

**EXAMINING THE ROLE OF GOVERNMENT
ASSISTANCE FOR DISASTER VICTIMS:
A REVIEW OF H.R. 3042**

HEARING
BEFORE THE
SUBCOMMITTEE ON ECONOMIC GROWTH,
TAX AND CAPITAL ACCESS
OF THE
COMMITTEE ON SMALL BUSINESS
UNITED STATES
HOUSE OF REPRESENTATIVES
ONE HUNDRED TWELFTH CONGRESS

SECOND SESSION

HEARING HELD
FEBRUARY 16, 2012



Small Business Committee Document Number 112-055
Available via the GPO Website: www.fdsys.gov/house

U.S. GOVERNMENT PRINTING OFFICE

76-463

WASHINGTON : 2012

For sale by the Superintendent of Documents, U.S. Government Printing Office
Internet: bookstore.gpo.gov Phone: toll free (866) 512-1800; DC area (202) 512-1800
Fax: (202) 512-2104 Mail: Stop IDCC, Washington, DC 20402-0001

HOUSE COMMITTEE ON SMALL BUSINESS

SAM GRAVES, Missouri, *Chairman*
ROSCOE BARTLETT, Maryland
STEVE CHABOT, Ohio
STEVE KING, Iowa
MIKE COFFMAN, Colorado
MICK MULVANEY, South Carolina
SCOTT TIPTON, Colorado
JEFF LANDRY, Louisiana
JAIME HERRERA BEUTLER, Washington
ALLEN WEST, Florida
RENEE ELLMERS, North Carolina
JOE WALSH, Illinois
LOU BARLETTA, Pennsylvania
RICHARD HANNA, New York
ROBERT SCHILLING, Illinois
NYDIA VELÁZQUEZ, New York, *Ranking Member*
KURT SCHRADER, Oregon
MARK CRITZ, Pennsylvania
JASON ALTMIRE, Pennsylvania
YVETTE CLARKE, New York
JUDY CHU, California
DAVID CICILLINE, Rhode Island
CEDRIC RICHMOND, Louisiana
JANICE HAHN, California
GARY PETERS, Michigan
BILL OWENS, New York
BILL KEATING, Massachusetts

LORI SALLEY, *Staff Director*
PAUL SASS, *Deputy Staff Director*
BARRY PINELES, *Chief Counsel*
MICHAEL DAY, *Minority Staff Director*

CONTENTS

OPENING STATEMENTS

Hon. Joe Walsh	Page 1
Hon. Kurt Schrader	2

WITNESSES

Doug Hoell, Director, North Carolina Division of Emergency Management, Raleigh, N.C	3
Gene Tighe, Owner, GT Fabrication, Inc., Pittston, PA	5
Howard Kunreuther, Ph.D., James G. Dinan Professor of Decision Sciences & Public Policy, Co-Director Risk Management and Decision Processes Cen- ter, University of Pennsylvania, Philadelphia, PA	8
David B. Muhlhausen, Ph.D., Research Fellow in Empirical Policy Analysis, The Heritage Foundation, Washington, DC	10

APPENDIX

Prepared Statements:	
Doug Hoell, Director, North Carolina Division of Emergency Manage- ment, Raleigh, N.C	22
Gene Tighe, Owner, GT Fabrication, Inc., Pittston, PA	28
Howard Kunreuther, Ph.D., James G. Dinan Professor of Decision Sciences & Public Policy, Co-Director Risk Management and Decision Processes Center, University of Pennsylvania, Philadelphia, PA	31
David B. Muhlhausen, Ph.D., Research Fellow in Empirical Policy Anal- ysis, The Heritage Foundation, Washington DC	38
Questions for the Record:	
None	
Answers for the Record:	
None	
Additional Materials for the Record:	
"Redesigning Flood Insurance," by Erwann Michel-Kerjan and Howard Kunreuther	45
"People Get Ready: Disaster Preparedness," by Howard Kunreuther and Erwann Michel-Kerjan	46

EXAMINING THE ROLE OF GOVERNMENT ASSISTANCE FOR DISASTER VICTIMS: A REVIEW OF H.R. 3042

THURSDAY, FEBRUARY 16, 2012

HOUSE OF REPRESENTATIVES,
COMMITTEE ON SMALL BUSINESS,
SUBCOMMITTEE ON ECONOMIC GROWTH,
TAX AND CAPITAL ACCESS,
Washington, DC.

The Committee met, pursuant to call, at 10 a.m., in room 2360, Rayburn House Office Building. Hon. Joe Walsh (chairman of the subcommittee) presiding.

Present: Representatives Walsh, Barletta, Chabot, and Schrader.

Chairman WALSH. Good morning, everyone. Welcome. I call this hearing of the Committee on Small Business, Subcommittee on Economic Growth and Access to Capital to Order.

I would like to thank all of our witnesses for being here today. We look forward to your testimony. Let me give just a very brief opening statement.

How to help our fellow citizens in their time of need is one of the most important questions we deal with as a society and as it relates to government. In the aftermath of a disaster, when a storm takes everything you have, the true test of resiliency is revealed. After a storm, homeowners and businesses grab a broom, a power washer, a chainsaw, and get to work trying to rebuild their lives. To do this disaster victims need money to rent a generator and purchase construction supplies. One thing they do not need is endless paperwork delays and confusing directions on how to obtain assistance.

Under the current system, both state and federal resources are mobilized to respond to a disaster where they work hand-in-hand to conduct search and rescue operations, offer immediate food and shelter needs, and long-term rebuilding assistance. To help rebuild, the government offers both subsidized and unsubsidized financial assistance. This allows our neighbors access to funds when they need it most.

Today we are here to try to answer a couple important questions. Is this assistance appropriate? And if so, how can it be given most effectively? How do we balance the American ideal of self-reliance with the practice of we as taxpayers paying to ensure the extra resources are available for those trying to rebuild.

To help us answer these questions we have a distinguished panel of witnesses here today. These witnesses will inform us about their

experience in the aftermath of a disaster and provide their thoughts about the proper role of government. I look forward to this discussion today and I now yield to the ranking member for his opening statement.

Mr. SCHRADER. Thank you, Mr. Chairman.

In today's era of modern technology and all the comforts we enjoy we sometimes think we are beyond Mother Nature's reach and we get reminded again and again, whether it is Katrina or Irene, that indeed Mother Nature can make a huge difference in each and every one of our lives. This disaster, Hurricane Irene, of course, started down in North Carolina, came all the way up the coast through New York and into New England causing unprecedented amounts of damage to people's homes and America's small businesses. The recovery tools that we have at our disposal in SBA for small businesses and homeowners are only effective if our agency utilizes them correctly. In the wake of Irene, the SBA deployed 398 disaster assistance workers to staff 160 recovery centers all up and down the Eastern seaboard.

As of the beginning of this month, SBA issued over 183,000 loan applications and already approved 8,000 loans, totaling over \$200 million. Most of these loans were processed within the agency's target timeframe of 10 days or less. And that was a big improvement over Hurricane Katrina. And while the response I think was a step in the right direction, we also have some improvements that need to happen. For the victims of Irene only one out of every three applications for assistance was approved. That is lower than the Hurricane Katrina rate of 51 percent. It is also about half of the agency's historical approval rate so we would like to understand that. And despite the fact this disaster happened over eight months ago, only 60 percent of the funds that have been allocated have actually been dispersed. So that amounts to about \$77 million of actual assistance that has found its way into the pockets of disaster victims so far.

So these figures do suggest we need some reforms. We look forward to hearing from the panel about what form those should take. It is, I think, for those reasons that H.R. 3042, the Disaster Loan Fairness Act has been introduced. It is hopefully going to address some of the shortcomings that we have identified so far. We will play off of what we hear today from our witnesses about any other improvements that need to happen. And I think it is just really bottom-line important to understand that it is the small businesses that are job creators here for our country right now. The Northeast and Eastern seaboard are a big part of this great country's job creation machine that we want to get back on track, and a lot of businesses, you know, 40, 60 percent of them do not recover after a disaster in the small business area. So we really need to make sure these programs work. Between Katrina and Irene, unfortunately we have gotten some great lessons to hopefully learn from. We do not want to learn away again in a bad way. I am looking forward to hearing this hearing help us understand things a little bit better.

And with that I yield back, Mr. Chair.

Chairman WALSH. Thank you, Mr. Schrader.

I understand that there is a request for Mr. Barletta from Pennsylvania, a member of the Small Business Committee, to join us for today's Subcommittee hearing. If that is okay with the ranking member, welcome, Mr. Barletta.

Let me just quickly go over the rules for our witnesses. If any of the other committee members have an opening statement prepared I ask that it be submitted for the record. You will each have about five minutes to deliver your testimony. The light will start out as green. When you have one minute remaining the light will turn yellow, and finally it will turn red at the end of your five minutes. Do your best to keep it within that five minutes.

STATEMENTS OF DOUG HOELL, DIRECTOR, NORTH CAROLINA DIVISION OF EMERGENCY MANAGEMENT, TESTIFYING ON BEHALF OF NATIONAL EMERGENCY MANAGEMENT ASSOCIATION; GENE TIGHE, OWNER, GT FABRICATION, INC.; HOWARD KUNREUTHER, PROFESSOR, WHARTON SCHOOL, UNIVERSITY OF PENNSYLVANIA; DAVID B. MUHLHAUSEN, PH.D., RESEARCH FELLOW IN EMPIRICAL POLICY ANALYSIS, THE HERITAGE FOUNDATION

Chairman WALSH. Let me introduce our first witness today, Doug Hoell, director of the North Carolina Division of Emergency Management. In this position Doug is responsible for disaster response for the state of North Carolina. Doug began his career in emergency management in 1976 and worked for the Raleigh Wake County Emergency Preparedness, the North Carolina Division of Emergency Management and FEMA. Doug became assistant director of the North Carolina Division of Emergency Management in 1998 and director in 2005. Mr. Hoell is testifying on behalf of the National Emergency Managers Association. Welcome. I look forward to your testimony.

STATEMENT OF DOUG HOELL

Mr. HOELL. Thank you, Chairman Walsh. Good morning to all of you. And thank you Ranking Member Schrader for the opportunity to talk and to all the distinguished members of the Committee or the Subcommittee.

My name is Doug Hoell. I am director of the North Carolina Division of Emergency Management, and again, thank you for the opportunity to present testimony today on behalf of the National Emergency Management Association.

NEMA represents the state emergency management directors of all 50 states, the District of Columbia, and the U.S. territories. I have included my full statement for the record, so I will give you a quick overview now and look forward to answering your questions.

While not a traditional first responder agency, the Small Business Administration is a critical partner to states and localities affected by a wide variety of disasters. Following a disaster, Small Business Administration has the capability to mobilize staff from the Office of Disaster Assistance to begin disseminating public information about what services the SBA can provide to supplement many long-term federal recovery programs.

While a major disaster declaration is awarded by the president, affected citizens begin the registration and eligibility determination process through FEMA. The entry point to FEMA assistance is through FEMA's individual assistance program. The first step in that process is to have the applicant complete an application for a Small Business Administration loan. An applicant may have insurance, but it may not be enough to return them to their pre-disaster standard of living. Often, citizens encounter damages and devastation from disasters which are ineligible under FEMA disaster recovery programs. SBA loans can help return a damaged home to its pre-disaster condition, including implementation of mitigation measures.

Following Hurricane Irene last year in North Carolina, SBA loaned more than \$43 million to eligible North Carolina citizens. Due to the importance of small business in a local community, SBA's Economic Injury Disaster Loan is a program that supports the whole community approach to disaster recovery. The Economic Injury Disaster Loan affords business owners continuity of operations by loaning to eligible businesses the funds to meet their ongoing obligations and to pay ordinary and necessary operating expenses.

SBA was a critical resource in the state of North Carolina when a landslide on U.S. Highway 129 impeded traffic and prevented the day-to-day operations of business owners between North Carolina and Tennessee. The Economic Injury Disaster Loan Declaration made it possible for the businesses in both states to continue critical trade and accessibility functions. Programs designed to help disaster survivors are useless unless citizens understand the options available to them. SBA does a considerable amount of work in communities around the country, making personal contacts with Chambers of Commerce, with congressional offices, with state and local elected officials, with business organizations, and with community groups. SBA and state agency public information officers develop press releases announcing availability of disaster loans in affected areas.

Media outlets are also informed of the declaration, and they are enlisted to alert the affected citizens to every opportunity to seek and receive assistance for their disaster recovery. In testimony given by the General Accounting Office before this Committee back in November 2011, William Shear referenced steps SBA continues to take to improve their marketing and outreach efforts. We look forward to continuing dialogue with SBA and are encouraged by their increased attention to the needs of individuals and communities.

As a profession, emergency management stakeholders have focused a great deal on partnerships, which help us achieve a resilient and sustainable nation. FEMA administrator Craig Fugate has stressed the importance of the whole of community, and FEMA's position as a member of a much larger team to support the response and recovery to all hazards. There is no doubt that the SBA Office of Disaster Assistance is a vital member of the emergency management team, and we value their contributions to our communities. The continued challenge of protecting the nation from a variety of hazards within the reality of fiscal uncertainty elevates the

importance of cooperation throughout the emergency management community and makes leveraging resources from across the federal family even more critical. Positive relationships between federal, state, and local government stakeholders are the lynchpin to coordinated recovery efforts supporting resilient individuals, prosperous businesses, and thriving economies.

Thank you for the opportunity to testify today and your continued attention to disaster assistance matters under your purview. Your attention and leadership in this matter are greatly appreciated, and NEMA remains a ready resource for the Committee as you tackle tough issues of recovery from disasters.

Chairman WALSH. Perfect timing, Mr. Hoell. Thank you for your testimony.

Mr. HOELL. You are welcome.

Chairman WALSH. I would now like to yield to Mr. Barletta from Pennsylvania to introduce our next witness.

Mr. BARLETTA. Thank you, Mr. Chairman. And thank you for allowing me to participate today.

I am pleased to welcome Mr. Gene Tighe, a constituent and small business owner from Pittstown, Pennsylvania. Mr. Tighe manages sales for his family business, GT Fabrication, Inc., a precision metal fabricating business serving clients around the United States. His family has run the company for over two decades and I am proud to say they have a reputation for reliability, precision, quality, and competitiveness throughout the entire industry. Despite strong competition from abroad, this American owned and operated business continues to serve our citizens despite the tough economic climate and the devastating flooding that ravaged Pennsylvania and the Northeast. I am glad Mr. Tighe accepted the Committee's invitation to hear what his family and company went through in order to reopen after the flooding. His testimony will contribute to the debate over the role of the federal government in providing disaster relief to our nation's citizens when they are most vulnerable.

Thank you, Mr. Tighe.

STATEMENT OF GENE TIGHE

Mr. TIGHE. Thank you. Mr. Chairman, Ranking Member Schrader, thank you for inviting me here today to tell my story about the flood caused by Tropical Storm Lee.

My name is Gene O. Tighe. I manage sales for our family business, GT Fabrication, Inc., a precision metal fabricating and powder coating business. My parents, Gene and Debbie Tighe, started the company more than 20 years ago. My sister Tracey and I have joined the family operation.

Our company has had its ups and downs. We supplied large clients, like Pride Mobility. However, like so many other manufacturers, we lost many of our main customers to overseas competitors. We have not given up; we have adapted. We widened our customer base and produced more products in new industries. Our family business has survived many hurdles, but most recently natural disaster threatened to close our doors.

My story begins on September 7, 2011, at 2 in the afternoon. Projections showed the Susquehanna River would rise to 35 feet by 3

p.m. the next day. Just two hours later, predictions changed, bumping it up to 38 feet by 3 o'clock. My family and our employees immediately knew our company would face heavy damages because our building is located 100 yards away from the Susquehanna River in Pittstown, Pennsylvania.

We have been flooded before. We knew that this time we could not move some of our equipment. We had six machines in the excess of 25,000 pounds, so we started moving smaller equipment, materials, computers, and files. We worked through the night to move materials up to our back building. When our back building was built four feet higher because of past floods, we stored materials on pallet racking to try to keep them out of harm's way. After working through the night, by September 8th at 8 a.m., the water crept into our parking lot. By 9 a.m., we had a foot of water in our downstairs building. We did all we possibly could do and exited the facility. Water levels were rising at a breakneck speed.

In four previous floods, the river has never risen so quickly. Millions of dollars of equipment left in the building and we knew we were in trouble. Despite paying \$15,000 for flood insurance every year, we knew we could only expect to collect a maximum half million dollars in contents and a half million dollars in building damages. By the time the Susquehanna River crested at 1 a.m., September 9th, all I could see of GT Fabrication was the very top of our building.

My family and I were devastated. Our 30 employees were devastated. We did not know if our family business could survive this, and that is a horrible feeling. The watermark on GT Fabrication's building was recorded at 15 feet. On our back building, which was raised 4 feet to serve as a precaution against flooding, the watermark was recorded at 9 feet.

On September 10th, almost two days after flooding began, the water finally receded to 12 inches. I was the first one to enter the building to see the damage. As soon as I got into the building my heart sank. The destruction that the flood caused was by far the worst it has ever been. I really could not believe what I was seeing. Simply put, it looked like a bomb went off.

My family, friends, and several of our employees were waiting outside for me to tell them the news. All I could say to them was it is bad but we will bounce back. But they had no idea. I pulled my father aside to warn him that we had a lot of work ahead of us if we wanted to stay in business. I could see defeat in his eyes. The successful business he had built from the ground up was wiped out just like that. The next day we did the only thing we knew to do; we got to work. We ordered three 40-yard trash hoppers, a three-phase generator, power washers, brooms. We spent tens of thousands of dollars to start the cleanup process. We had the dry gut clean both buildings but almost everything was destroyed.

At the exact same time we also had to do damage control with our customers. We had to outsource all of our work to finish our pending orders. We set our customers up with our other vendors, our competitors, until GT Fabrication could get back on its feet. Additionally, I knew that we desperately needed financial help because we were not doing any business and we were draining the company's funds on cleanup efforts.

I spoke to a Small Business Administration Disaster representative, who told me to quickly complete the application for a disaster loan. As soon as I could fill out the documents I brought the paperwork to the SBA Disaster Response site. The SBA staff looked it over and told me I was missing a few documents. I immediately brought the missing documents back down to the disaster site. The SBA official even complimented me on my thorough completion of the application.

We had to throw almost \$1 million worth of supplies and demolish the inside lobby and office. After almost three weeks of back-breaking cleaning, an SBA inspector visited GT Fabrication to assess the damages and take pictures. A few days after the inspector's visit we received an SBA Disaster Assistance packet which stated they wanted us to provide monthly sales figures for the past three years. Additionally, SBA noted that they again needed Tax Form 8821. More than a month after filling our original application out, we received an SBA loan request to complete Tax Form 8821 for the third time. This time we included a letter stating we had completed this document twice previously. When you are in disaster mode working 15 hours a day, 7 days a week to save your family business, you do not have time to fill out all this paperwork, especially after many of our records were destroyed by 15 feet of water during the flood. Regardless, we provided the SBA with information that they needed as quickly as possible. It actually seemed as though the SBA was trying to purposefully discourage us from applying for an SBA loan.

We had to find something else in the meantime. GT Fabrication was fully not back to business and we had not yet received an SBA loan. The company bank account was running dry. Then, Pennsylvania state senator, Senator Yudichak called us to tell us about the Luzerne County Flood Recovery Loan Program. This is a \$4 million low interest loan program that had a borrowing limit of \$100,000. The program applies a 1 percent interest rate with no borrower's fee. This quick, easy loan saved GT Fabrication by providing us an infusion of cash that we so desperately needed.

Today, GT Fabrication is back in business, though we are only operating at 70 percent. I have been able to get almost two-thirds of my employees back to work. We look forward to getting back to 100 percent and growing our business so we can do our part in turning around our local, state, and national economy. It is my belief that small businesses like ours will add jobs to the U.S. economy, but I am disappointed that the federal government has not provided more effective assistance to small businesses at this time of greatest need. Our experience was marked by bureaucratic red tape and an ineffective disaster loan program.

The City of Pittstown has been very helpful retaining consultants to help us relocate to a larger facility and a safe distance from the river, and Luzerne County provided us the loan that saved our business. But sadly, the federal government, in my view, failed. I hope that my story can shed some light on the problems that other small businesses face.

I want to thank the members of this Committee, particularly Congressman Barletta, for working to improve the effectiveness of

the SBA Loan Programs. Thank you again for the opportunity to be here today, and I will be happy to answer any questions.

Chairman WALSH. Thank you, Mr. Tighe. Thank you for that powerful, powerful testimony.

I would now like to recognize Ranking Member Schrader, who is going to introduce our next witness.

Mr. SCHRADER. Thank you, Mr. Chairman.

Howard Kunreuther, James G. Dinan Professor of Decision Sciences and Public Policy at Wharton School, University of Pennsylvania. In addition to his research, writing, and teaching, he has also been co-director of the Wharton Risk Management Decision Process Center, where he works on improving the roles of public and private sectors in reducing losses from natural disasters and aiding the recovery process following a catastrophic disaster. Thank you for joining us.

STATEMENT OF HOWARD KUNREUTHER

Mr. KUNREUTHER. Thank you very much, Representative Schrader and Chairman Walsh, and other members of the Committee.

I appreciate the invitation to testify here on this particular bill. And I do want to make a point right at the outset that I am very sympathetic to what Mr. Tighe has said with respect to the challenges and problems that he faced. But I want to raise really three points in my testimony.

The first is why is the proposed legislation to extend SBA disaster loans at 1 percent to cover both disaster losses and other outstanding debts likely to increase future losses from natural disasters? Second, can we utilize mechanisms, like insurance, coupled with other policy tools, to reduce future losses so that the SBA can play a secondary role in providing funds for disaster recovery? And there is no question SBA may have a role to play. Third, how can the National Flood Insurance Program, which is now up for renewal and discussion, be modified so as to set a tone as to ways that the public and private sectors can work together to reduce losses from floods and other disasters like storm surge from hurricanes?

So those are the three points I would like to emphasize.

Let me talk about the first point and raise two issues. Dr. Muhlhausen may be saying more about one of them.

With respect to the SBA provision of 1 percent loan, it creates a moral hazard problem in the following sense. It encourages people to locate their home and businesses in hazard prone areas while at the same time reducing the economic incentive to purchase insurance and invest in mitigation measures prior to a disaster. So we have to be aware of the fact that if you are going to get very low interest loans people may say I do not need to be protected.

The proposed program also has the potential of creating a situation where people actually may be better off after the disaster than before financially. If you receive a 1 percent loan for retiring your old debts as well as your disaster losses, the actual payments would be lower than they were before the disaster if you had previous SBA loans. I have an example in my testimony to highlight this point.

Let me turn to the second point on the role of insurance and other policy tools to reduce future losses. Insurance has three basic purposes that it can actually aid in this process. One is it provides a signal of risk to individuals and firms in their current location. If you have premiums that reflect risk, then you will actually be able to know whether or not you have a very severe hazard. Second, it will encourage property owners to invest in loss reducing measures. If you can get a premium discount—because you should if you invest in something that reduces your losses—then you may be in a position where you will be encouraged to do so. And the third point is insurance supports economic resiliency. Insured individuals and firms can make a claim to obtain funds to help pay for the loss caused by the catastrophe. I recognize that the Flood Insurance Program may have to extend coverage limits.

Let me provide two guiding principles that have reflected our work in this area with respect to insurance. Principle No. 1 is that insurance premiums should reflect risk for the reasons that I have stated. So people have a signal of how hazardous it is and they will want to invest in mitigation measures. Principle No. 2 is just as important and it is called equity and affordability. When you have premiums that reflect risk, there may be people who need special treatment. They should not be given a subsidized insurance premium; they should be given an insurance voucher, like a food stamp. It enables one to still see what the premium is on the basis of the risk, and have an opportunity to obtain a premium discount if they invest in mitigation measures.

I would like to put forward a few ideas for the National Flood Insurance Program reform which have been discussed with Congress that would actually try to move in that direction. The first is multi-year insurance not tied to the individual but to the property because people cancel their policies if they turn out that they have not received a claim. It is hard to convince people that the best return on an insurance policy is no return at all. You should celebrate not having a loss.

The second point is we would want insurance vouchers for those needing special treatment. Third, you may want to consider required insurance for property owners because many people do not have policies. And the fourth point is multi-year loans for mitigation. If the mitigation measure to reduce the losses is a cost effective one, the actual cost of the loan may be actually less than the premium reduction one receives, so it will be financially attractive for people to invest in mitigation. And finally, well-enforced building codes. Having said all of that, there certainly will be a role that the SBA will have to play after a disaster, but the emphasis should be to place more attention on reducing these losses beforehand.

To conclude, our country has entered a new era of catastrophes. Our exposure is growing and the damage from disasters over the next few years is likely to be more devastating than what we experienced during this past decade. When the next catastrophe occurs, the federal government will very likely come to the rescue again. If the public's response to recent disasters is an indicator of their future behavior, new spending records will be spent with respect to federal assistance unless steps are taken to reduce future losses, and they should be undertaken now. And so with all due respect

to all of the challenges after a disaster I would like to at least argue that we better try to do more to prevent these losses from occurring.

Thank you very much.

Chairman WALSH. Thank you, Doctor.

Our final witness that I have the pleasure of introducing is Dr. Muhlhausen, research fellow in Empirical Policy Analysis at The Heritage Foundation here in town. Dr. Muhlhausen joined Heritage in 1999 after serving on the staff for the Senate Judiciary Committee. He holds a doctorate in Public Policy from the University of Maryland, Baltimore County, and a bachelor's degree in Political Science and Justice Studies from Frostburg State University. Dr. Muhlhausen is also an adjunct professor at George Mason University.

Welcome, sir. You have five minutes.

STATEMENT OF DAVID B. MUHLHAUSEN

Mr. MUHLHAUSEN. Thank you. My name is David Muhlhausen. I am a research fellow in Empirical Policy Analysis in the Center for Data Analysis at the Heritage Foundation. I thank Chairman Joe Walsh, Ranking Member Kurt Schrader, and the rest of the Committee for the opportunity to testify today on the Disaster Loan Fairness Act. The views I express in this testimony are my own and should not be construed as representing any official position of The Heritage Foundation.

After the president declares a major disaster, the Disaster Loan Fairness Act would set the interest rates for the Small Business Administration's Disaster Loan Program at 1 percent for eligible applicants. Unfortunately, as my testimony will illustrate, the Disaster Loan Fairness Act does not provide the necessary reform to our nation's disaster prevention and recovery programs.

My testimony focuses on three deficiencies of the legislation. First, by providing more generous benefits, the legislation does nothing to reduce the overreliance of state and local governments on the federal government for the provision of recovery assistance. Far too frequently the federal government has been the primary source of recovery efforts for natural disasters that are inherently localized in small geographic areas and do not rise to the level that should require action by the federal government. Increasingly, Americans are becoming overly dependent on federal assistance after natural disasters occur.

Further, disaster assistance appears to have become a political tool because the number of disaster declarations is significantly higher in election years compared to nonelection years. Since 1996, the year President Clinton sought reelection, the number of disaster declarations issued by FEMA dramatically increased. The chart in my written testimony demonstrates this trend. The previous record of the most declarations in a year was set by President Clinton in 1996 with 158 incidences. President Obama smashed this record with 242 declarations in 2011. Given that 2012 is a presidential election year, I doubt this record is going to last very long. Essentially, this trend is the result of disaster responses that were once entirely local in nature and handled by state and local

governments becoming nationalized and thus, the responsibility of the federal government.

Second, with out-of-control spending surging and public debt threatening our nation's stability, Disaster Loan Fairness Act increases federal spending. Instead of practicing fiscal constraint, the legislation does not reduce the cost of future disaster recoveries. Reform should be focused on preventative measures that limit the cost of disasters. Contrarily, this legislation puts the federal taxpayer on the hook for more spending.

Third, increasing the generosity of SBA disaster loans creates a moral hazard by providing greater encouragement for homeowners, renters, and businesses to avoid purchasing adequate disaster insurance because natural disasters are low probability events. Clearly, having adequate insurance before disasters occur is the responsible course of action. SBA disaster loans are intended to help applicants return their property to the same condition as before the disaster. The unintended consequence of this requirement is applicants are forced to rebuild in the same disaster-prone location. For example, instead of relocating out of a town sitting in a major flood zone, applicants are required to rebuild in the same exact location. Thus, applicants are still located in a high-risk area, preventing a long-term solution from taking place. While this dilemma exists with or without the passage of the Disaster Loan Fairness Act, the legislation only increases the incentive to rebuild in high-risk areas.

In conclusion, the Disaster Loan Fairness Act is neither fair to the federal taxpayer, nor an effective reform of our nation's disaster prevention recovery policies. Instead of considering this legislation, Congress should focus on reforms that will make American more resilient to disasters and reduce recovery costs imposed on the federal taxpayer.

That is all. Thank you.

Chairman WALSH. Thank you, Dr. Muhlhausen for your testimony.

Let me begin with just a couple questions. Mr. Hoell, Dr. Muhlhausen alluded to and as did Dr. Kunreuther alluded to the fact that federal government is seemingly taking more of the responsibility for disaster assistance away from the states. How would you respond to that? Good thing? Bad thing? And do you see the same sort of trend?

Mr. HOELL. I would say to you that there are criteria that we have to meet for a presidential disaster declaration under the Stafford Act. And so when we have disasters that affect the state of North Carolina, we look to those criteria. There is a certain per capital cost, you know, to the individuals in the state of North Carolina. Our threshold for public assistance, for example, is over \$10 million. And, you know, that is statewide. And then you have to meet the criteria on a county-by-county basis for a county to be declared. So that is on the public assistance side. On the individual assistance side more where the SBA would come to bear would be, you know, you have got to have numbers of people affected—businesses and people. And so again, I think that there are criteria that we have to meet.

I favor the mitigation efforts. I think mitigation is a good thing but I would tell you that the mitigation program, the way it is established is a very slow process and it takes us two or three years probably to buy properties or elevate properties and things of that nature.

Chairman WALSH. Has that criteria changed?

Mr. HOELL. The hazard mitigation criteria? Or the criteria for federal declaration? Yes, it has. In fact, the figures keep going up and they just changed this year and in fact, went up a little bit higher. I do not know exact numbers. I am certain we can get them for you if you like.

Chairman WALSH. Would you concur with Dr. Muhlhausen that the trend is toward much greater federal assistance?

Mr. KUNREUTHER. I think that is absolutely the case and I think that what Mr. Hoell indicated is an important direction one has to go. We really do have to encourage mitigation using the National Flood Insurance Program (NFIP) as a starting point. If you can reform the NFIP, mitigation can be a lot more attractive than it currently is. That is why the whole idea of long-term contracts, long-term multi-year insurance tied to the property, along with a multi-year loan, could change that situation radically so that people will then appreciate the fact that when they have a loan they do not have to necessarily pay the upfront cost. This is what discourages many homeowners from investing in mitigation. They will now know that they have a longer term payment and they will get something back in the context of an insurance premium. So it is in that direction that we would want to go. Then the SBA program would have a perspective that I think it does not have today. It is being used because people have not taken this action and everyone is then demanding assistance after the fact.

Chairman WALSH. Dr. Muhlhausen, expand briefly on this notion of overly dependent on disaster relief. Why is that? How does that play out?

Mr. MUHLHAUSEN. Well, I think there is a political benefit. I think after each natural disaster occurs, I think politicians, unfortunately, are upping the ante, wanting to provide more disaster assistance to outdo what was done previously. And so I think Americans have come to expect the federal government to act.

And I think Mr. Tighe's case is a case study that should be considered where state and local governments provide assistance to his business, not the federal government. And it sounds like his business is doing well and existing and is continuing and was relocated out of a flood plain. And if he did get an SBA disaster loan, would he have been allowed to relocate his business or would it still be sitting in the same area that was so prone to flooding?

And so I think that disaster assistance first must be local in nature based on state and local governments, and then only rise to the level of federal assistance when it overwhelms the capacity of state and local governments to handle the situation. And so I think there has definitely been a normative change when the Stafford Act has been declared by FEMA.

Chairman WALSH. Last question. Mr. Tighe, let us bring this to you. It is a fascinating policy discussion.

Mr. TIGHE. Yes.

Chairman WALSH. But you can bring this home like nobody else in this room.

Mr. TIGHE. Yes.

Chairman WALSH. Expand on what Dr. Muhlhausen said. I mean, is there—in your testimony you clearly expressed greater pleasure with the way that local and state reacted to you as opposed to federal. I mean, but as you now look back is there anything differently you would have or could have done?

Mr. TIGHE. At the time, I mean, if anybody has ever been through a disaster—we have actually been through four of them. By far this one was the worst. When you are in a disaster mode you really are not thinking about filling out paperwork and doing this and doing that, but also in the same breath you have to be very conscious of how much money you are pulling out of your bank account before you go below the zero line. You know, at the time I went to the local Chamber of Commerce. I spoke to a SBA disaster official. He told me to fill it out and get it in. You know, I was a little leery about the 6 percent loan but, you know, I said would it be good for me to just get in the system? He said absolutely. Get in the system and then, you know, if something happens down the road, you know, we will look at it.

My biggest problem with them was just the communication back and forth. You know, they have had me fill out the same documents four or five times. And then, you know, at the end of the day, you know, we were draining our bank account. I had to go somewhere else. The Luzerne County Flood Recovery Program, I mean, it was not enough money by far; it was very little but it did give us a quick infusion of cash. And we were able to get back in business. And like I said, we are not back in business by any means. Seventy percent, mostly powder coating and some manufacturing, but I have a million dollars worth of machines in that building and, you know, I have been trying to get relocated for years. And, you know, I just keep getting stonewalled. I mean, obviously I would like not to be flooded ever again. You know, we have a 35,000 square foot building with machines that weigh 25,000 pounds. You would have to give me two weeks to move that equipment. I need cranes to come in. I need riggers to come in. When I find out the day before that the river is going to flood, there is nothing I can do. My hands are tied.

So, I mean, you know, going forward I think, you know, the state did help us out but, you know, if I was able to get the SBA loan for a disaster, I mean, we are an established company. We have been in business for over 20 years.

Chairman WALSH. If you had gone to your local bank do you know what your interest rate would have been?

Mr. TIGHE. I do not know exactly but I think it would have been around the same.

Chairman WALSH. Okay. Great. Thank you.

Mr. Schrader.

Mr. SCHRADER. Thank you, Mr. Chairman.

Sorry about what happened to you. That is a business person's worst nightmare.

Mr. TIGHE. Thank you.

Mr. SCHRADER. Not being able to get out of that.

Mr. Hoell, given some of the comments from Mr. Tighe on this communication issue with SBA and having to fill the same forms out several times, can you comment on why that would even happen?

Mr. HOELL. You know, it is hard to say. The Small Business Administration has been a good partner with us and they have serviced a lot of people in the state of North Carolina. In fact, after Hurricane Irene, over 19,000 people made application to the Small Business Administration and received \$43 million in loans. So I cannot tell you that we have had a lot of difficulty with the paperwork process.

Mr. SCHRADER. If you were to have difficulty, is there a mechanism? You know, it is probably personality-driven in the real world. Do you have a mechanism? Does SBA to your knowledge have a mechanism to deal with that sort of thing so that if a person in the middle of a disaster says, "Man, I am filling this form out again," they can call someone or they can get somebody up the food chain, if you will?

Mr. HOELL. When we have a disaster there are community outreach people that work for the Federal Emergency Management Agency and SBA has people that also are out there in the community outreach to deal with people who are having difficulty. You know, but the challenge is, like Mr. Tighe says, he is busy trying to recover his business and he may not have the time to engage with them, you know, in more conversation or more paperwork that they have to deal with. But there are people who are trying to address the needs of the disaster victims out there.

Mr. SCHRADER. Not well enough.

Mr. Tighe, do you want to comment on that?

Mr. TIGHE. Yes. I actually talked to SBA field representatives. I have talked to SBA staff members. As a matter of fact, I went out of my way to talk to them and ask them why I was filling this 8821 Tax Form out so many times. And they could not answer the question.

And the same thing with I got a letter from them from Texas and, you know, it was postmarked for Monday. It was due back in their office on Sunday. Mail does not run on Sunday. Seven days I have got to get it. I asked the lady, you know, can you explain to me how I am supposed to do this? And she says—

Mr. SCHRADER. And why seven days?

Mr. TIGHE. Yes. Exactly. And she said, "I am sorry. That is just the way it is."

Mr. SCHRADER. All right.

Mr. TIGHE. So we kind of get straight answers. You know, they do not really want to get into it. And usually when you ask somebody else they say, well, I do not know.

Mr. SCHRADER. Yes. Ask the next guy.

Mr. TIGHE. Yes. Ask the next guy.

Mr. SCHRADER. Let us talk about the moral hazard issue. That is something I am concerned about and I think that, you know, what is the even proper role between SBA and flood insurance? I mean, SBA would be a super disaster assistance, when things go beyond the norm, and obviously our flood insurance programs are not doing what they should be doing and we do not want to give

a very low—we all on this panel are worried about our debt and deficit at the federal level and so we are very conscious about the cost of this particular piece of legislation potentially.

So what is the balance, if you will? I will be curious, both Dr. Kunreuther and Dr. Muhlhausen on what is the right balance? What is the role of the SBA versus flood insurance? What specific mitigation changes do we need to make in either program in your opinion to be more effective? And what is the magic interest rate that gets the right point to avoid moral hazard?

Mr. KUNREUTHER. Well, first I do want to say before I respond to that, the sympathetic aspect that we have for your particular position. And I think a lot of the work that we are doing is very much in the spirit of the question that you are raising. To the extent that one can take steps beforehand, even in the sense of having enough insurance so that you would be protected against the particular losses that one has, that is a very important element. The SBA may have to come in at the end of the day to provide disaster relief for those who need special treatment. And the question of the interest rate is an important one for people who can get credit and who may have enough income. You may want to have a different interest rate which is the current policy for ones who actually are in special need.

I think Representative Schrader, the question you are asking is the central one with respect to what has to be done. Where do you find mitigation coming into play? Where do you find insurance coming into play to avoid a number of problems that we are hearing from Mr. Tighe and from others who suffer these losses? If you can somehow make mitigation attractive enough, if you can do things that let people understand, let businesses understand and residents understand that there are very good reasons for doing this. The moral hazard problem is that victims are not going to get the kind of federal relief that would otherwise be forthcoming that Dr. Muhlhausen mentioned in his testimony and that we have lots of data to suggest. In a presidential election you know that moreso than at other times you are going to have an enormous amount of support. We all have sympathy after a disaster. As we are concerned about being in that situation.

So our feeling is that if you can take the steps beforehand, if you can recognize that insurance has a vital role to play in terms of letting people not only know about what the risk is but at the same time rewarding people for taking action to reduce their loss, then I think we can stem these losses from natural catastrophes.

The other point I would want to make is that the affordability issue is critically important here. So that having a voucher, like a food stamp, that is designated for insurance, for people in special need is central to making this work for political reasons and for equity and efficiency reasons. Let me give you just two examples.

The first is that if you have a better flood map or you find a dam or levee is decommissioned, there is a resistance to these changes by Congress because they feel their constituents will have to pay higher premiums. We would say let everyone know what the insurance premium is that reflects the risk, but give these individuals an insurance voucher to recognize that now you are increasing their premiums. The voucher could be decreased over time but at

least these communities will have better flood maps and a better notion of what the risk is. The same thing would happen with low income people, if Congress raises the flood insurance premium to reflect the risk, one needs a voucher for special treatment.

The last point I will make on the mitigation side. If you have a voucher and a person still invests in a mitigation measure, they still should get a premium discount. Just because they have a voucher, there is no reason why they should not be rewarded for reducing the losses. The voucher was given for equity and affordability. If at that point a homeowner or a business says we still want to mitigate, there is every reason to want to reward it with a premium discount and with a long-term loan to encourage it. So it is on those directions that we believe you can address the moral hazard problem in a way that will be effective from the point of view of businesses like Mr. Tighe's and homeowners who are living in these hazard prone areas.

Mr. MUHLHAUSEN. I think Professor Kunreuther's policy ideas are very encouraging and I think they need to be looked into at a much greater depth. Right now I cannot sign off on them but I am very enthusiastic about exploring his ideas more and working with him in the future.

What I do think is that premiums should reflect risk. And this means that there should be regulatory reform on the federal and state level. And that is one of the first steps to get us to a solution. For affordability, I think some of these affordability solutions such as these vouchers would be best worked at the local level since most disasters are inherently occurring in small geographic areas. They are localized and can be best dealt with in the first place by state and local governments. And I think they best know their needs and maybe the states can set up their own voucher programs. And whether or not there will be another layer with the federal government providing such assistance is something that may be explored. But I think on a fundamental level I think these solutions need to come from the ground up before they come from the top down from the federal government.

Mr. SCHRADER. Thank you.

Chairman WALSH. Quickly.

Mr. KUNREUTHER. I am very sympathetic to what Dr. Muhlhausen said except that since the Flood Insurance Program since it is a national program. Vouchers may have to come from FEMA or some government organization. So that would be the one exception.

Chairman WALSH. Thank you. Let me turn to Mr. Barletta.

Mr. BARLETTA. Thank you very much.

Let me just go back for a few moments and tell you what I experienced during this latest flood, Hurricane Irene, and Tropical Storm Lee, which was really a double-barrel disaster to our area. As I traveled throughout my district, I went from community to community, walked the streets, and it was the same scene everywhere I went. Mr. Tighe's story here is very familiar but it was even further than that actually. I watched as—I stood on porches and watched grown men cry. Literally cry. I have had senior citizens tell me that they are not going back into their homes again. I have had businesses telling me we are going to collect the insur-

ance and we are done. We are not going back into business again. We are not going to go through this again. We cannot do this anymore.

See, in my part of the state, in Pennsylvania, in Northeastern Pennsylvania, we have the highest unemployment rate in the state. And it sounds good here in Washington in this beautiful building to say, well, Mr. Tighe, just move. Go somewhere else. And when he does, what happens to the people that worked there in our area that already is experiencing a high unemployment? What happens to their jobs? What is the cost to the economy if he takes your advice and he goes somewhere far away so this does not happen again? Does that help or does that hurt?

I have a couple questions. If you can look at those photos over there, that is much what I saw throughout my entire district. Now, I certainly do not believe that these people would move into an area like this so that they could take advantage of some government loan program that we are going to be offering. But I want to ask. The question is, Dr. Muhlhausen, do you believe that helping those folk would be politically motivating?

Mr. MUHLHAUSEN. I think upping the ante, making sure that federal assistance becomes more generous throughout the year is politically motivated.

Mr. BARLETTA. No, I am asking, these folk right here, these are real people. These are real people. So do you think us coming in to help them is politically motivated? That I would say maybe these people would vote for me if I came and gave them help? Do you think that enters anybody's mind? When you are witnessing people carrying their life's possessions to the sidewalk to be hauled away—their memories, their pictures, memorabilia, things that have been given to them from generation to generation—do you actually believe that when you walk those streets that those folks—that political motivation would be the reason for trying to help them?

Mr. MUHLHAUSEN. No, I think there are people who come out of the woodwork to help their neighbors. I think that is good. I think local politicians, local programs can provide assistance. But I think the fact that we see that there is an uptick, a statistically significant increase in presidential disaster declarations during an election year, we know that some of this assistance is politically motivated. It is empirically demonstrated.

Mr. BARLETTA. I am not talking about—this was not an election year. What about these folks?

Mr. MUHLHAUSEN. Well, I am sure we can always help them out and that is good.

Mr. BARLETTA. Yes. Here is how we will help them out. Let me tell you how we will help them out. If you can get—you have a business and you can get credit somewhere else, this is what the United States will do and this is what SBA will do. We will help you out. If you can get credit somewhere else we will offer you a 6 percent loan. Now, you ask the question is the Disaster Loan Fairness Act fair to the taxpayers? Well, let me ask you. Do you think this is fair to the American taxpayers? In the last two years we gave Pakistan—Pakistan—\$215 million for flood disaster relief. Did we insist that Pakistan—did we require them to have mitiga-

tion first before we use American tax dollars? Did we ask them do they have insurance before we give American tax dollars? Do you know what interest they are paying? Not 6 percent like we would have offered Mr. Tighe; 0 percent. Zero percent. Is that fair to the American taxpayers? And do you know what the payback is? There is no payback. They do not have to pay it back.

So I would tell Mr. Tighe if he wanted to move, maybe we want to say maybe you should move to Pakistan where we would have offered a 0 percent loan and you would not have to pay the money back. We are trying to keep manufacturers and people in business, sir. We are not trying to make a profit or say, well, maybe you are going to take advantage of it.

We gave Japan \$94 million for the recent tsunami and earthquake. We gave Haiti \$838 million for disasters there. In fact, we gave \$4.98 billion—billion dollars in humanitarian assistance.

Now, we are all very proud of that because when disasters strike America is the first to help, and I am proud to say that I am an American and we do that. But sir, I believe we should be helping Americans first. Now, this loan disaster bill is not going to cost the taxpayers anything because I am offsetting it with aid, international aid, disaster aid, that would cover the cost. So should we not—my question is should we not help Americans firsts?

Mr. MUHLHAUSEN. I think flaws in our foreign aid system are an entirely different issue, and two wrongs do not make a right. So if our foreign aid system has questionable policies that is a separate issue for a separate hearing and actually a separate committee. But I will add that we should be compassionate to help people recover from disasters; the question is the best way to do it. And the best way is to have preventative measures, help people mitigate against future disasters. And the problem with the SBA program is that it presents a moral hazard that people—it is an incentive not to have adequate insurance. It is an incentive not to—

Mr. BARLETTA. But you are not answering my question. Should we not, if we could, take the money from international disaster relief—before we help people who are affected by a flood in Pakistan, not help our own neighbors, our own friends, if this will not cost the American taxpayers? If a 1 percent loan—this is not a small business loan. We are not encouraging people to open up a risky business; we are saying your business has been lost or your home has been lost to no fault of your own. And if we could not have a cost directly on the taxpayers by offsetting it with international disaster aid, why would we not do that? I am just failing to miss—I understand what you are saying and I am all for mitigation. And many of the people who were affected here, sir, did not have flood insurance because they were told they were not in a flood plain.

And do you know how long, Dr. Kunreuther, it takes before you see a check? I have constituents that have waited six months for an insurance check. Six months. What does that business do in the meantime? This sounds good here but when you are walking the streets and standing on the porches of these people it does not work. And how do you justify that we help other people before we help Americans?

Mr. MUHLHAUSEN. Nowhere in my testimony have I justified helping foreigners over Americans. So I think the question right

here does not pertain to me. Maybe you need to ask Congress, your fellow congressmen, why aid is going to these foreign countries that you think are so questionable.

Mr. BARLETTA. Well, can I ask you this then? If I told you today that the 1 percent CBO has suggested that there will be no affect on direct spending and that if we offset the discretionary cost by taking it out of international foreign disaster relief, if I told you that would you then think that this bill maybe is a good idea that we are helping Mr. Tighe stay in business and other people stay in business before we help someone else?

Mr. MUHLHAUSEN. I think Mr. Tighe stayed in business without SBA loans and he would have stayed in business without reforms.

Mr. BARLETTA. If we can offset the costs?

Mr. MUHLHAUSEN. I think offsetting would be an improvement in a flawed bill. It is not control for the moral hazard issue. It does not account for the fact that we are having too many disaster declarations that should be not nationalized; they should be handled best by local governments.

Mr. BARLETTA. But for those that are. For those that are. For these folks right here.

Mr. MUHLHAUSEN. There is a case where if there is a natural disaster that is so devastating that it is beyond the capacity of state and local governments, there may be a case for SBA disaster loans. But if it is just a tornado, if it is a flood that people knew they were in a flood high-risk area for years and they continued to have their business located there, that presents a moral hazard issue. The policy should be we should not encourage people to be in dangerous areas. We should encourage people to be in safe areas.

Mr. BARLETTA. Well, when should they move? You know, there could be an earthquake in California, so should everyone move from California? People in the Midwest, you know, there could be a tornado. Should they move out? Where will we move?

Mr. MUHLHAUSEN. Well, in the case of hurricanes or, I mean, earthquakes you have to have good building codes to make sure the buildings can withstand a severe earthquake. So obviously you would not have people leave California. But if you are sitting in an area where it is easy to move, where if you can move one mile up the road and be completely safe from a flood, that is a better solution than continuing a business in an area that is going to get flooded repeatedly.

Mr. BARLETTA. And for the folk who are not in a flood plain but still lose everything to a flood, I guess my point is, you know, there are people who lose their homes, their possessions, their businesses, and choose to take the insurance. Because we talked a lot about insurance today. And we seem to think that that is going to solve the problem. But if Mr. Tighe takes his insurance check and decides I am done, does that help America? Is there not a return to the American taxpayer by helping American businesses stay in business? Because of a disaster that was no fault of their own and will not cost the American taxpayers any money because we are going to take it from other countries that we are helping rather than—

Chairman WALSH. Let me just interject, Mr. Barletta. Why do you not take a breath, Dr. Muhlhausen. Dr. Kunreuther, why do you not jump in here.

Mr. KUNREUTHER. I think you are raising issues that are central to the challenges we face with natural disasters. When we focus, as you are with your photos and with our example, Mr. Tighe, on specific situations, we all want to help. We all want to do something to assist on equity and sympathy grounds. But Representative Barletta, I think that what Dr. Muhlhausen and I have been saying is can we learn lessons from Mr. Tighe's experience for others to think about these events beforehand in a way that will be attractive but where there are actions they are taking?

And what I mean by that is if it turns out that you had higher limits, for example, on flood insurance, the private sector may be able to even come in.

We finished a study suggesting the private sector can supplement the federal government on that. And so you have full protection if you were given incentives and we would have to talk with Mr. Tighe—and each individual business and home will be different on that—to take steps beforehand. In order to reduce it we would avoid a lot of the situations that you are talking about. And so I think we are all on the same page here.

Mr. BARLETTA. Where we are different—and I agree with you.

Mr. KUNREUTHER. Okay.

Mr. BARLETTA. I agree with exactly what you are saying. And I am with you. I get it. Where the disconnect is is at the time when we do offer an SBA loan, I mean, we are surely not suggesting do away with SBA disaster loans. So if we do all that you say, and I agree we should. That is a good idea. That is good policy. But for the times when we do offer those SBA loans, why would we not offer a 1 percent loan and give Americans a chance and an opportunity to get back up on their feet, to decide I am going to stay in business, and offset that cost. We make good points here but if we are going to offset the cost, what I am saying is let us not help that business in Pakistan before we help somebody in Pittstown, Pennsylvania. I cannot justify that and there is no argument—I do not believe that as an American we can make—that we would rather help businesses somewhere in the world before we will help our own Americans here at home.

Mr. KUNREUTHER. I am not going to get into the foreign domestic trade offs in my response.

Mr. BARLETTA. It is part of this bill.

Mr. KUNREUTHER. I understand the point and I think that there are reasons to ask where should our money go. But let me answer your point directly on the 1 percent loans. At the end of the day when there is a disaster we have to ask ourselves who is in need. There are likely to be businesses who could afford to take out a loan at a normal interest rate. However, affordability needs to be put on the table. If someone cannot afford the premium and it happens to be a small business that may be in real need, one has to consider whether there should be special treatment given to it.

The SBA disaster loan program does exactly that today as you know. It happens to have higher interest rates, 4 percent and 8 percent, depending on whether there is an affordability problem.

The question that you are posing is should you go down to 1 percent. That is a value judgment. It is a judgment that everyone has to make as to how much assistance we want to give and whether or not that money could have been spent better in other ways. I will not answer that question directly because I think at the end of the day we as a society, and Congress plays that role, has to judge at what point do we want to provide special relief. And it certainly could be argued that if it turns out someone would not be able to stay in business unless they were able to get a very, very small loan, a low interest loan, then you may want to go in that direction.

But I think as a general policy, and I think that is what we are talking about here in the way of the legislation, it sets the tone that really argues for post-disaster relief rather than protection beforehand. And that is the reason I think Dr. Muhlhausen and I are making the comments we are. Let us take some steps beforehand rather than focus purely after.

Mr. KUNREUTHER. And I appreciate the arguments that you are making but we cannot ignore the fact that we give Pakistan flood disaster relief at 0 interest. I know we are not here to solve but we are. We are part of Congress and we do look at the big picture. And the big picture is I am sitting here seeing that we gave Pakistan \$215 million with 0 interest. How can we justify that and argue here in your testimony saying, well, if an American business could afford to pay something else, why should not an American business pay 6 percent interest if they could? But why should somebody in Pakistan, who I do not even know, pay 0 percent interest? That is the question that I am asking my colleagues here. Do you think that is fair?

Chairman WALSH. It sounds like a wonderful topic as well for another hearing. I will give you time for a very brief answer because Mr. Barletta's time has expired. Go ahead, Dr. Kunreuther, if you want to weigh into that at all.

Mr. KUNREUTHER. No, I am not going to weigh into that because I really want to second what Dr. Muhlhausen said. I think there are two separate issues. I think one has to ask the question in Pakistan whether or not you are going to give a 0 percent interest rate if you are going to do it for other reasons, rather than sort of make the comparison between what we do in this country. I think that is an issue that should be put on the table but not in the context of this particular piece of legislation.

Chairman WALSH. Thank you. Mr. Barletta, thank you.

On behalf of the entire Subcommittee I would like to thank all of our witnesses for being here today. The testimony that you provided will be helpful as we continue to consider amendments to SBA's Disaster Assistance Programs.

As was mentioned in the opening, we want to make sure that our neighbors have the right tools to get back on their feet after a disaster. None of us question that. The question is how best to fund and supply those tools. The faster people get back on their feet, the better off we will all be as a nation.

With that, without objection, I ask that the record be kept open for five legislative days. Without objection, so ordered.

This hearing is now adjourned.

[Whereupon, at 11:10 a.m., the Subcommittee hearing was adjourned.]

MR. DOUG HOELL

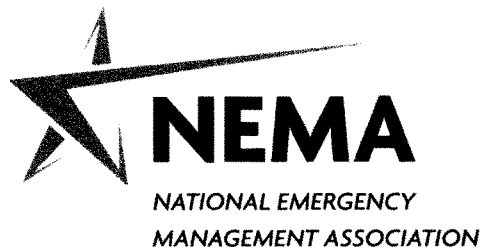
**Vice Chair, NEMA Preparedness Committee
Director, North Carolina Division of Emergency Management**

TESTIMONY

**Before the House Committee on Small Business
Subcommittee on Economic Growth, Tax and Capital Access**

*Examining the Role of Government Assistance for Disaster Victims:
A Review of H.R. 3042*

February 16, 2012



**National Emergency Management Association
Hall of the States
444 North Capitol Street, NW
Washington, DC 20001
(Ph) 202-624-5459**

Introduction

Good Morning Chairman Walsh, Ranking Member Schrader and distinguished members of the Subcommittee. My name is Doug Hoell and I am the Director of the North Carolina Division of Emergency Management. Thank you for the opportunity to present testimony today on behalf of the National Emergency Management Association (NEMA). NEMA represents the state emergency management directors of all 50 states, the District of Columbia, and the U.S. Territories. We are happy to be here to discuss the role of the Small Business Administration (SBA) in disaster assistance.

While not a traditional “first responder” agency, SBA is a critical partner to States and localities affected by a wide variety of disasters. Following a disaster, SBA has the capability to mobilize staff from the Office of Disaster Assistance to begin disseminating public information about what services SBA can provide to supplement many long-term federal recovery programs.

Types of Assistance for Major Disaster Declarations

When a major disaster declaration is awarded by the President, affected citizens begin the registration and eligibility determination process through the Federal Emergency Management Agency (FEMA) by applying either through the agency’s toll free number, on-line, or by visiting any established Disaster Recovery Center (DRC). A decision is made immediately to determine if the applicant should be moved to FEMA’s Individual Assistance (IA) Program for grant consideration or whether their SBA application warrants further evaluation. The issuance of an SBA application is tantamount to recovery. An applicant may have insurance but it may not be enough to return them to their pre-disaster standard of living. The \$200,000 loan to homeowners, the \$40,000 loan available for personal property (to homeowners and renters) and the \$1.4 million dollar loan to business owners far exceed the basic IA grant whose intent is to bring an individual back to safe, sanitary, and functional living.

Often citizens encounter damages and devastation from disasters which are ineligible under normal FEMA disaster recovery programs, but remain important to them during recovery. SBA loans can help return the home to its pre-disaster state including the implementation of mitigation measures. The

challenge has become how to inform applicants that if they do not return their SBA application, the recovery process is halted and could prevent them from receiving any other available assistance.

Due to the importance of small businesses in a local community, SBA's Economic Injury Disaster Loan (EIDL) is a program that supports the "Whole of Community" approach to disaster recovery. The EIDL affords business owners continuity of operations by giving them the opportunity to meet their obligations as they mature and to pay ordinary and necessary operating expenses. These loans are aimed at providing working capital to small businesses to keep them afloat until normal operations can resume. EIDL assistance is available only to small businesses determined unable to obtain credit elsewhere. The SBA can provide up to \$2 million to help meet financial obligations and operating expenses which could have been met had the disaster not occurred. An applicant's loan amount is based on the actual economic injury and the company's financial needs, regardless of whether the business suffered any property damage. Businesses may apply directly to the SBA for possible assistance. The SBA will send an inspector to estimate the cost of the damages damage once the loan application has been completed and returned.

The pictures of homes and businesses affected by flooding and wind damage following Hurricane Irene and Tropical Storm Lee painted a devastating picture in September 2011. In New York State alone, the SBA approved over \$100 million in loans for citizens affected by the storms.

In May 2010, a landslide on US Highway 129 in the western part of North Carolina impeded traffic and prevented the day-to-day operations of business owners between North Carolina and Tennessee. The EIDL declaration made it possible for the businesses in the counties of Graham and the contiguous counties of Cherokee, Macon, and Swain to continue their trade and accessibility to the counties of Blount and Monroe in the State of Tennessee.

While FEMA is often thought of as the primary agency for disaster assistance, there are many unique situations where SBA loans can be utilized in creative ways to assist citizens in need. During a federally declared disaster in 2008, an Arkansas couple was initially denied FEMA assistance. They were insured but the insurance was not enough to cover the repairs to the home, the husband's shop, and thousands of dollars' worth of tools and equipment. The couple contacted state officials who helped the family get in contact with SBA. They put her in contact with a caseworker in a DRC who assisted with the application process and any questions and or bumps they had along the way. The insurance payoff and SBA loan

were enough to start putting their home back together and once again provide an economic benefit to the community.

SBA Role in Governor Declared Disaster Recovery

While many SBA programs are aimed at supplementing FEMA assistance following a major disaster declaration, the Administration can continue to play a part in disasters that do not reach the highest declaration standard. In the event a joint damage assessment shows that the evaluation fell short of FEMA's requirements; an SBA Agency only declaration is pursued by the Governor. This can occur when at least 25 homes and or business have sustained 40 percent uninsured losses.

A Governor's Declaration allows an affected citizen to be eligible for benefits similar to those available by FEMA. This includes housing repair and/or replacement funds in addition to Other Needs Assistance which includes personal property, medical, and funeral. In any declared disaster, an SBA loan is the first step in the recovery process based on the information provided when the survivor registers with SBA. At the close of the application intake period, SBA informs the State of the status of any loans and the award amounts of applicants who registered online or through the toll free number. The State in turn keeps SBA abreast of the State grant awards to SBA registrants.

During a gubernatorial declaration, the SBA Disaster Loan Outreach Center (DLOC) acts as a DRC to ensure that the eligible applicants receive due process. Much like FEMA's Individual Household Programs (IHP), the State awards up to \$25,000 for Housing Assistance for repair and/or replacement and Other Needs Assistance including personal property, medical, and vehicle repairs. The qualifying home is inspected for verified loss and estimates. Disaster assistance includes money or direct assistance to individuals, families, and businesses in an area whose property has been damaged or destroyed and whose losses are not covered by insurance. It is meant to help eligible citizens with critical expenses which cannot be covered in other ways. This assistance is not intended to restore damaged property to its condition before the disaster.

SBA Outreach to Stakeholders

Recovering from a disaster is usually a gradual process. Safety is a primary issue, as are mental and physical well-being. Knowing how to access available assistance makes the process faster and less stressful. SBA does a considerable amount of work in communities around the country, making personal

contacts with Chambers of Commerce, Congressional Offices, State and Local elected officials, SBA resource partners and SBA District and Regional offices, business organizations and community groups. Town halls are just one example of the personal outreach done in many communities to make sure citizens are aware of the many disaster assistance options that may be available.

SBA and State agency Public Information Officers (PIO) develop press releases announcing availability of disaster loans in the affected area. The County agrees to provide free space to be used at a Disaster Loan Outreach Center (DLOC) to conduct application intake. The days and hours of operation are determined jointly. SBA and State IA employees conduct community relations and outreach activities to disseminate information about the Center's opening, the hours of operation, and applicant registration in the affected areas.

Media outlets are also informed of the declaration and the process to help in the process of alerting the affected citizens to every opportunity to seek and receive assistance for their disaster recovery. SBA partners with the State during the intake process. A potential applicant signs-in upon arrival and is interviewed by SBA. They are asked to register with the State when they fail the income test, do not meet SBAs criteria, or when other unmet needs still exist even though all resources have been utilized.

In testimony given by the Government Accountability Office (GAO) before this Committee back in November 2011, William Shear referenced steps SBA continues to take to improve marketing and outreach efforts that inform stakeholders across the country. We look forward to continued dialogue with SBA and are encouraged by their increased attention to the needs of individuals and communities in disaster affected areas.

Conclusion

As a profession, emergency management stakeholders have focused a great deal on the partnerships existing at the State and local level which help us achieve a resilient and sustainable nation. FEMA Administrator Craig Fugate has stressed the importance of the "Whole of Community" and FEMA's position as a member of a much larger team in place to support the response and recovery to all-hazards. There is no doubt the SBA Office of Disaster Assistance is a vital member of the emergency management team and we value their contributions to our communities.

Last year was a record-breaking year for disaster expenditures. The continued challenge of protecting the nation from a variety of hazards within the reality of fiscal uncertainty elevates the importance of cooperation throughout the emergency management community. Leveraging resources from across the federal family is critical following a disaster and the communication and outreach by the essential agencies is just the first step to community recovery. Positive relationships between Federal, State, and local government stakeholders are the lynchpin to coordinated recovery efforts supporting resilient individuals, prosperous businesses, and thriving economies.

Thank you for the opportunity to testify today and your continued attention to disaster assistance matters under your purview. Your attention and leadership in this matter are greatly appreciated and NEMA remains a ready resource for the Committee as you tackle the tough issue of recovery from disasters.

My family, friends, and some of our employees were outside waiting for me to tell them the news. All I could say was "It's bad, but we'll bounce back," but they had no idea. I pulled my father aside to warn him that we have a lot of work ahead of us if we want to stay in business. I could see defeat in his eyes. The business he had built from the ground up was wiped out just like that.

The next day, we immediately ordered three 40-yard trash hopppers, a three-phase generator, power washers, brooms, etc. We spent tens of thousands of dollars to start the clean up process. We had to dry, gut, and clean both buildings. Almost everything was destroyed.

At the exact same time, we also had to do damage control with our customers. We had to outsource all of our work to finish our pending orders. We set our customers up with other vendors, our competitors, until GT Fabrication could get back up on its feet.

I entered disaster mode. We desperately needed financial help because we weren't conducting any business and draining the company's funds on the clean-up effort. I attended meetings at our local Chamber of Commerce. Here, I spoke to a Small Business Administration (SBA) disaster representative, who told me to quickly complete the application. As soon as I could fill out the documents, I brought the paperwork to the Wilkes-Barre SBA disaster site. They looked everything over and told me I was missing a couple of minor documents. I immediately brought the missing documents to the SBA disaster site. SBA reviewed my complete application, which included tax form 8821. The SBA official even complimented me on my thorough completion of the application.

We went home to keep cleaning. We throw away almost one million dollars of supplies, and demolished the inside lobby and office. After two to three weeks of this back-breaking cleaning, an SBA field inspector, Mr. James Heller visited GT Fabrication to assess the damages and take pictures. A few days after the inspector's visit, we received an SBA disaster assistance packet, which stating they wanted us to provide monthly sales figures for past three years. Additionally, SBA needed tax form 8821 which requires tax information from both GT Fabrications 2009-2010 business taxes and my father's 2009-2010 personal taxes and financial statements. My father, who owns 100 percent of GT Fabrication, signed tax form 8821 along with the signature of GT Fabrication Incorporated and provided a schedule of liabilities for the second time.

More than a month after filing our original application, we received an SBA request to complete tax form 8821, for the third time, to include both of my parents' signatures, GT Fabrication INC., signature and the same schedule of liabilities. This time we included a letter stating that we had completed this document three times already.

Approximately seven days after we completed tax form 8821, for the third time, my mother Debbie Tighe received a phone call from an SBA official named Randi Anderson. Ms. Anderson told my mother that GT Fabrication's application was being withdrawn because we did not return the requested forms within the seven days. My mother tried to explain to Ms. Anderson that we received the forms four days after the letter was dated. She also explained that we returned the forms five days after receiving the documents. Additionally, she suggested that if it took four days for the SBA letter to arrive in Pittston, Pennsylvania, it would probably take four day for the letter to get back to Texas. Finally, I

couldn't believe that the SBA was counting a Sunday, when the postal service doesn't deliver mail, as our deadline. We felt that the time frame was unfair, but Ms. Anderson just said "that's the way it is."

I couldn't believe that this is the way it is. When you're in disaster mode, working 15 hours a day, seven days a week, to save your family business, you don't have time to do all of this paperwork, especially after many of GT Fabrication's old records were destroyed by fifteen feet of water during the flood. Regardless, we provided the SBA with all of the information they needed as quickly as I could. We thought that maybe the SBA was trying to purposefully discourage us from applying for an SBA loan.

Later, we received a phone call from the National Flood Insurance Program, stating that the SBA had contacted them requesting information about the types and amount of insurance coverage GT Fabrication has. Unfortunately, we had previously cancelled GT Fabrication's business interruption insurance because we knew, from four previous flood experiences, that our flood insurance would cancel out any business interruption insurance benefits. I was frustrated that SBA contacted my insurance company without telling me or getting my permission.

Despite Ms. Anderson's decision to withdraw our application, we received another call from her. Her information showed that we only had \$79,000 in damages. We tried to explain that our equipment alone was valued in excess of two million dollars, and we wanted to know where she was getting the \$79,000 figure. However, she could not tell us. She requested a copy of what was destroyed and a copy of our flood insurance payout.

We provided the SBA the exact same documents we provided the Federal Emergency Management Agency (FEMA), detailing all of the equipment we lost. She again asked for the monthly sales figures for the past three years to qualify for the Economic Injury Disaster Loan. We explained that we were not applying for the Economic Injury Disaster Loan, but a loan for purchasing equipment and machinery for our business. Ms. Anderson explained that the type of loan didn't matter; she still need the monthly sales numbers. I tried to explain that our business office and all of our records were destroyed by the flood.

On November 25, for the fourth time, we received a letter requesting tax form 8821 and the monthly sales figures. I felt like we were pawns in some kind of game. We were going through all of this trouble and aggravation for a 6 percent loan.

We had to find something else in the meantime. GT Fabrication still was not regular business and we had not yet received a SBA loan. The company bank account was running dry.

Then, Pennsylvania State Senator John Yudichak, called to tell us about the Luzerne County Flood Recovery Loan Program. This is a \$4 million low-interest loan program that has a borrowing limit of \$100,000. The Program applies a 1 percent interest rate with no borrower's fee. This quick and easy loan saved GT Fabrications by providing us an infusion of cash needed to get back on our feet.

Today, GT Fabrication is back in business though we are only operating at 70 percent. I have been able to get almost two-thirds of my employees back to work. We need to return to 100 percent and grow

our business so that we can turn this economy around. Its small businesses like my families that will add jobs to the U.S. economy, but the U.S. government wouldn't help GT Fabrication.

The City of Pittston has been very helpful, retaining Cowbell Consultants to help us try to relocate to larger facility that is a safe distance from the Susquehanna River. The County of Luzerne provided us the loan that saved our business, but the federal government failed. I hope that my story can shed some light on the problems that my family's small business faced working with federal government agencies.

Testimony of Howard Kunreuther

James G. Dinan Professor of Decision Sciences and Public Policy
and co-director of the Wharton Risk Management and Decision Processes Center
The Wharton School, University of Pennsylvania

before

The Subcommittee on Economic Growth, Tax and Capital Access of
the House Small Business Committee on
“Oversight of the SBA’s Disaster Assistance Program and Examining Changes Proposed
by H.R. 3042 – The Disaster Loan Fairness Act of 2011.”

February 16, 2012

Chairman Walsh, Ranking Member Schrader, and Members of the Subcommittee, I appreciate your inviting me to testify on “Oversight of the SBA’s Disaster Assistance Program and Examining Changes Proposed by H.R. 3042 – The Disaster Loan Fairness Act of 2011.” My name is Howard Kunreuther and I am the James G. Dinan Professor of Decision Sciences and Public Policy at the Wharton School, University of Pennsylvania and co-director of the Wharton Risk Management and Decision Processes Center. The Wharton Risk Center was founded in 1984 and its mission is to examine alternative strategies for dealing with low-probability, high-consequence events (i.e. extreme events) based on an understanding of the decision processes of consumers, firms and public sector agencies.

Since Hurricane Katrina, the Wharton Risk Center has focused on the roles of the public and private sectors in reducing losses from natural disasters and aiding the recovery process following a catastrophic flood, hurricane or earthquake. The Center studied the hurricane and flood risk extensively in a book *At War with the Weather* (MIT Press, 2009, paperback 2011). The Center has also produced a number of papers published in professional journals most recently in *Science* and the National Academy of Sciences’ journal *Issues in Science and Technology*. Over the past several years my colleague Erwann Michel-Kerjan and I have interacted closely with Congressional staff on the future of the National Flood Insurance Program which will form the basis for much of my testimony today. I am submitting for the record the following two papers written with my colleague, Erwann Michel-Kerjan:

Kunreuther, H. and E. Michel-Kerjan (2011). “People Get Ready: Disaster Preparedness” *Issues in Science and Technology* September

Michel-Kerjan, E. and H. Kunreuther (2011). “Redesigning Flood Insurance” *Science* 333(6041):408-409, July 22

Mr. Chairman and Ranking Member Schrader, thank you for inviting me to tell my story about the flood caused by Tropical Storm Lee.

My name is Gino Tighe and I manage sales for our family business GT Fabrication Inc, a precision metal fabricating and powder business. My parents Gene and Debbie Tighe started the company more than twenty years ago, and my sister Tracy and I have joined the family operation. Our company has had its ups and downs. We have supplied large clients such as PRIDE Mobility and Golden Technologies. However, with competition from countries like China, we lost many of our main consumers. We had to adapt, so we widened our customer base to produce more products in new industries such as food and drug, material handling, trucking, military, packaging equipment, construction, architecture, foundry, parks and recreation, and even highway transportation. Our family business has survived many hurdles, but, most recently, a natural disaster threatened to close our doors.

My story begins on September 7, 2011 at 2:00 p.m. The National Oceanic and Atmospheric Association (NOAA) projected that the Susquehanna River would rise to 35 feet by 3:00 pm the next day, Thursday, September 8. Two and half hours later, on September 7, at 4:30pm, NOAA changed their prediction, bumping it up to 38 feet by 3:00 pm.

On September 7, my family and I knew that our company would face heavy damages because our building is located about 100 yards from the Susquehanna River in Pittston, Pennsylvania. We knew that we couldn't move some of our equipment. We had six machines in excess of 25,000 pounds. So, we started moving the smaller equipment: materials, computers, etc. We worked through the night moving pallets and pallets of materials to our back building, which was built four feet higher because of past floods. We stored materials on pallet racking to try to keep them out of harm's way.

After working through the night, by September 8th at 8:00 am, the water crept into our parking lot. By 9:00 am, we had 12 inches of water in our downstairs building. We did all we could and exited the facility. Water levels were rising at break neck speeds. The river hadn't ever risen so quickly and we had survived four previous floods. With millions of dollars of equipment still left in the building. After paying \$15,000 for flood insurance, we only could receive \$500,000 in contents and \$500,000 on building FEMA insurance. We knew we were in trouble.

By the time the Susquehanna River crested at 1:00am on Saturday, September 9th, all I could see of GT Fabrication was the very top of our building. My family and I were devastated. Our 30 employees were devastated. We didn't know if our family business could survive this. The watermark on the GT Fabrication lower building was recorded at 15 feet. Our back building, which we raised 4 feet to serve as a precaution against future floods, had a watermark recorded at 9 feet.

On September 10, almost two days after the flooding began; the water finally receded to twelve inches. I entered the building to see the damage. As soon as I got into the building my heart sank, the destruction and devastation that this flood caused was by far the worst it's ever been. I really couldn't believe what I was seeing. It looked like a bomb was off. The lobby and office were completely collapsed.

My testimony today will focus on the following three questions:

1. Why is the proposed legislation to extend SBA disaster loans at 1 percent to cover both disaster losses and other outstanding debts likely to increase future losses from natural disasters?
2. How can insurance coupled with other policy tools reduce future losses so that the SBA plays a secondary role in providing funds for disaster recovery?
3. How can the National Flood Insurance Program be modified so as to set a tone as to ways that the private and public sector can work together to reduce losses from floods and other natural disasters?

Evaluation of H.R. 3042—the Disaster Loan Fairness Act of 2012

The proposed legislation provides that in any major disaster declared under Section 401 of the Stafford Act, the interest rates for any SBA loan programs will be 1 percent for eligible applicants in the disaster area, with or without credit available elsewhere. The provision appears to cover all SBA loans, not just loans for repairing or replacing losses from disasters.

There are several points to note about this provision. It creates a moral hazard problem by encouraging people to locate their homes and business in hazard-prone areas while at the same time reducing their economic incentive to purchase insurance and invest in mitigation measures prior to a disaster. These residents now know that they will be bailed out should they suffer losses from the next flood or hurricane, so therefore have much less incentive to take protective actions.

The proposed program has the potential of creating a situation in which homeowners and businesses in hazard-prone areas are financially better off after a disaster than they were before the event occurred, by being able to obtain a 1 percent loan to cover their uninsured losses as well as existing debt financed by SBA loans. A hypothetical but illuminating example illustrates this point. Suppose an uninsured business has an existing 20-year \$300,000 SBA loan at a 5 percent annual interest rate and then suffers a loss of \$100,000 to its property and contents from a disaster. Prior to the disaster, the business's annual payment for its SBA loan is \$23,759. Under the proposed legislation, the SBA would provide this business with a \$400,000 loan at an annual rate of 1 percent to cover its damages and existing SBA loans. The total monthly payment for this loan would be \$22,075, which amounts to \$1,684 less per year than what it is currently paying.

Role of Insurance and Other Policy Tools to Reduce Future Losses

Rather than broadening the SBA loan provision in the way the current legislation is proposing, it is more important to design programs that reduce future disaster losses.

Insurance can play a central role in this regard by doing three things. First, if priced correctly, insurance provides a signal of the risk individuals and firms face in their current location. Second, insurance can encourage property owners in hazard-prone areas

to invest in mitigation measures by providing them with premium reductions to reflect the expected reduction in losses from future disasters. Third, insurance supports economic resiliency: following a disaster, insured individuals and firms can make a claim to obtain funds to help pay for the loss caused by the catastrophe rather than being forced to rely on their own resources or federal disaster assistance.

For insurance to play this role in combination with other programs involving the public and private sectors, it is important that the following two guiding principles¹ be adhered to:

Principle 1: Premiums should reflect risk. Insurance premiums should be based on risk in order to provide signals to individuals about the hazards they face and to encourage them to engage in cost-effective mitigation measures that reduce their vulnerability to catastrophes. Risk-based premiums should also reflect the cost of capital that insurers must integrate into their pricing in order to meet solvency requirements from rating agencies and insurance regulators, and to also assure adequate return to their investors.

Risk-based premiums will provide a clear signal of likely damage to those currently residing in hazard-prone areas as well as those considering locating there. Risk-based premiums also enable insurers to provide discounts to homeowners and businesses that invest in cost-effective mitigation measures. If insurance premiums are not risk-based, insurers are unlikely to offer any premium discounts for those who adopt mitigation measures. In fact, they often prefer not to offer coverage to these property owners because it will be a losing proposition in the long run.

Principle 2: Equity and affordability issues should be addressed. This principle reflects a concern for some residents in high-hazard areas who will be faced with large premium increases based on Principle 1. However, any special treatment given to homeowners currently residing in hazard-prone areas (e.g., low-income uninsured or inadequately insured homeowners) should be funded through an insurance voucher, not through premium subsidies (as is often done today).

The provision of insurance vouchers applies only to needy individuals who currently reside in a hazard-prone area. Those deciding to move into the area in the future should be charged premiums that reflect the risk. Providing individuals with financial assistance to purchase insurance would serve to encourage development in hazard-prone areas and exacerbate the potential for catastrophic losses from future disasters.

¹ Kunreuther, H., and E. Michel-Kerjan (2011), *At War with the Weather: Managing Large-Scale Risks in a New Era of Catastrophes*. MIT Press. Paperback edition.

Modify the National Flood Insurance Program (NFIP)

The tendency of individuals to invest only in measures that pay off quickly, coupled with budgetary constraints, deters those residing in hazard-prone areas from investing in protective measures. To address this issue in the context of flood damage, my colleague Erwann Michel Kerjan and I have recommended that the NFIP be modified in the following five ways when it comes up for reform between now and May 30, 2012.²

1. Multi-year insurance tied to property. When individuals or businesses purchase a piece of property, they should have an opportunity to purchase a multi-year insurance contract (for example, 5 years) at a fixed annual premium that reflects the risk. At the end of the multi-year contract, the premium could be revised to reflect changes in the risk (higher or lower).

2. Insurance vouchers for those needing special treatment. We recommend a new program to address issues of equity and affordability to complement the strategy of risk-based premiums for all. Property owners currently residing in a risky area who require special treatment (such as low-income residents, and those whose premiums increase significantly as a result of updated more accurate flood maps) would receive an insurance voucher from the Federal Emergency Management Agency (FEMA) or the U.S. Department of Housing and Urban Development (HUD) as part of its budget or through special appropriation.

This program would be similar to the Supplemental Nutrition Assistance Program (“food stamps”) and the Low Income Home Energy Assistance Program, which in the United States enables millions of low-income households to meet their food and home heating needs every year. The size of the insurance voucher will be determined through a means-test in much the way that distribution of food stamps is determined today.

3. Required insurance. Since individuals tend to treat insurance as an “investment” (where they expect some return) rather than as protective mechanism, and in light of the large number of individuals who do not have coverage today, we see wisdom in making insurance coverage a requirement for all property located in hazard-prone areas. Currently, it is a requirement only for homeowners with a federally-backed mortgage, but even in these instances, several years after purchasing a policy, many homeowners let their flood insurance lapse, and the banks never forced them to renew their coverage.

Data from the Department of Housing and Urban Development (HUD) reveal that 41 percent of damaged homes from the 2005 hurricanes were uninsured or underinsured. Of the 60,196 owner-occupied homes with severe wind damage from these hurricanes, 23,000 did not have insurance against wind loss.³ We recently undertook an analysis of

²Kunreuther, H. and E. Michel-Kerjan (2011). “Congressional Testimony A Proposal to Make America More Resilient to Natural Disasters and Reduce the Federal Government’s Financial Liability” Hearing before the Senate Appropriations Subcommittee on Financial Services and General Government on: “Federal Disaster Assistance Budgeting: Are We Weather-Ready?” July 28.

³ U.S. Government Accountability Office (GAO) (2007), *Natural Disasters: Public Policy Options for Changing the Federal Role in Natural Catastrophe Insurance*, Washington, DC: GAO, November. GAO-08-7.

all new flood insurance policies issued by the National Flood Insurance Program (NFIP) over the period January 1, 2001 to 31 December 2009 and found that the median length of time before these new policies lapsed is three to four years. On average, only 74 percent of new policies were still in force one year after they were purchased; after five years, only 36 percent were still in place. The lapse rate is still high after correcting for migration and does not vary much across flood zones.⁴

4. Multi-year loans for mitigation. To encourage adoption of loss reduction measures, state or federal government or commercial banks could issue property improvement loans so as to spread the costs over time. For instance, a property owner may be reluctant to incur an upfront cost of \$1,500 for making his home more disaster resistant but would be willing to pay the \$145 annual cost of a 20-year loan (calculated here at a high 10% annual interest rate). Those who undertake these mitigation measures would receive a premium reduction to reflect lower losses even if one has an insurance voucher. In many cases, the reduction in the insurance premium will be greater than the loan cost, making this investment financially attractive.

5. Well-enforced building codes. Given the reluctance of property owners to invest in mitigation measures voluntarily, building codes should be designed to reduce future disaster losses and be well-enforced through third party inspections or audits.

Lessons from an Energy Efficiency Program

The Property Assessed Clean Energy (PACE) program⁵ that has been adopted by 27 states for promoting energy efficiency has the following features that can provide insights into designing the voucher program as discussed above.

1. Multi-year financing. Interested property owners opt-in to receive financing for improvements that is repaid through an assessment on their property taxes for up to 20 years. PACE financing spreads the cost of energy improvements over the expected life of these measures and allows for the repayment obligation to transfer automatically to the next property owner if the property is sold.

2. Annual savings. Because basic energy efficiency measures can cut energy costs by up to 35 percent, annual energy savings will typically exceed the cost of PACE assessments. The upfront cost barrier actually turns into improved cash flow for owners in much the same way that the reduction of annual insurance premiums could exceed the annual loan costs.

3. Transfer to new property owner. Like all property-based assessments, PACE assessments stay with a property upon sale, until they are fully repaid by future owners who continue to benefit from the improvement measures.

⁴ Michel-Kerjan, E. S. Lemoyne de Forges and H. Kunreuther (in press). "Policy Tenure under the National Flood Insurance Program." *Risk Analysis: An International Journal*.

⁵ Pilot PACE Financing Programs. <http://www1.eere.energy.gov/wip/pace.html>

We Need to Act Now

Our country has entered a new era of catastrophes. Our exposure is growing and the damage from disasters over the next few years is likely to be more devastating than what we have experienced during this past decade. When the next catastrophe occurs, the federal government will very likely come to the rescue, again. If the public sector's response to recent disasters is an indicator of their future behavior, new spending records will be set with respect to federal assistance.

In order to avoid this outcome we recommend that the appropriate government bodies undertake an economic analysis of the benefits and costs of the proposed multi-year insurance-risk reduction loan program in relation to the current system of private and public insurance and federal disaster assistance.



214 Massachusetts Ave. N.E. Washington, D.C. 20002 (202) 546-4400 www.heritage.org

CONGRESSIONAL TESTIMONY

Statement of
David B. Muhlhausen, Ph.D.
Research Fellow in Empirical Policy Analysis
Center for Data Analysis
The Heritage Foundation

Before the Committee on Small Business, Subcommittee on Economic Growth, Tax
and Capital Access of the United States House of Representatives

Delivered February 16, 2012

“The Disaster Loan Fairness Act of 2011: Neither Fair nor Effective”

Introduction

My name is David Muhlhausen. I am Research Fellow in Empirical Policy Analysis in the Center for Data Analysis at The Heritage Foundation. I thank Chairman Joe Walsh, Ranking Member Kurt Schrader, and the rest of the committee for the opportunity to testify today on the Disaster Loan Fairness Act of 2011 (H.R. 3042). The views I express in this testimony are my own and should not be construed as representing any official position of The Heritage Foundation.

After the President declares a major disaster, the Disaster Loan Fairness Act of 2011 (H.R. 3042) would set the interest rates for the Small Business Administration’s (SBA) Disaster Loan Program (DLP), including home disaster loans, business physical disaster loans, and economic injury disaster loans, at 1 percent for eligible applicants in declared disaster areas, regardless of whether applicants have access to credit. Under current law, for DLP applicants who are unable to obtain credit elsewhere, the interest rate shall not exceed 4 percent. For those applicants who have access to credit elsewhere, the interest rate shall not exceed 8 percent.

In fiscal year (FY) 2010, the SBA approved \$574 million in disaster loans for 15,356 applicants.¹ The dollar amount of disaster loans increased to \$739 million for 13,643 applicants in FY 2011.² As of January 31, 2007, according to the Government Accountability Office, the SBA approved over \$5 billion in disaster loans for

homeowners and renters affected by the hurricanes of 2005.³ The interest rate subsidy of these 2005 hurricane SBA-backed loans cost almost \$800 million to the federal government.⁴ If enacted in law, the Disaster Loan Fairness Act will increase costs of interest rate subsidies incurred by the federal government.

Unfortunately, as my testimony will illustrate, the Disaster Loan Fairness Act does not provide the necessary reform to our nation's disaster prevention and recovery programs. My testimony focuses on the following deficiencies of the Disaster Loan Fairness Act:

- The Act fails to address the increasing nationalization of disaster responses;
- The Act continues the federal government's out-of-control spending; and
- The Act unnecessarily increases the moral hazard and other unintended consequences of providing disaster loans.

Instead of considering legislation like the Disaster Loan Fairness Act, Congress should focus on reforms that make America more resilient to catastrophes and reduce recovery costs imposed on the federal taxpayer.⁵

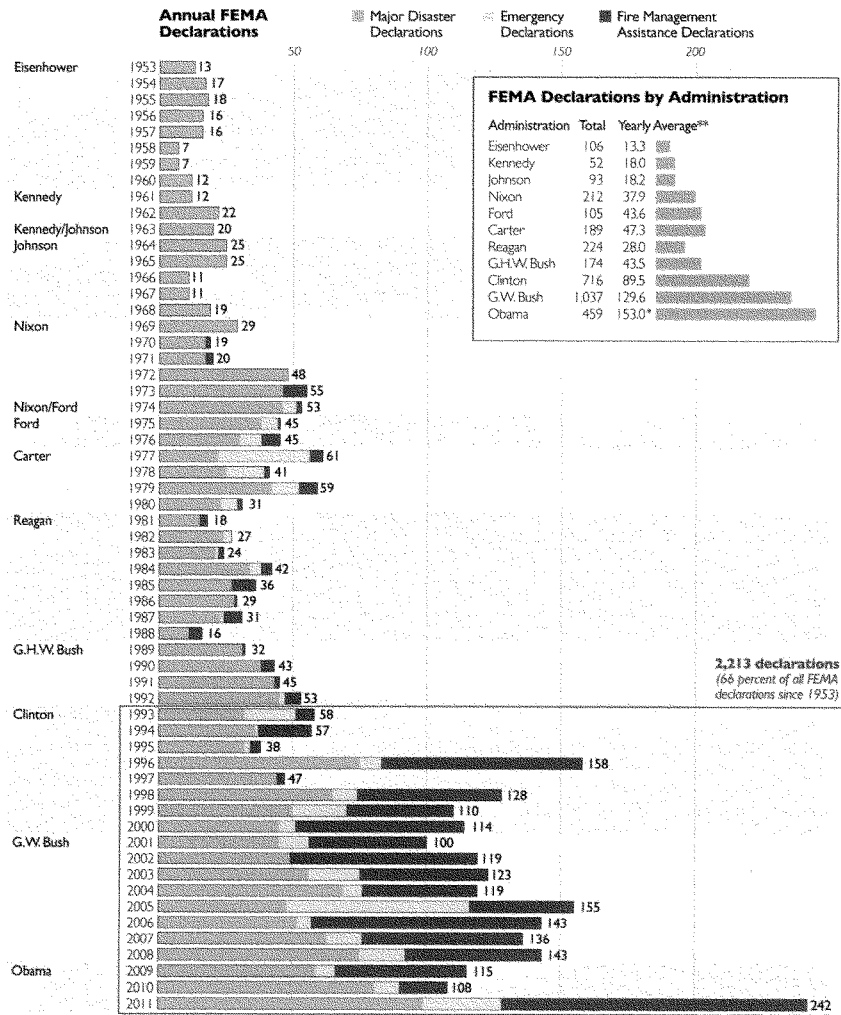
Increasing Nationalization of Disaster Responses

By providing more generous benefits, the Disaster Loan Fairness Act does nothing to reduce the overreliance of state and local governments on the federal government for the provision of recovery assistance. Far too frequently, the federal government has been the primary source of recovery efforts for natural disasters that are inherently localized in small geographic areas and do not rise to the level that should require action by the federal government.

Increasingly, Americans are becoming overly dependent on federal assistance after natural disasters occur. In fact, there is evidence that with each new catastrophe, disaster victims have come to expect more federal relief than was previously offered.⁶ Further, disaster assistance appears to have become a political tool because the number of disaster declarations is significantly higher in election years compared to non-election years.⁷ For example, one study of Federal Emergency Management Agency (FEMA) disaster payments not only found that states having higher political importance to presidents receive higher payments, but states having greater congressional representation on subcommittees with FEMA oversight responsibilities receive more in disaster payments than states with less representation.⁸

Since the 1996, the year President Clinton sought reelection, the number of disaster declarations issued by FEMA dramatically increased.⁹ Chart 1 demonstrates this trend. As my Heritage Foundation colleague Matt A. Mayer has previously showed, "the yearly average of FEMA declarations tripled from 43 under President George H. W. Bush, to 89 under President Clinton, to 130 under President George W. Bush."¹⁰ The record of the most declarations in a year was set by President Clinton in 1996 with 158 declarations. However, President Obama smashed this record with 242 declarations in 2011. Given that 2012 is a presidential election year, this record may not last long.

FEMA Declarations, by Year and by Presidential Administration



* Based on data through January 19, 2012.

** Figures are prorated for Kennedy, Johnson, Nixon, and Ford Administrations.

Note: Annual totals may not add up to presidential totals during the same time period due to the January 20 inauguration date.

Source: FEMA Disaster Search database, at <http://www.fema.gov/femaNews/disasterSearch.do?action=Reset> (January 20, 2012).

Chart 1 • WM 3466 heritage.org

Since 1953, there have been 3,367 disaster declarations.¹¹ During the past 19 years, from Presidents Bush to Obama, presidential declarations number 2,213—66 percent of all declarations.¹² Essentially, this trend is the result of disaster responses that were once entirely local in nature and handled by state and local governments becoming “nationalized” and thus the responsibility of the federal government.

This nationalization has led to an ever growing share of the total cost of natural disasters being dumped on an already strained federal budget.¹³ According to my co-panelist, Professor Howard Kunreuther of the Wharton School’s Risk Management and Decision Processes Center, the amount for aid provided by the federal government as a percentage of total damage caused by a major disaster is steadily increasing.¹⁴ For example, federal aid comprised 50 percent of the total damage caused by Hurricane Katrina (2005).¹⁵ Just three years later, federal aid increased to 69 percent of total damage caused by Hurricane Ike (2008).¹⁶

The Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1998 (Stafford Act) established that for a disaster to be eligible for federal assistance, the disaster must be “of such severity and magnitude that effective response is beyond the capabilities of the State and the affected local governments and that Federal assistance is necessary.”¹⁷ Regardless of this apparent requirement, FEMA “has approved disaster declarations for many natural disasters that historically and factually were not beyond the capabilities of states and localities.”¹⁸ Returning to the original understanding of what necessitates the federal government’s involvement does not mean that local natural disasters are not “catastrophic” for a particular community. Rather, “It simply means that most natural disasters occur within confined geographic areas and that states and localities can handle them without federal involvement.”¹⁹

The majority of states do not benefit from federal assistance, because only a minority of states receives the benefit of FEMA disaster declarations.²⁰ Thus, the majority of states send their disaster-response tax dollars to Washington, D.C., so FEMA can subsidize disaster response for the minority of states.

Out-of-Control Spending

On December 31, 2011, the gross debt racked up by the federal government reached \$15.2 trillion—the legal limit as authorized by Congress.²¹ In response, on January 12, 2012, President Barack Obama formally notified Congress of his intent to raise the nation’s debt ceiling by \$1.2 trillion—from \$15.2 to \$16.4 trillion.²²

The Congressional Budget Office (CBO) recently reported that the federal budget for fiscal year (FY) 2012 will be nearly \$1.1 trillion.²³ “Measured as a share of gross domestic product (GDP),” the CBO reports, “that shortfall will be 7.0 percent, which is nearly 2 percentage points below the deficit recorded last year but still higher than any deficit between 1947 and 2008.”²⁴

For the end of FY 2012 on September 30, 2012, the federal government's gross debt is estimated to reach 104.8% of Gross Domestic Product or \$16.4 trillion.²⁵ \$16.4 trillion is a staggering sum that is difficult for Americans to behold. If we did we would be truly frightened at the prospect of paying it off. How did we accumulate this massive debt?

While the deficit and debt is driven largely by entitlement spending—Medicare, Medicaid, and Social Security—the Disaster Loan Fairness Act, and all the other new spending programs being advocated in Congress only move the nation closer to fiscal insolvency. While the cost of the Disaster Loan Fairness Act has not been formally estimated by the CBO, the annual cost of the legislation will greatly expand as the number of disaster declarations declared each year continues to rapidly grow. Further, the Disaster Loan Fairness Act does not provide any spending offsets. In addition, the Act does nothing to reduce the cost of future disaster recoveries. Given the increasing financial stress facing the federal government, reform should be focused on preventative measures that limit the costs of disaster recovery.

Moral Hazard and Other Unintended Consequences

Generous federal disaster relief creates a “moral hazard” by discouraging individuals and businesses from purchasing natural catastrophe insurance. Currently, SBA disaster loans are awarded regardless of whether the beneficiaries previously took steps to reduce their exposure to losses from natural disasters. Increasing the generosity of SBA disaster loans will only provide greater encouragement for homeowners, renters, and businesses to avoid purchasing adequate disaster insurance because natural disasters are low probability events. The Disaster Loan Fairness Act does nothing to reduce the exposure of Americans to property losses and the need for disaster assistance for future catastrophes.

While SBA disaster loans are intended to help applicants return their property to the same condition as before the disaster, the unintended consequence of this requirement is that applicants are forced to rebuild in disaster-prone locations. For example, instead of relocating out of a town sitting in a major flood zone, applicants are required to rebuild in the exact same location. Thus, applicants are still located in a high-risk area. In many cases, the loans fail to offer a long-term solution. While this dilemma exists with or without passage of the Disaster Loan fairness Act, the legislation only increases the incentive to rebuild in high-risk areas.

Conclusion

The Disaster Loan Fairness Act is neither fair to the federal taxpayer nor an effective reform of our nation's disaster prevention and recovery policies. The Act fails to address the increasing nationalization of disaster responses, while continuing the federal government's out-of-control spending. Last, the Act unnecessarily increases the moral hazard and other unintended consequences of providing disaster loans.

Instead of considering legislation like the Disaster Loan Fairness Act, Congress should focus on reforms that make America more resilient to catastrophes and reduce recovery costs imposed on the federal taxpayer.

The Heritage Foundation is a public policy, research, and educational organization recognized as exempt under section 501(c)(3) of the Internal Revenue Code. It is privately supported and receives no funds from any government at any level, nor does it perform any government or other contract work.

The Heritage Foundation is the most broadly supported think tank in the United States. During 2010, it had 710,000 individual, foundation, and corporate supporters representing every state in the U.S. Its 2010 income came from the following sources:

Individuals	78%
Foundations	17%
Corporations	5%

The top five corporate givers provided The Heritage Foundation with 2% of its 2010 income. The Heritage Foundation's books are audited annually by the national accounting firm of McGladrey & Pullen. A list of major donors is available from The Heritage Foundation upon request.

Members of The Heritage Foundation staff testify as individuals discussing their own independent research. The views expressed are their own and do not reflect an institutional position for The Heritage Foundation or its board of trustees.

¹U.S. Small Business Administration, *FY 2012 Congressional Budget Justification and FY 2010 Annual Performance Report*, p. 56, at http://www.sba.gov/sites/default/files/FINAL%20FY%202012%20CBJ%20FY%202010%20APR_0.pdf (February 13, 2012).

²U.S. Small Business Administration, *FY 2013 Congressional Budget Justification and FY 2011 Annual Performance Report*, p. 53, at <http://www.sba.gov/sites/default/files/files/FY%202013%20CBJ%20FY%202011%20APR.pdf> (February 13, 2012).

³U.S. Government Accountability Office, *Natural Disasters: Public Policy Options for Changing the Federal Role in Natural Catastrophe Insurance*, November 2007, p. 16, at <http://www.gao.gov/assets/270/269745.pdf> (February 13, 2012).

⁴*Ibid.*

⁵For an example of proposed reforms, see Matt Mayer, David John, and James Jay Carafano, "Principles for Reform of Catastrophic Natural Disaster Insurance," Heritage Foundation *Backgrounders* No. 2256, April 8, 2009, at <http://www.heritage.org/research/reports/2009/04/principles-for-reform-of-catastrophic-natural-disaster-insurance>.

⁶Erwann Michel-Kerjan and Jacqueline Volkman-Wise, "The Risk of Ever-growing Disaster Relief Expectations," Risk Management and Decision Processes Center, The Wharton School, University of Pennsylvania, Working Paper 32011-09, July 2011, at http://opim.wharton.upenn.edu/risk/library/WP2011-09_ReliefExpectations.pdf (February 13, 2011); Michele L. Landis, "Fate, Responsibility, and 'Natural' Disaster Relief: Narrating the American Welfare State," *Law & Society Review*, Vol. 33, No. 2 (1999), pp. 257-318; and Michele L. Landis, "Let Me Next Time Be Tried By Fire: Disaster Relief and the Origins of the American Welfare State 1789-1874," *Northwestern University Law Review*, Vol. 92, No. 3 (1998), pp. 967-1034.

⁷Thomas R. Garrett and Russell S. Sobel, "The Political Economy of FEMA Disaster Payments," *Economic Inquiry*, Vol. 41, No. 3 (2003), pp. 496–509, and Erwann Michel-Kerjan, "Catastrophe Economics: The U.S. National Flood Insurance Program," *Journal of Economic Perspectives*, Vol. 24, No. 4 (2010), pp. 165–186.

⁸Garret and Sobel, "The Political Economy of FEMA Disaster Payments."

⁹The data presented in Chart 1 are based on Matt A. Mayer, "Congress Should Limit the Presidential Abuse of FEMA," Heritage Foundation *WebMemo* No. 3466, January 24, 2012, at

<http://www.heritage.org/research/reports/2012/01/congress-should-limit-the-presidential-abuse-of-fema>.

¹⁰Matt Mayer, "States: Stop Subsidizing FEMA Waste and Manage Your Own Local Disaster," Heritage Foundation *Backgrounder* No. 2323, September 29, 2009, p. 1, at

<http://www.heritage.org/research/reports/2009/09/states-stop-subsidizing-fema-waste-and-manage-your-own-local-disasters>.

¹¹Mayer, "Congress Should Limit the Presidential Abuse of FEMA," p. 3.

¹²*Ibid.*

¹³Some may argue that the reason for the growth of the federal government's role in disaster recovery is a result of the states not being able to afford financing their own disaster recoveries. The federal government is facing a severe financial crisis and can no longer bailout the states that avoid their responsibilities. Public safety is a priority of state and local governments. If state and local governments are not willing to adopt policies to mitigate the effects of natural disasters and recover from these incidents afterward, then they are not fulfilling their obligations to their citizens.

¹⁴Howard Kunreuther and Erwann Michel-Kerjan, "People Get Ready: Disaster Preparedness," *Issues in Science and Technology*, Vol. 28, No. 1 (2011), pp. 1–7, at

http://opim.wharton.upenn.edu/risk/library/J2011IST_PeopleGetReady.pdf (February 13, 2011).

¹⁵*Ibid.*, p. 3

¹⁶*Ibid.*

¹⁷42 U.S. Code § 5191(a).

¹⁸Matt A. Mayer, David C. John, and James Jay Carafano, "Principles for Reform of Catastrophic Natural Disaster Insurance," Heritage Foundation *Backgrounder* No. 2256, April 8, 2009, p. 3, at

<http://www.heritage.org/research/reports/2009/04/principles-for-reform-of-catastrophic-natural-disaster-insurance>.

¹⁹*Ibid.*

²⁰Mayer, "States: Stop Subsidizing FEMA Waste and Manage Your Own Local Disaster," p. 3.

²¹U.S. Department of the Treasury, Bureau of the Public Debt, "Monthly Statement of the Public Debt of the United States, December 31, 2011," Table 1—Summary of Treasury Securities Outstanding, December 31, 2011, at <http://www.treasurydirect.gov/govt/reports/pd/mspd/2011/opds122011.pdf> (February 13, 2012).

²²David Nakamura, "Obama Asks Congress for Debt Limit Hike," *The Washington Post*, 44 (blog), January 12, 2012, at http://www.washingtonpost.com/blogs/44/post/after-delay-obama-asks-congress-for-debt-limit-hike/2012/01/12/gIQA3ADuP_blog.html (February 13, 2012).

²³Congressional Budget Office, *The Budget and Economic Outlook: Fiscal Years 2012 to 2022*, January 2012, p. x, at http://www.cbo.gov/ftpdocs/126xx/doc12699/01-31-2012_Outlook.pdf (February 13, 2012).

²⁴*Ibid.*

²⁵Office of Management and Budget, *Historical Tables, Budget of the United States, Fiscal Year 2012* (Washington, D.C.: U.S. Government Printing Office, 2010), Table 7.1—Federal Debt at the End of Year: 1940–2017, pp. 139–140, at

<http://www.whitehouse.gov/sites/default/files/omb/budget/fy2013/assets/hist.pdf> (February 13, 2012).

POLICYFORUM

DISASTER MANAGEMENT

Redesigning Flood Insurance

Erwann Michel-Kerjan* and Howard Kunreuther

Improved knowledge from a range of disciplines will be needed to price the much-needed financial products appropriately.

Insurance and government assistance play central roles in ensuring economic and social resilience in the aftermath of catastrophes in developed countries. Around the globe in the past decade, disasters have led to unprecedented claims payments to insured victims, and government relief to aid the uninsured and the affected communities has risen to historic levels (1–3). Increases in population, property values, and concentration of assets in hazard-prone areas are primary causes (2). Recent climate studies indicate we should also expect more extreme weather-related events in the future (4–6). The cumulative expected exposure of the U.S. government to catastrophes over the next 75 years could reach \$7 trillion (7).

We propose routes to improve flood insurance coverage through the U.S. National Flood Insurance Program (NFIP), one of the largest government disaster-insurance programs in the world. The U.S. Congress is discussing options for continuing the NFIP, which now operates under a 1-year extension, set to expire on 30 September 2011. The Federal Emergency Management Agency (FEMA), which is responsible for the NFIP, is reanalyzing the program. We argue that a new strategy for managing floods can increase personal responsibility, decrease risk, and lower government exposure. Improved scientific knowledge from a range of disciplines will be needed to price the proposed financial products appropriately. If successful in the United States, the approach could be explored by other countries.

Insuring Flood Risk

Floods are one of the most destructive hazards (8). In the United States, floods account for nearly two-thirds of all presidential disaster declarations over the period 1953–2010 (see supporting online material). Hurricanes Katrina, Rita, and Wilma and their resulting storm surge in 2005 cost over \$180 billion (2011 prices) (9). In the summer of 2010, one of the worst floodings in Pakistan's his-

tory affected more than 20 million people and inflicted \$8 billion to \$10 billion in recovery and reconstruction costs (10). China also experienced the worst floods in a decade, which cost \$50 billion (11). In December 2010, Australia suffered historical flooding.

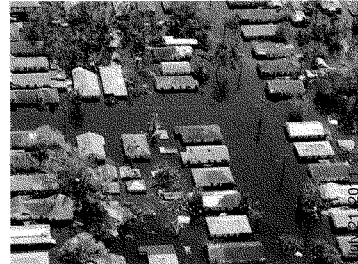
Low-income countries typically rely on government and international aid to cope with major floods. As countries reach a higher level of economic development, insurance mechanisms are used more broadly. Flood insurance can be private, as in Germany and the United Kingdom. In the United States, residents

purchase flood insurance mostly through the federally run NFIP, established in 1968 as a result of increased federal relief triggered by disasters in the 1960s and the insurance industry's refusal to cover this hazard because of their inability to accurately assess the risk (12). The NFIP covers \$1.2 trillion of property today (mainly in coastal states), over three times what was covered 20 years ago (13, 14).

NFIP premiums are established by the federal government. A homeowner can purchase building and contents coverage up to \$250,000 and \$100,000, respectively, but only if the community that he or she lives in participates in the program. This requires that a flood-risk map has been completed and that the appropriate public body has adopted adequate floodplain management regulations. Homeowners in high-risk areas (defined as "100-year" or "base" levels, expected to be flooded at least once every 100 years) are required to purchase coverage if they hold a federally backed mortgage.

Limits of the NFIP as Currently Designed

The absence of a large reserve has forced the NFIP into debt, as it has borrowed over \$19 billion from the U.S. Treasury to cover losses caused by the 2005 and 2008 hurricanes and floods (13). Subsidized insurance is part of the problem: Buildings that are near or below base flood elevation but that were in place before community flood-risk maps were completed are still charged rates that are considerably below the actuarial risk. This was



Devastating losses require better insurance.

done originally to maintain property values. About one-fourth of insured properties are still subsidized that way (15, 16). And even properties constructed after flood mapping are charged premiums based only on an average historical loss year (17).

The NFIP has not been able to enroll and retain many homeowners exposed to flood risk. Recent studies show that insurance penetration in flood-prone areas remains only at about 50% (18, 19). This lack of coverage is likely to increase the need for disaster relief after major floods. This situation is not specific to the United States. In Germany, flood insurance penetration is only 10% for single-family homes (20). After the major 2002 Elbe floods, the German government provided the largest amount of public funds ever paid in the country's history to compensate uninsured flood victims. In China, only 1 to 2% of the \$50 billion losses of last year's floods were insured (11).

Do a large proportion of homeowners never buy coverage, or do many who once purchased insurance let their policies lapse? To answer this question, we analyzed all new policies issued by the NFIP over the period 1 January 2001 to 31 December 2009 ($n = 8.9$ million) (21). The median length of time before these new policies lapsed is 3 to 4 years. On average, only 74% of new policies were still in force 1 year after they were purchased; after 5 years, only 36% were still in place. The lapse rate is high even after correcting for migration and does not vary much across flood zones (21).

Center for Risk Management and Decision Processes, Operations and Information Management Department, The Wharton School, University of Pennsylvania, Philadelphia, PA 19104, USA.

*Author for correspondence. E-mail: erwannmk@wharton.upenn.edu

Downloaded from www.sciencemag.org on

CREDIT: MARK KOSMAN/GETTY IMAGES



National Academy of Sciences
National Academy of Engineering
Institute of Medicine
The University of Texas at Dallas

Reprinted from ISSUES IN SCIENCE AND
TECHNOLOGY, Volume XXVIII, Number 1,
2011 © The University of Texas at Dallas

HOWARD KUNREUTHER
ERWANN MICHEL-KERJAN

People Get Ready Disaster Preparedness

*Natural catastrophes are becoming more common and more expensive,
but human and financial losses can be greatly reduced
through incentives to purchase insurance and install protective measures.*

In recent years, we have witnessed a dramatic increase in the economic cost and human impact from hurricanes, earthquakes, floods, and other natural disasters worldwide. Economic losses from these catastrophic events increased from \$528 billion (1981–1990) to more than \$1.2 trillion over the period 2001–2010.

Although we are only halfway through 2011, an exceptional number of very severe natural catastrophes, notably the March 2011 Japan earthquake and tsunami, will make 2011 a record year for economic losses. In the United States, the southern and midwestern states were hit by an extremely severe series of tornadoes in April and May, and at about the same time, heavy snowmelt, saturated soils, and over 20 inches of rain in a month led to the worst flooding of the lower Mississippi River since 1927. Hurricane Irene in August caused significant flooding in the northeast and is responsible for at least 46 deaths in the United States. Global reinsurance broker Aon Benfield reports that U.S. losses

from Irene could reach as high as \$6.6 billion; Caribbean losses from Irene are estimated at nearly \$1.5 billion.

Given the increasing losses from natural disasters in recent years, it is surprising how few property owners in hazard-prone areas have purchased adequate disaster insurance. For example, although it is well known that California is highly exposed to seismic risk, 90% of Californians do not have earthquake insurance today. This is also true for floods. After the flood in August 1998 that damaged property in northern Vermont, the Federal Emergency Management Agency (FEMA) found that 84% of the homeowners in flood-prone areas did not have insurance, even though 45% of these individuals were required to purchase this coverage because they had a federally backed mortgage. In the Louisiana parishes affected by Hurricane Katrina in 2005, the percentage of homeowners with flood insurance ranged from 57.7% in St. Bernard Parish to 7.3% in Tangipahoa when the hurricane hit. Only 40% of the residents in Orleans Parish had flood insurance.

Similarly, relatively few homeowners invest in loss-reduction measures. Even after the series of devastating hurricanes that hit the Gulf Coast states in 2004 and 2005, a May 2006 survey of 1,100 adults living in areas subject to these storms revealed that 83% of the respondents had taken no steps to fortify their home and 68% had no hurricane survival kit.

For reasons we will explain in this article, many homeowners are reluctant to undertake mitigation measures for reducing losses from future disasters. This lack of resiliency has made the United States not only very vulnerable to future large-scale disasters but also highly exposed financially. Given the current level of government financial stress, it is natural to wonder who will pay to repair the damage caused by the next major hurricane, flood, or earthquake.

To alleviate this problem, we propose a comprehensive program that creates an incentive structure that will encourage property owners in high-risk areas to purchase insurance to protect themselves financially should they suffer losses from these events and to undertake measures to reduce

property damage and the accompanying injuries and fatalities from future disasters.

Why are losses increasing?

Two principal socioeconomic factors directly influence the level of economic losses due to catastrophic events: exposed population and value at risk. The economic development of Florida highlights this point. Florida's population has increased significantly over the past 50 years: from 2.8 million inhabitants in 1950 to 6.8 million in 1970, 13 million in 1990, and 18.8 million in 2010. A significant portion of that population lives in the high-hazard areas along the coast.

Increased population and development in Florida and other hurricane-prone regions means an increased likelihood of severe economic and insured losses unless cost-effective mitigation measures are implemented. Due to new construction, the damage from Hurricane Andrew, which hit Miami in 1992, would have been more than twice as great if it had occurred in 2005. The hurricane that hit Miami in 1926 would have been almost twice as costly as Hurricane

TABLE 1

15 most costly catastrophe insurance losses, 1970–2010 (in 2011 U.S. dollars)

Cost (\$ billion)	Event	Victims (dead or missing)	Year	Area of primary damage
48.6	Hurricane Katrina	1,836	2005	USA, Gulf of Mexico, et al.
37.0	9/11 Attacks	3,025	2001	USA
24.8	Hurricane Andrew	43	1992	USA, Bahamas
20.6	Northridge Earthquake	61	1994	USA
17.9	Hurricane Ike	348	2008	USA, Caribbean, et al.
14.8	Hurricane Ivan	124	2004	USA, Caribbean, et al.
14.0	Hurricane Wilma	35	2005	USA, Gulf of Mexico, et al.
11.3	Hurricane Rita	34	2005	USA, Gulf of Mexico, et al.
9.3	Hurricane Charley	24	2004	USA, Caribbean, et al.
9.0	Typhoon Mireille	51	1991	Japan
8.0	Maule earthquake (Mw: 8.8)	562	2010	Chile
8.0	Hurricane Hugo	71	1989	Puerto Rico, USA, et al.
7.8	Winter Storm Daria	95	1990	France, UK, et al.
7.6	Winter Storm Lothar	110	1999	France, Switzerland, et al.
6.4	Winter Storm Kyrill	54	2007	Germany, UK, Netherlands, France

Katrina had it occurred in 2005, and the Galveston hurricane of 1900 would have had total direct economic costs as high as those from Katrina. This means that independent of any possible change in weather patterns, we are very likely to see even more devastating disasters in the coming years because of the growth in property values in risk-prone areas. In addition, recent climate studies indicate that the United States should expect more extreme weather-related events in the future.

Table 1 depicts the 15 most costly catastrophes for the insurance industry between 1970 and 2010. Many of these truly devastating events occurred in recent years. Moreover, two-thirds of them affected the United States.

Increasing role of federal disaster assistance

Not surprisingly, the disasters that occurred in now much more populated areas of the United States have led to higher levels of insurance claim payments as well as a surge in the number of presidential disaster declarations. Wind coverage is typically included in U.S. homeowners' insurance policies; protection from floods and earthquakes is not.

The questions that need to be addressed directly by Congress, the White House, and other interested parties are:

- Who will pay for these massive losses?
- What actions need to be taken now to make the country more resilient when these disasters occur, as they certainly will?

In an article published this summer in *Science* about reforming the federally run National Flood Insurance Program (NFIP), we showed that the number of major disaster declarations increased from 252 over the period 1981–1990, to 476 (1991–2000), to 597 (2001–2010). In 2010 alone there were 81 such major disaster declarations.

This more pronounced role of the federal government in assisting disaster victims can also be seen by examining several major disasters that occurred during the past 60 years as shown in Table 2. Each new massive government disaster relief program creates a precedent for the future. When a disaster strikes, there is an expectation by those in the affected area that government assistance is on the way. To gain politically from their actions, members of Congress are likely to support bills that authorize more aid than for past disasters. If residents of hazard-prone areas expect more federal relief after future disasters, they then have less economic incentive to reduce their own exposure and/or purchase insurance.

Reducing exposure to losses from disasters

Today, thanks to developments in science and technology, we can more accurately estimate the risks that different commu-

nities and regions face from natural hazards. We can also identify mitigation measures that should be undertaken to reduce losses, injuries, and deaths from future disasters, and can specify regions where property should be insured. Yet many residents in hazard-prone areas are still unprotected against earthquakes, floods, hurricanes, and tornados.

We address the following question: How can we provide short-term incentives for those living in high-risk areas to invest in mitigation measures and purchase insurance?

We first focus on why many residents in hazard-prone areas do not protect themselves against disasters (a behavioral perspective). We then propose a course of action that overcomes these challenges (a policy perspective). Specifically, we believe that multiyear disaster insurance contracts tied to the property and combined with loans to encourage investment in risk-reduction measures will lead individuals in harm's way to invest in protection and therefore be in a much better financial position to recover on their own after the next disaster. The proposed program should thus reduce the need for disaster assistance and be a win-win situation for all the relevant stakeholders as compared to the status quo.

Empirical evidence from psychology and behavioral economics reveals that many decisionmakers ignore the potential consequences of large-scale disasters for the following reasons:

Misperceptions of the risk. We often underestimate the likelihood of natural disasters by treating them as below our threshold level of concern. For many people, a 50-year or 25-year storm is simply not worth thinking about. Because they do not perceive a plausible risk, they have no interest in undertaking protective actions such as purchasing insur-

TABLE 2
Examples of federal aid as percentage of total disaster losses

Disaster	Federal aid as % of total damage
Hurricane Ike (2008)	69%
Hurricane Katrina (2005)	50%
Hurricane Hugo (1989)	23%
Hurricane Diane (1955)	6%

Source: Michel-Kerjan and Volkman-Wise (2011)

ance or investing in loss-reduction measures.

Ambiguity of experts. Experts often differ in their estimates of the likelihood and consequences of low-probability events because of limited historical data, scientific uncertainty, changing environmental conditions, and/or the use of different risk models. The variance in risk estimates leads to confusion by the general public, government entities, and businesses as to whether one needs to pay attention to this risk. Often, decisionmakers simply use estimates from their favorite experts that provide justifications for their proposed actions. We recently conducted an empirical study of 70 insurance companies and found that insurers are likely to charge higher premiums when faced with ambiguity than when the probability of a loss is well specified. Furthermore, they tend to charge more when there is conflict among experts than when experts agree on the uncertainty associated with the risk of flood and hurricane hazards.

Short horizons for valuing protective measures. Many households and small businesses project only a few years ahead (if not just months) when deciding whether to spend money on loss-reduction measures, such as well-anchored connections where the roof meets the walls and the walls meet the foundation to reduce hurricane damage. This myopic approach prevents homeowners from undertaking protective measures that can be justified from an economic perspective after 5 or 10 years. This short-sighted behavior can be partly explained by decisionmakers wanting to recoup their upfront costs in the next year or two even though they are aware that the benefits from investing in such measures will accrue over the life of the property.

Procrastination. If given an option to postpone an investment for a month or a year, there will be a tendency to delay the outlay of funds. When viewed from a long time perspective the investment will always seem worthwhile, but when one approaches the designated date to undertake the work, a slight delay always seems more attractive. Moreover, the less certain one is about a correct course of action, the more likely one is to choose inaction. There is a tendency to favor the status quo.

Mistakenly treating insurance as an investment. Individuals often do not buy insurance until after a disaster occurs and then cancel their policies several years later because they have not collected on their policy. They perceive insurance to be a bad investment by not appreciating the advantage that the "best return on an insurance policy is no return at all."

Failure to learn from past disasters. There is a tendency to discount past unpleasant experiences. Emotions run high when experiencing a catastrophic event or even viewing it

on TV or the Internet. But those feelings fade rapidly, making it difficult to recapture these concerns about the event as time passes.

Mimetic blindness. Decisionmakers often imitate the behavior of others without analyzing whether the action is appropriate for them. By looking at what other firms in their industry do, or following the example of their friends and neighbors, decisionmakers can avoid having to think independently.

In addition to these behavioral biases, there are economically rational reasons why individuals and firms in hazard-prone areas do not undertake risk-reduction measures voluntarily. Consider the hypothetical Safelee firm in an industry in which its competitors do not invest in loss-prevention measures. Safelee might understand that the investment can be justified when considering its ability to reduce the risks and consequences of a future disaster. But the firm might decide that it cannot now afford to be at a competitive disadvantage against others in the industry that do not invest in loss prevention. The behavior of many banks in the years preceding the financial crisis of 2008–2009 is illustrative of such a dynamic.

Families considering whether to invest in disaster prevention may also find the outlay to be unattractive financially if they plan on moving in a few years and believe that potential buyers will not take into account the lower risk of a disaster loss when deciding how much they are willing to offer for the property. More generally, homeowners might have other rational reasons for not purchasing disaster coverage or investing in risk-reduction measures when this expense competes with immediate needs and living expenses within their limited budget. This aspect has more significance today given the current economic situation the country faces and the high level of unemployment.

Reconciling the short and long term

The above examples demonstrate that individuals and businesses focus on short-term incentives. Their reluctance to invest in loss-prevention measures can largely be explained by the upfront costs far exceeding the short-run benefits, even though the investment can be justified in the long run. Only after a catastrophe occurs do the decisionmakers express their regret at not undertaking the appropriate safety or protective measures.

But it does not have to be that way. We need to reorient our thinking and actions so that future catastrophes are perceived as an issue that demands attention now.

Knowing that myopia is a human tendency, we believe that leaders concerned with managing extreme events need

to recognize the importance of providing short-term economic incentives to encourage long-term planning. We offer the following two concepts that could change the above-mentioned attitudes.

Extend financial responsibility over a multiyear period. Decisionmakers need an economic incentive to undertake preventive measures today, knowing that their investments can be justified over the long term. The extended financial responsibility and reward could take the form of multiyear contracts, contingent or delayed bonuses, reduced taxes, or subsidies.

The public sector should develop well-enforced regulations and standards to create level playing fields. Government agencies and legislative bodies need to develop well-enforced regulations and standards, coupled with short-term economic incentives to encourage individuals and the private sector to adopt cost-effective risk-management strategies. All firms in a given industry will then have good reasons to adopt sound risk-management practices without becoming less competitive in the short run.

Insurance mechanisms can play a central role in encouraging more responsible behavior in three ways. First, if priced appropriately, insurance provides a signal of the risk that an individual or firm faces. Second, insurance can encourage property owners in hazard-prone areas to invest in mitigation measures by providing them with premium reductions to reflect the expected decrease in losses from future disasters. Third, insurance supports economic resiliency. After a disaster, insured individuals and firms can make a claim to obtain funds from their insurance company, rather than relying solely on federal relief, which comes at the expense of taxpayers.

A multiyear approach

We propose that insurance and other protective measures be tied to the property rather than the property owner as currently is the case. We recommend the following features of such a program:

Required insurance. Since individuals tend to treat insurance as an investment rather than a protective mechanism, it may have to be a requirement for property located in hazard-prone areas, given the large number of individuals who do not have coverage today.

Vouchers for those needing special treatment. We recommend a new disaster insurance voucher program that addresses issues of equity and affordability. This program would complement the strategy of risk-based premiums for all. Property owners currently residing in a risky area who require special treatment would receive a voucher from

FEMA or the U.S. Department of Housing and Urban Development as part of its budget or through a special appropriation. This program would be similar to the Supplemental Nutrition Assistance Program (food stamps) and the Low Income Home Energy Assistance Program, which enable millions of low-income households in the United States to meet their food and energy needs every year. The size of the voucher would be determined through a means test in much the same way that the distribution of food stamps is determined today.

Multiyear insurance tied to property. Rather than the normal one-year insurance contract, individuals and business owners should have an opportunity to purchase a multiyear insurance contract (for example, five years) at a fixed annual premium that reflects the risk. At the end of the multiyear contract, the premium could be revised to reflect changes in the risk.

Multiyear loans for mitigation. To encourage adoption of loss-reduction measures, state or federal government or commercial banks could issue property improvement loans to spread the costs over time. For instance, a property owner may be reluctant to incur an upfront cost of \$1,500 to make his home more disaster-resistant but would be willing to pay the \$145 annual cost of a 20-year loan (calculated here at a high 10% annual interest rate). In many cases, the reduction in the annual insurance premium due to reduced expected losses from future disasters for those property owners investing in mitigation measures will be greater than their annual loan costs, making this investment financially attractive.

Well-enforced building codes. Given the reluctance of property owners to invest in mitigation measures voluntarily, building codes should be designed to reduce future disaster losses and be well enforced through third-party inspections or audits.

Modifying the National Flood Insurance Program

The National Flood Insurance Program (NFIP) was established in 1968 and covers more than \$1.2 trillion in assets today. The federally run program is set to expire at the end of September 2011, and options for reforms are being discussed. We believe that revising the program offers an opportunity to take a positive step in implementing our above-mentioned proposal.

We recently undertook an analysis of all new flood insurance policies issued by the NFIP over the period January 1, 2001, to December 31, 2009. We found that the median length of time before these new policies lapsed was three to four years. On average, only 74% of new policies were still in force one year after they were purchased; after five years,

only 36% were still in force. The lapse rate is high even after correcting for migration and does not vary much across different flood zones. We thus propose replacing standard one-year insurance policies with multiyear insurance contracts of 5 or 10 years attached to the property itself, not the individual. If the property is sold, then the multiyear flood insurance contract would be transferred to the new owner.

Premiums for such multiyear insurance policies should accurately reflect risk and be lower for properties that have loss-reduction features. This would encourage owners to invest in cost-effective risk-reduction measures, such as storm shutters to reduce hurricane damage. If financial institutions or the federal government provide home improvement loans to cover the upfront costs of these measures, the premium reduction earned by making the structure more resistant to damage is likely to exceed the annual payment on the loan.

A bank would have a financial incentive to make such a home improvement loan because it would have a lower risk of catastrophic loss to the property that could lead to a mortgage default. The NFIP would have lower claims payments due to the reduced damage from a major disaster. And the general public would be less likely to have large amounts of their tax dollars going for disaster relief, as was the case with the \$89 billion paid in federal relief after the 2004 and 2005 hurricane seasons and resulting floods. A win-win-win-win situation for all!

A governmental program that has some similarities to our proposal is the Property Assessed Clean Energy (PACE) program, which has been adopted by 27 states for promoting energy efficiency. PACE provides short-term rewards to encourage investments in technologies that will have long-term benefit. PACE provides long-term funding from private capital markets at low cost and needs no government subsidies or taxes. It increases property values by making heating and cooling less expensive, and it enjoys broad bipartisan support nationwide at state and local levels. Several features of the program that encourage property owners to take measures to make their home more energy-efficient mirror how property owners would want to make their homes more disaster-resistant:

Multiyear financing. Interested property owners opt in to receive financing for improvements that is repaid through an assessment on their property taxes for up to 20 years. PACE financing spreads the cost of energy improvements such as weather sealing, energy-efficient boilers and cooling systems, and solar installations over the expected life of these measures and allows for the repayment obligation to transfer automatically to the next property owner if the property is sold. PACE solves two key barriers to increased adoption

of energy efficiency and small-scale renewable energy: high upfront costs and fear that project costs won't be recovered before a future sale of the property.

Annual savings. Because basic energy-efficiency measures can cut energy costs by up to 35%, annual energy savings will typically exceed the cost of PACE assessments. The upfront cost barrier actually turns into improved cash flow for owners in much the same way that the reduction of annual insurance premiums could exceed the annual loan costs.

Transfer to new property owner. Like all property-based assessments, PACE assessments stay with a property after sale until they are fully repaid by future owners, who continue to benefit from the improvement measures. The multiyear insurance and mitigation contracts we propose would operate in the same way.

Now is the time

The nation has entered a new era of catastrophes. Exposure is growing, and the damage from disasters over the next few years is likely to exceed what we have experienced during this past decade. When the next catastrophe occurs, the federal government will very likely come to the rescue—again. If the public sector's response to recent disasters is an indicator of its future behavior, new records will be set with respect to federal assistance.

In order to avoid this outcome, we recommend that the appropriate governmental bodies undertake an economic analysis of the benefits and costs of the proposed multiyear insurance and risk-reduction loan programs compared to the current system of private and public insurance and federal disaster assistance.

We need bold leadership for developing long-term strategies for dealing with low-probability, high-consequence events. If Congress authorizes a study that examines these and other proposals when the NFIP comes up for renewal in September, it will be a major step forward in setting a tone for addressing the challenges of managing catastrophic risks. The United States is at war against natural hazards and other extreme events. Winning this war will be possible only if public policy integrates behavioral factors much more systematically into efforts to find sustainable solutions. As we have indicated, taking these steps will be difficult because of human reluctance to change. But we know what steps need to be taken. All it takes is the courage for us to act and the initiative to do so now.

Recommended reading

Jeffrey Brown, ed., *Public Insurance and Private Markets* (Washington, DC: American Enterprise Institute, 2010).

DISASTER PREPAREDNESS

- Erwann Michel-Kerjan and Howard Kunreuther, "Redesigning Flood Insurance," *Science* 333 (July 22, 2011): 408–409.
- Howard Kunreuther and Erwann Michel-Kerjan, *At War with the Weather: Managing Large-Scale Risks in a New Era of Catastrophes* (Cambridge, MA: MIT Press, 2011).
- Howard Kunreuther and Erwann Michel-Kerjan, testimony before the U.S. Senate Committee on Appropriations: Financial Services and General Government Subcommittee on July 28, 2011, Federal Disaster Assistance Budgeting: "Are We Weather Ready?" <http://appropriations.senate.gov/htffinancial.cfm?method=hearings.view&id=15863533-bd47-4e77-81df-8acf693e73b0>.
- Deborah Lucas, ed., *Measuring and Managing Federal Financial Risk* (Chicago: University of Chicago Press, 2010).
- National Research Council, *Adapting to the Impacts of Climate Change* (Washington, DC: National Academies Press, 2010).
- Howard Kunreuther (kunreuther@wharton.upenn.edu) is the James G. Dinan Professor and professor of decision sciences and business and public policy at the Wharton School and codirector of the Risk Management and Decision Processes Center. Erwann Michel-Kerjan (erwannmk@wharton.upenn.edu) is managing director of the Wharton Risk Management and Decision Processes Center and teaches value creation in the Wharton MBA program. They are coauthors of *At War with the Weather* (MIT Press, available in paperback September 2011; www.AtWarwithTheWeather.com).

