverage, so policyholders with coverage extending into the unsubsidized tier would see no increase in prices, and hence no increased incentive to reduce their coverage, within that second tier.

With those qualifications, CBO has assessed the implications of the study’s estimates: if premiums on all subsidized policies were raised 150 percent, which is the average amount needed to eliminate the subsidies entirely, about 10 percent of the previously subsidized policyholders would drop out of the program, total coverage in force would fall by about 60 percent, and total revenues from premiums would remain essentially unchanged.¹¹ But those projections should be interpreted with caution, in light of the questions about the applicability of the study’s analysis.

The impacts on the NFIP’s soundness and the federal budget are somewhat easier to predict. If the subsidies were eliminated, estimates of what would happen to the number of policies or the coverage in force, or even to total premiums, would not be necessary because each remaining policy would be pulling its own weight, actuarially. Thus, eliminating the subsidies would eliminate the actuarial imbalance in the flood insurance program, which, as mentioned, is estimated to be about \$1.3 billion per year. Estimating the annual savings from a smaller reduction in subsidies would be more complicated, involving questions about which groups of policyholders would drop or reduce their coverage, but the result would be less than \$1.3 billion. Net savings to the government would be smaller than those to the NFIP, to the extent that future floods would lead the Congress to appropriate a greater amount of federal disaster assistance in response to a greater number of uninsured flood victims. Historically, the levels of assistance provided to disaster victims have not been so large that they would entirely offset the savings to the NFIP.

11. For there to be a 60 percent reduction in the amount of coverage in force with only a 10 percent decline in the number of policies, the average coverage among those who maintain their policies must fall by about 56 percent.

Budgeting and Policy Choices for the NFIP

The Congress faces important policy choices about flood insurance that can be informed by the budgetary treatment of the NFIP. For example, as the Congress considers the program in light of the catastrophic hurricanes of 2005, it faces choices about whether to continue to provide subsidies to NFIP policyholders or to charge actuarially fair rates. Other policy choices include whether to try to recover the funds borrowed to pay for the claims from last fall's hurricanes, whether to expand the reach of the requirement to purchase flood insurance, and whether more should be done to reduce the nation's exposure to flood risks. Arguments can be made on either side of those issues, but they are ultimately policy decisions for the Congress.

To make informed decisions about the NFIP and the benefits that it provides, the Congress needs good information about the program's costs. FEMA's actuarial analysis, federal budget data, and CBO's baseline projections and cost estimates for legislation are various means of communicating such cost information. Currently, the federal budget displays the NFIP's financial results on a year-by-year cash basis, and CBO prepares baseline projections for the NFIP on that same basis, estimating the program's annual flows of funds. But because the NFIP is an insurance program, that budget presentation does not necessarily convey the government's exposure to risk over the long term.

Estimates of both the cash flows and long-term subsidies provide valuable perspectives on the NFIP, and, ultimately, the Congress needs both kinds of information. The relevant question about budgetary treatment—a question that can be asked not only about the flood insurance program but also about other federal insurance programs—is which of the two types of information is most useful to include in the budget. But the budgetary treatment can only inform the policy decisions; regardless of the presentation used, central questions such as whether, and to what extent, the government should subsidize flood insurance will remain.

Budgeting for Insurance Under Current Law

The federal budget records the transactions of the flood insurance program on a cash basis. Specifically, income from premiums and fees for policies in force is recorded as offsetting collections (negative outlays), and payments for flood insurance claims and administrative costs are recorded as outlays. Actual results for each year and the Administration's budget for the coming year appear in the budget on a cash basis. CBO's baseline projections currently reflect the agency's best estimate of net spending for the program—taking into account claims, other expenses, and collections of premiums—on a cash basis. In the short run, particularly for the current year, estimates reflect anticipated costs that are heavily influenced by events that have already occurred. As such, CBO's January 2006 baseline projects unprecedented levels of net spending in 2006 as claims from last fall's devastating hurricanes are settled.

Because CBO cannot estimate the timing or magnitude of future floods, projections for years beyond 2007 represent estimates of net spending based on past experience. Historically, the fund has ended most years with either a modest surplus (that is, net receipts) or modest net spending. On the basis of those results and the inherent unpredictability of major floods, CBO's estimate of the most likely amount of net spending for any particular future year, on a cash basis, is zero.

Zero is not the best estimate of the long-term costs of the program, however, because the program does not collect sufficient premiums to cover actuarially expected losses. As I noted earlier, on the basis of FEMA's data, CBO estimates that the subsidy built into the program totals \$1.3 billion annually. However, FEMA does not have sufficient borrowing authority to support net spending of \$1.3 billion in every year. So in the context of a cash budget, baseline projections must be consistent with that borrowing constraint, and, therefore, they cannot show the full estimated subsidy in all years.¹²

In short, cash-basis accounting for flood insurance has the advantage of being simple and of accurately recording past receipts and payments from the fund. But cash-based estimating does not provide an accurate picture of expected long-term costs for this program.

An Alternative Approach: Budgeting Subsidy Costs

To obtain better information about the cost of providing subsidized insurance, the Congress could specify changes to budget process law that would require CBO and the Administration to record spending and prepare projections for flood insurance on a noncash basis.¹³ The Federal Credit Reform Act specifies particular accounting treatments for federal credit programs that could serve as a model for an alternative approach for insurance programs. The analogy between the flood insurance program, which provides year-to-year policies, and credit programs that offer long-term loans or loan guarantees is not perfect; but the credit reform approach of trying to capture expected costs may be a useful model to consider for the budgetary treatment of the NFIP. The approach would require that the cost of subsidizing flood insurance be recorded each year. Under that approach, CBO and the Administration would estimate the projected premiums and costs, and the expected net losses (or gains) would appear as outlays (or collections) in the budget and would be reflected in projections of the budget deficit.

12. The existence of the borrowing limit also may influence the budgetary impact of proposals to change the NFIP. The program is currently estimated to owe about \$5 billion more in claims than it has the legal authority to pay (by borrowing from the Treasury)—implying that new collections of premiums or fees might have to be used to pay some of the outstanding claims, not to reduce the deficit.

13. Most procedures that specify how to construct baseline and legislative estimates are contained in the Balanced Budget and Emergency Deficit Control Act and the Congressional Budget and Impoundment Control Act.

Specifically, the budget would record estimates of actuarial imbalances when coverage was sold.¹⁴ Under that type of treatment, historical results and baseline projections for the program would show net spending equal to an estimate of the subsidy—currently \$1.3 billion—in every year that the program was assumed to operate. That estimate would generally not be updated at the end of the fiscal year to reflect actual net spending. A reestimate would be made only if the year’s experience provided evidence that the distribution of possible flood events was different from what was previously thought. In such cases, the budget would record reestimates of the subsidy that reflected changes in estimates of actuarial costs. In years without such reestimates, the budget would record net spending equal to the estimated subsidy. The actual cash flows would be tracked separately in a nonbudgetary account.

Adopting a subsidy-cost basis for presenting the NFIP in the budget offers the primary advantage of providing a clear display of the average expected cost of the program. It also offers the prospect of more explicit Congressional control of the program’s cost.

Such an approach has some disadvantages, however. Perhaps most important is the intrinsic difficulty in projecting future insured losses from catastrophic floods. Correspondingly, a subsidy-cost treatment of the NFIP does not reflect the fact that borrowing authority would still be needed to pay losses during some catastrophic years even if subsidies were eliminated. In addition, a subsidy-cost approach could result in reestimates if significant new information about flood risks was acquired. Finally, the analytical complexities of subsidy-cost accounting for flood insurance would create new demands on the budget process.

14. Incorporating estimates of the actuarial subsidy in budget presentations would not in itself account for the cost of risk to taxpayers. Even under actuarially fair rates, the NFIP would transfer risk from policyholders to the federal government and ultimately to taxpayers. The cost of that risk can be interpreted as the amount that private reinsurers in a competitive market would charge to assume it.