When people have gotten past the emergency of Hurricane Harvey, thoughts will turn to rebuilding. That requires money. Some of it may come in direct grants from the federal government, but flood insurance is the core source of funding for many people. Private insurance policies generally exclude flooding, so the main source is the National Flood Insurance Program (NFIP). NFIP has in some ways been a very successful program, but it also has serious difficulties. It's up for congressional reauthorization right now, and even before Hurricane Harvey the reauthorization effort was mired in controversy.

NFIP was an effort to overcome a persistent problem with disaster relief. If people know they can get free help after a disaster, they have less incentive to avoid danger — for instance, by elevating structure on stilts or building outside of flood zones. NFIP makes flood insurance available before the fact, but it ties the availability to risk mitigation by local communities through zoning and building codes. Moreover, to the extent insurance rates reflect risk levels, there is a financial incentive to avoid building in risky areas. But rates for some landowners are subsidized, or people fail to buy insurance, undermining the financial incentives. In Harris County, which includes Houston, only 15% of homeowners have flood insurance. Thus, the many will have to depend on some form of government assistance or loans, or else simply swallow their losses.

The insurance system is dysfunctional in another way as well. Rates are supposed to be market-based, but owners of existing structures were grandfathered into the program at subsidized rates. This allowed some owners to repeatedly rebuild structures that were destroyed in multiple floods. Politico reports one especially egregious case, "a home that had flooded 16 times in 18 years, netting its owners more than \$800,000 even though it was valued at less than \$115,000." Houston ranks second in the nation in terms of these "repetitive loss" properties. Even the market rates are often off the mark, and government flood maps are often out of date. A 2012 law phased-out the use of obsolete maps, but it turned out that Congress just couldn't pull the trigger. Faced by landowner complaints about rapidly escalating insurance rates, Congress passed relief legislation in 2014. Basically, Congress retreated from eliminating subsidies and instead financed the cost of the subsidies by a flat fee on all holders of flood insurance. So much for the incentive to take precautions. In short, the government continues to subsidize people living in high risk areas.

Insurance for major disaster events presents inherent problems. The first is that insurance is sold on an annual basis. There are many years when no major disaster occurs, so unless the insurer can charge high enough rates to build a reserve, it will be caught short during disaster years. Yet if it charges enough to cover big disasters like Katrina, people may drop overage. So even the "market rates" may be set too low to cover catastrophic loss. In 2014,

the Congressional Budget Office found that on average premiums were only half of the actuarily sound level, with 20% of properties subsidized.

Last year, the program had to borrow another \$1.6 billion, bringing its debt up to almost \$25 billion. The program nets less than a \$1 billion per year in premium income. If Harvey turns out to be a \$30-100 billion event, as some are predicting, the program will require a massive government bailout even though not all of the damage will be covered by insurance.

In January, Representative Jeb Hensarling announced plans to reform the system and calls for "a competitive, innovative and sustainable flood insurance market that gives consumers real choices." The reauthorization effort has split Congress on lines that often have more to do with geography than partisanship. According to Politico,

"Coastal state Republicans are bucking members of their own party and teaming up with Democrats as lawmakers struggle to salvage an agreement to keep the National Flood Insurance Program alive."

"Dozens of Republicans from New York to Mississippi have fought proposals by the House Financial Services Committee that they say would make flood insurance unaffordable. A member of the House leadership, Rep. Steve Scalise of Louisiana, is among those uneasy with the panel's plans. And in the Senate, Republicans are joining with Democrats to find a deal before the program lapses at the end of next month."

The dispute seems to be mostly along somewhat similar lines to the past: whether to protect grandfathered property and continue to subsidize development in flood-prone areas, or whether to eliminate the perverse incentives created by the system at the expense of harming landowners. Harvey may shift the dynamics again, putting more pressure on Congress to act, but at the same time, raising a big budgetary question. Hensarling is a dyed-in-the-wool small-government conservative. But his district stretches from Dallas about halfway to Houston, putting it on the fringes of the expected impact area of Harvey. We'll see how keenly he feels about cutting back the federal flood insurance program now.