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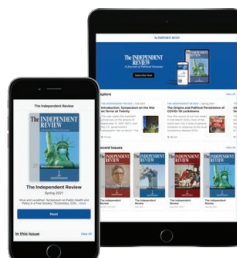
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Disaster Relief as Bad Public Policy

— ♦ —

WILLIAM F. SHUGHART II

There are classes of problems that free markets simply do not deal with well.

—Thomas Schelling¹

At first blush, disaster relief belongs to a class of problems ill suited for private-market solution. It seems obvious that coordinated emergency responses on a scale and scope far beyond the capacities of individual actors, charitable organizations, and even local and state governments are indispensable when Mother Nature strikes with the wrath of a Hurricane Camille, Andrew, or Katrina, when levee breeches cause massive flooding of towns and farmland along the upper Mississippi Valley, or when tornadoes and earthquakes shatter lives and wreck property in the blink of an eye. Disaster relief arguably is, in short, something of a *public good* that would be undersupplied if responsibility for providing it were left in the hands of the private sector. If this line of reasoning is sound, the activity of the Federal Emergency Management Agency (FEMA) or something like it is a proper function of the national government.

But I don't think that it is. A pure public good is both nonrival in consumption (that is, one person can consume the good without reducing the amount available for

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1. Quoted in Gosselin 2005. Professor Schelling was commenting on the problems of coordinating the repopulation and rebuilding of New Orleans after Hurricane Katrina. See Landry et al. 2007 for some evidence on the economic determinants of Katrina survivors' return migration decisions.

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others to consume) and nonexcludable (that is, access to the good cannot be denied to anyone, including individuals who have not contributed to financing its provision). Weather forecasts (Ewing, Kruse, and Sutter 2007, 319), national defense, and some types of intellectual property qualify by that definition; other examples are difficult to come by. Indeed, the private sector in fact successfully supplied the stereotypical pure public good—the coastal lighthouse (see, for example, Sidgwick 1901, 406)—for decades (Coase 1974).

In this article, I argue that even if disaster relief is thought of as a public good—a form of “social insurance” against fire, flood, earthquake, and other natural catastrophes—it does not follow that government provision is the only or necessarily the best option. Indeed, I show that both economic theory and the historical record point to the conclusion that the public sector predictably fails to supply disaster relief in socially optimal quantities. Moreover, because it facilitates corruption, creates incentives for populating disaster-prone areas, and crowds out self-help and other local means of coping with disaster, government provision of assistance to disaster’s victims actually threatens to make matters worse.

Disaster relief is a bad public good for several reasons. First, the immediate task required of first responders is to supply what are essentially private goods. Rescuing survivors from the rooftops of flooded homes and businesses or digging them out of the rubble are rivalrous activities. Everyone in immediate danger cannot be moved to safety simultaneously; when a rescue crew is working to locate survivors at one disaster scene, others necessarily must wait their turns. Emergency-relief supplies, such as drinking water, meals ready to eat, blankets, and temporary housing likewise are fully private goods, whose consumption by one victim reduces the amount available for all. The critical responsibility of first responders to natural disaster is to mobilize and distribute such aid rapidly, but the mass distribution of private goods is not an activity in which government has a distinct comparative advantage.

Second, both the modern theory of property rights (De Alessi 2001) and public-choice reasoning emphasize that governments, like markets, can fail to produce ideal results and, moreover, that government failure occurs not because of differences in the motives of the actors in the public and private sectors—all are assumed to pursue their self-interests rationally—but rather because the institutions that govern collective action differ in important ways from the ones that organize private action. Several implications for disaster preparedness and disaster relief follow directly from recognition of the differences in the incentives and constraints that face private-market participants, on the one hand, and public officials, on the other. The first implication is that the democratic process provides a larger political payoff to new public-works projects and real estate development initiatives than to maintenance of existing infrastructure. The second implication is that the absence of well-defined property rights in the government sphere produces an aversion to risk taking: better for public officials to do nothing than to take actions that in hindsight might expose them to criticism.

Third, disaster relief breeds public corruption. Drawing an analogy to the so-called natural-resource curse or the Dutch disease, Peter Boettke and associates (2007) as well as Peter Leeson and Russell Sobel (2008) argue that the “windfall” of money and other resources that pours into a disaster’s impact area, the chaotic atmosphere in which relief is distributed, and the public-relations imperative to be seen “doing something” quickly to alleviate the suffering creates circumstances ripe for corruption and waste. In fact, the evidence suggests that because responses to emergencies typically are conducted with little attention to oversight or personal accountability, other things being equal, public officials are more likely to be indicted and convicted of corruption in disaster-prone states.²

Fourth, disaster relief is a bad public good owing to another of its “unintended” consequences. No matter how well meant, the measures taken to provide “relief”—generous injections of public money and in-kind assistance to succor a disaster’s victims; commitments to spend billions of tax dollars to rebuild the areas laid waste by Mother Nature; promises of grants, tax breaks, and low-interest loans for property owners, including those who failed to obtain private or federally subsidized hazard insurance; and lawsuits against private insurers aimed at forcing them to pay for losses not explicitly covered by the policies they sold—reduce the cost of living in disaster-prone regions and hence create incentives for individuals and businesses to put themselves in harm’s way. Publicly financed disaster relief, in short, creates moral hazard (Pauly 1968), ensuring that the next natural catastrophe will produce more fatalities and more property damage than the previous one did.

In the remainder of this article, I flesh out the foregoing arguments. In doing so, I update and extend my earlier study of the public and private responses to Hurricane Katrina, which slammed into the Gulf of Mexico coast on Monday, August 29, 2005 (Shughart 2006).

Prelude to Disaster

Hurricane Katrina formed in the Bahamas on Thursday, August 25, 2005, and soon thereafter reached Category 3 strength (Ripley 2005b, 56). Two days later storm-surge models run at Louisiana State University’s (LSU) Center for the Study of the Public Health Impacts of Hurricanes predicted that Katrina would hit New Orleans hard enough to inundate the city (Ripley 2005b, 56). Indeed, LSU’s Katrina simulations generated results eerily similar to those of a training exercise staged by FEMA the previous summer. In that July 2004 drill, “Hurricane Pam,” a hypothetical Category 3 storm assumed to make landfall at New Orleans, produced catastrophic flooding (Block, Schatz, and Fields 2005; National Broadcasting Co. [NBC] 2005, 7). Although some of FEMA’s own officials and the U.S. Army Corps of Engineers

2. Anbarci, Escaleras, and Register 2005 supplies evidence that corruption and other forms of government failure contribute to earthquake-related death tolls.

greeted the results of that exercise with skepticism (Block, Schatz, and Fields 2005; NBC 2005, 7), the threat posed by “Pam” (and by Katrina) was all too real.

Because New Orleans lies almost entirely below sea level, the city “is uniquely vulnerable to flooding” (NBC 2005, 3). “Nowhere is [the city] higher than the river’s natural bank. . . . Every drop of rain that falls on New Orleans evaporates or is pumped out” (McPhee 1989, 59). The city went under in 1735 and again in 1785 (McPhee 1989, 33) and 1849 (Barry 1997, 34). Hurricane Betsy flooded 20 percent of New Orleans in 1965 (Thomas 2005a). The city narrowly avoided similar fates in 1973, 1997, and, most famously, 1927, when it was saved at the eleventh hour by levee breaches upriver that diverted rising floodwaters produced by months of heavy rains to low-lying areas farther north (Barry 1997, 257–58, 2005).³

FEMA’s mock “Hurricane Pam” exercise had not been the first harbinger of the Big Easy’s vulnerability. As a matter of fact, “scenarios projecting a major hurricane making landfall near New Orleans have been studied for the last 20 years” (Ewing, Kruse, and Sutter 2007, 315). In 2002, yet another publicly funded study also concluded that a slow-moving Category 3 storm would cause major flooding “in the bowl of New Orleans north of the Mississippi River” (Carrns et al. 2005). Although the 350-mile-long levee system protecting the city had supposedly been designed to withstand storms of that strength, the Corps of Engineers had repeatedly warned state and local officials that soil erosion and subsidence had caused long stretches of the flood barrier to sink as much as three feet below the original grade and that the barrier urgently needed to be “lifted” (Carrns 2005b).

After a last-minute course change caused Katrina to veer east of New Orleans, local officials may have congratulated themselves on being as lucky as they had been in 1988, when Hurricane Georges narrowly missed hitting the city head on, but their luck soon ran out. Pushed by winds between 125 and 140 miles per hour (Pain 2005), Katrina’s powerful storm surge caused the first of three major levee breaches, allowing the Mississippi River and Lake Pontchartrain to flood the city. The levee system sprang leaks in dozens of other locations (Carrns 2005a, b). Nearly 80 percent of New Orleans was soon under water, in some places as deep as twenty feet (Carrns et al. 2005).

Although Katrina was on the National Hurricane Center’s radar screen for days before making landfall in Mississippi (Ewing, Kruse, and Sutter 2007, 315) and public officials were fully informed as to the threat it posed, they nevertheless failed to prepare for disaster and then mounted a response that was both sluggish and inept.

The Levees Fail

Politicians and bureaucrats are self-interested actors who, because the mass of voters is unorganized and rationally ignorant about policy processes, are more responsive to

3. According to LSU’s Roy Dokka, “This is a place where people shouldn’t be living, yet we’re here” (qtd. in Bourne 2007, 57).

the demands of special interests than to the interests of the public at large. Insofar as they are motivated primarily by the goals of reelection or reappointment to office, agents in the public sector assign less weight to the future benefits and costs of any action than they do to those that will occur in the nearer term. Most public decisions are influenced by results that are highly visible and for which credit can be taken before the next election or the next opportunity for promotion to higher office. Actors in the private sector, in contrast, are less shortsighted because markets impound in current prices the appropriately discounted future consequences of any present decision or choice. Because publicly financed infrastructure deteriorates slowly and often invisibly, politicians and bureaucrats have little to lose by deferring repairs and neglecting routine maintenance. Political myopia also explains why it is politically rational to postpone the development of plans for coping with disasters that in all likelihood will strike after incumbent officeholders' careers in the public sector have ended (Sobel and Leeson 2006).

The combination of benign and malign neglect vouchsafed to New Orleans's protective barriers thus is unsurprising, given the institutional environment in which public decision makers operate. During the disaster caused by Katrina, political shortsightedness was reinforced by the Balkanization of public responsibility for flood control on the lower Mississippi River.⁴ Most of the levees then in place were built by the U.S. Army Corps of Engineers with federal funds.⁵ However, the daily operations of the complex system of floodwalls, floodgates, earthen embankments, and pumping stations arrayed along the river's course from east of Baton Rouge to just beyond New Orleans were at the time of Katrina overseen by four separate levee district boards. Each of these boards, whose memberships included both gubernatorial and local political appointees, wielded broad taxing and borrowing powers for financing routine levee maintenance and for contributing a share (usually 30 percent) of the cost of major repairs or other flood-control work the corps recommended as a result of its annual spring inspections. In the City of New Orleans itself, an independent water and sewer board operated and maintained the pumps and canals for draining low-lying areas (Carrns 2005b).

This fragmentation of bureaucratic responsibility between construction and maintenance and among independent, geographically defined levee districts had foreseeable consequences. "So often compared to the Great Wall of China, the levees had more in common with the Maginot Line" (McPhee 1989, 46). A National Science Foundation-funded team sent to investigate post-Katrina flooding in New Orleans concluded that many of the weak spots breached by the storm resulted from unclear lines of authority and insufficient coordination among the various agencies with jurisdiction

4. The international development-aid business likewise has been plagued by the fragmentation of bureaucratic responsibility ("A Scramble for Africa" 2008).

5. See MCPhee 1989 for a perceptive history of the Army Corps of Engineers' costly—and in all likelihood ultimately futile—efforts to keep the lower Mississippi River in its present channel.

over the levee system. Floodwalls were built to different heights in some locations and of different, ineffectively joined materials in others. At one pumping station, for which at least three separate agencies were responsible, a concrete floodwall connected to an earthen levee that was much lower. Katrina's storm surge overflowed the shorter structure, rendering the more substantial one useless (Carrns 2005b).

As a matter of fact, the first waters to enter the city gushed through a floodgate at a railroad crossing along the Industrial Canal that had been damaged by a train derailment in September 2004 but had not yet been repaired owing to a dispute over funding between the railroad and the Orleans Levee District board responsible for that section of the levee (Carrns 2005b). In addition, most of the levee along the same river stretch was built around a steel floodwall that had no horizontal footing, was surrounded by protective pilings that may not have been driven deep enough to provide stability, was compromised further by seepage underneath its base, and consequently was simply pushed aside by Katrina's storm surge, creating an opening so large that a river barge was swept through it (Carrns 2005a).

Perhaps lured into complacency by the comparatively mild hurricane activity in the Atlantic from the mid-1960s to the mid-1990s (Thomas 2005b, 45) and undoubtedly responsive to the interests of local developers, realtors, financial institutions, and other benefiting groups, Louisiana's levee district boards expanded their bureaucratic fiefdoms far beyond their original mandates. Over time, the Orleans Levee District board, using its powers of eminent domain for flood-control projects, became the largest landlord at Lake Pontchartrain. It built two marinas there; constructed parks, walking paths, and other amenities along the lakefront levees; and to spur development at its marinas built roads, a commuter airport, and a dock it leased to the *Belle of Orleans*, a floating casino, in return for a cut of the gaming revenue. The Orleans District board also considered but ultimately abandoned a plan to lay fiber-optic cable through twenty-six miles of the levee system (Thomas 2005b, 45). The humdrum, largely invisible job of levee maintenance took a back-seat to more newsworthy and more politically rewarding lakefront-development initiatives. In the words of one board member, "We never talked about levees" (qtd. in Ripley 2005a, 36).⁶

The complex system of levees protecting New Orleans is itself a form of social insurance in the sense that a major breach at any point would expose the city to widespread flooding. It nevertheless was politically rational for individual boards to

6. Louisiana's levee district boards, it should come as no surprise, "became vehicles for [bloated] government contracts and political patronage" (Carrns 2005b) that contributed to the faulty construction and poor maintenance of New Orleans's defenses against flooding. Vito Tanzi and Hamid Davoodi (1997) note that corruption provides incentives for policymakers to push public expenditures into areas where bribe taking is easier, biasing government spending in favor of military rather than civilian needs and toward large, costly construction projects and away from infrastructure maintenance and relatively low-cost projects with potentially larger social payoffs. Because corruption is illegal and effort must be supplied to avoid detection, corrupt officials may tend to "choose [to supply] goods whose exact value is difficult to monitor" (Mauro 1998, 264).

ignore threats caused by inadequate construction or maintenance at locations along the levee lying beyond their areas of direct responsibility: local voters could not reward them for cooperating with other boards to shore up the city's defenses elsewhere, and the members of one board could avoid blame if failure occurred at a point under the jurisdiction of another. Although all levee boards shared responsibility for maintenance, marinas and other real estate development initiatives were more concentrated geographically, so local board members could more fully internalize the initiatives' political benefits.

Although Katrina initially was classified as a Category 4 storm, one more powerful than New Orleans's levee system was intended to withstand, it is now thought to have been weaker. Indeed, because Katrina's eye made landfall on the Mississippi Gulf Coast, it is probable that most of the Big Easy experienced a hurricane of at most Category 2 strength; the maximum wind speed recorded by a National Aeronautics and Space Administration office on the eastern side of the city was ninety-five miles per hour (Pain 2005). It is important to keep in mind, however, that Katrina's twenty-nine-foot storm surge—the highest ever recorded on the coast (Thomas 2005b, 46)—was generated while the hurricane was still at sea and of Category 4 or 5 strength. Its power to do damage was reinforced by the Mississippi River Gulf Outlet (MR-GO), an Army Corps of Engineers project completed in 1965 that created an alternate shipping channel just east of New Orleans. A “commercial bust,” “an impressive monument to federal folly,” “a giant saltwater siphon” that has destroyed more than twenty thousand acres of wetlands that otherwise would have served as a natural storm barrier (Wells 2008, 209, 212), MR-GO “funneled storm surge . . . straight into the city” (Bourne 2007, 44).⁷

All the same, “it's never been a secret” that “even a [Category] 2 would be a problem for certain areas” of the city, according to a reporter for the *New Orleans Times-Picayune* (NBC 2005). Thus, faulty construction and poor maintenance—the hallmarks of public works—were proximate causes of the massive failure of New Orleans's defenses on August 30.

The Public Sector Procrastinates

Government agencies are created by legislation, overseen by elected officials, and operated by huge bureaucracies. Public employees' fear of being blamed for doing something wrong (or failing to do something right) produces risk aversion, leading each level of government to attempt to control the one below it by writing and imposing detailed operating rules that restrict underlings' discretionary authority. One result of top-down control is that the people who set priorities and make decisions are often separated by multiple layers of management from those on the ground who know

7. Katrina's storm surge breached the levees built along MR-GO at twenty different locations—“miles long sections of it were simply gone” (Wells 2008, 155).

what really needs to be done. Relevant information becomes impacted in semiautonomous centers of government authority, and little incentive exists for sharing that information in mutually beneficial ways (Sobel and Leeson 2007).

The public response to Katrina was hampered by a confused chain of command, which began at the top. Officials at the White House and the Defense Department apparently dithered for days about whether to “federalize” National Guard units in the affected area, as the president’s father had done after the 1992 Los Angeles riots (Thomas 2005b, 48). That debate may have had partisan overtones. On his first post-Katrina visit to Louisiana on Friday, September 2, President George W. Bush is reported to have asked Louisiana governor Kathleen Babineaux Blanco, a Democrat, to relinquish control of the local law enforcement and National Guard troops under her command. After thinking about the matter for twenty-four hours, she refused, evidently believing that the proposal was motivated by the president’s eagerness to claim credit for a relief operation that at long last was showing progress. No such request was made of Mississippi’s governor Haley Barbour, a Republican (Ripley 2005a, 39).⁸

Nearing the end of a five-week-long vacation at his Crawford, Texas, ranch (Thomas 2005a) and evidently unaware of the magnitude of the disaster on the Gulf Coast, President Bush’s attention was elsewhere. On the day Katrina made landfall, he kept two previously scheduled speaking engagements at senior centers, one in Arizona, the other in California, to promote the new Medicare Part-D drug benefit program (“Katrina Timeline” 2005). The next day, Tuesday, August 30, with the USS *Ronald Reagan* as backdrop, the president spoke on the Iraq War at a naval base in San Diego and then returned to Crawford for the final night of his vacation (“Katrina Timeline” 2005). On the way back to Washington on Wednesday, Air Force One flew over New Orleans for thirty-five minutes to allow a presidential bird’s eye view of conditions on the ground (“Katrina: What Happened When” 2005).

For the president, who appeared “listless and confused” (“The Shaming of America” 2005), “casual to the point of carelessness,” as the *New York Times* editorialized on September 1, reality did not sink in until Thursday night (Thomas 2005a). He reacted initially to the mounting criticism of the federal relief effort by praising the people in charge—“Brownie, you’re doing a heck of a job,” he told FEMA director Michael Brown—and attempting to shift the blame to state and local officials (“Katrina Time Line” 2005). Not until Tuesday, September 13, the day after Brown had resigned, did the president accept personal responsibility for the government’s sluggish response (“Katrina: What Happened When” 2005).

Politics may have played a role in President Bush’s failure to take charge of the federal relief effort quickly. Serving his second term in the White House, he had little

8. Additional evidence of partisanship is that “on a per capita basis” Mississippi “secured three times Louisiana’s share of the congressional allocation designated for community development block grants, a prime vehicle for funneling billions in disaster aid to the two states” (Horne [2006] 2008, 99).

incentive to worry about the future consequences of inaction. In contrast, when Hurricane Charley had struck the electoral-vote-rich battleground state of Florida the previous August and with his own reelection campaign in full swing, the president had been on the ground two days later (Cable News Network 2004). Like his father before him, who had toured parts of the same state within hours after Hurricane Andrew made landfall in 1992 (Wolffe 2005), President Bush seized the photo-op moment in 2004, but he waited a full four days before visiting Katrina's impact area.

Bureaucratic paralysis extended through all levels of authority as Katrina headed toward the Gulf Coast. It continued in the storm's immediate aftermath.

Forewarned of Katrina's severity, as all public officials had been ("Excerpts from Brown Hearing" 2005), Governor Blanco likewise was slow off the mark. Although she proclaimed a state of emergency on Friday, August 26, thereby triggering her state's disaster plan, she deferred to Mayor Ray Nagin on the all-important decision to order a mandatory evacuation of New Orleans ("Excerpts from Brown Hearing" 2005). After Katrina struck, disrupted communication systems prevented Governor Blanco from gathering information from officials on the ground (Carrns et al. 2005). Perhaps that disruption explains why, despite her call to the White House for federal assistance on Monday, she was unable to transmit to Washington a list of specific requests until Thursday, September 1 (Ripley 2005a, 38). The governor appeared "dazed and unsteady" for much of the week (Ripley 2005a, 38), and one of her first public post-Katrina appearances was to lead a thirty-minute prayer service televised locally from the state's emergency headquarters in Baton Rouge (Carrns et al. 2005).

New Orleans mayor Nagin "panicked" (Melloan 2005). Despite the alarms being sounded by LSU's storm trackers and a personal telephone call on Saturday, August 27, from the director of the National Hurricane Center, warning him of the seriousness of the threat New Orleans faced (Ripley 2005a, 37), he did not issue an order to evacuate the city until Katrina was within forty-eight hours of making landfall, and he did not make evacuation mandatory until late Sunday morning, when fewer than twenty-four hours remained (Ripley 2005a, 36–37).⁹ He and his crisis team opted for refuge at the Hyatt Regency hotel rather than taking charge at the city's Mobile Command Center or joining other local and state officials at Louisiana's emergency operations facility in Baton Rouge. In consequence, Mayor Nagin and his advisors were cut off for two days, spending most of their time warding off looters as telephones went dead and the radios used by police and other first responders drained their batteries (Ripley 2005a, 37).¹⁰

9. Mayor Nagin apparently hesitated to force people out of the city because the city government might be held liable for unnecessarily closing hotels and businesses if the levees held (Ripley 2005a, 36).

10. Corruption may be responsible for Mayor Nagin's isolation in the days immediately after Katrina's storm surge deluged his city: a \$7 million federal grant to New Orleans in 2003, intended to pay for a communications system that would connect all of the region's first responders, has not been accounted for (Ripley 2005a, 37).

Despite the failures at every level of government, most of the blame for the listless public response has been laid at FEMA's door. "Katrina exposed FEMA as a dysfunctional organization" (Grunwald and Glasser 2005; see also Steinhauer and Lipton 2005). "A parking lot for political allies since its creation in 1979" (Ripley 2005a, 40), FEMA has been shown to be responsive more to the political interests of the White House than to the needs of disaster victims on the ground. Thomas Garrett and Russell Sobel (2003) report evidence that, other things being equal, including the severity of damage, once a disaster has been declared, federal emergency relief funds tend to be allocated disproportionately to electoral-vote-rich states that are important to the sitting president's reelection strategy.

The catalog of reasons for federal officials' failure to respond promptly to the disaster of Katrina is nearly endless.¹¹ As part of the massive reorganization of the federal government prompted by the events of September 11, 2001, FEMA was placed in the fledgling Department of Homeland Security in 2003 (Block 2005). Over the next two years, the agency gradually was stripped of responsibility for disaster preparedness, and its duties were limited to disaster response (Grunwald and Glasser 2005; Ripley 2005a, 40). Moreover, in its new bureaucratic home, FEMA's mission and budgetary resources were reoriented toward dealing with future terrorist attacks. Natural disasters were pushed down its priority list; bureaucratic turf battles took their toll, "morale plummeted," and "senior career staff members left in droves" (Grunwald and Glasser 2005).

Devoid of expertise as its primary mission was shifted toward terrorism, still in the midst of reorganization within the Brobdingnagian Department of Homeland Security, and under the command of people who had little relevant experience,¹² FEMA was caught completely flat-footed when Katrina struck the Gulf Coast.¹³ At FEMA's urging, President Bush declared an emergency in the state of Louisiana on Saturday, August 27 (Ripley 2005b, 56; Wolffe 2005), an event that should have signaled the agency to begin working in coordination with state and local authorities to prepare for the looming disaster (NBC 2005). But it did not do so. According to a former

11. FEMA has been bedeviled by charges of waste and abuse. Joe Allbaugh, President Bush's first appointee as the agency's head, considered it to be "little more than 'an oversized entitlement program'" (Horne [2006] 2008, 60). Federal auditors discovered in late 2005, for example, that after Hurricane Frances struck Florida the previous year, FEMA had dispensed \$31 million in emergency funds to residents of Dade County, an area one hundred miles south of the point where the storm's eye made landfall (Ripley 2005a, 40). It was reported recently that FEMA distributed 121 truckloads of men's underwear, pillows, coffee makers, tents, and other "surplus" relief supplies, in storage for two years, to eleven public agencies in sixteen states, including the Mississippi Gaming Commission, rather than to Katrina survivors for whom they had been purchased or donated (Boudreau and Zamost 2008).

12. "Five of FEMA's top ten posts were occupied by people with no disaster experience, while fourteen of the top twenty-five slots were filled by temporary hires or by people doing two senior jobs at the same time" (Horne [2006] 2008, 88).

13. Department of Homeland Security secretary Michael Chertoff spent the day after Katrina made landfall at a seminar in Atlanta on avian flu (Horne [2006] 2008, 46).

senior FEMA official, the agency failed to predeploy enough assets—food, water, and medical supplies—before the storm made landfall: “Nobody pulled the trigger on resources. The director of FEMA didn’t pull the trigger. . . . The Department of Homeland Security didn’t pull the trigger. The resources simply did not get there” (NBC 2005).

The Moral Hazard of Disaster Relief

Hurricane Katrina is estimated to have caused more than \$200 billion in economic losses (Burby 2006, 171). The storm is blamed for 1,464 deaths in Louisiana alone; it displaced 1.4 million people and destroyed approximately 217,000 homes and 18,000 businesses (Wells 2008, 204).

The eventual public response was equally massive, but a full accounting of the resources mobilized and dispatched to the storm’s impact area has yet to be produced. We do know that more than sixteen thousand federal employees were deployed to the Gulf Coast, that Congress initially appropriated \$88 billion for relief, recovery, and rebuilding, and that another \$20 billion has been requested for future efforts. In addition, the Small Business Administration has underwritten \$5.8 billion in disaster loans, and the term of federal unemployment insurance eligibility was extended for workers displaced by the storm (Chappell et al. 2007, 346). Congress also passed legislation requested by President Bush two weeks after Katrina made landfall, designating a “Gulf Opportunity Zone” to stimulate revitalization efforts by providing temporary tax reductions, investment incentives, and regulatory relief to “formerly booming neighborhoods that have lost their economic bases” to Mother Nature’s wrath.

The term *moral hazard* refers to the reduction in the cost of carelessness as an individual becomes more fully insured (Eisenach, Higgins, and Shughart 1986). Health economist Mark Pauly (1968) coined it to describe the behavior of people who have insured themselves against sickness and injury.

Because a large fraction of the costs of visiting the doctor, being hospitalized, or buying prescription drugs is shifted to other policyholders, individuals who have purchased health insurance tend to consume more of these goods and services than they would if they had to pay the bills in full out of their own pockets. Hence, rather than relying on home remedies for simple colds and minor injuries, they see a doctor or visit an emergency room. The fact that insured patients pay less than the full cost of care also leads them to demand more extensive diagnostic testing, more referrals to medical specialists, and more follow-up office visits than otherwise. This insurance-driven overutilization of scarce health-care resources raises the costs of medical care for everyone, insured and uninsured alike.

The same reasoning applies to relief for the victims of Hurricane Katrina or any other natural disaster. Meeting the disaster victims’ immediate needs is one thing. Providing billions of tax dollars in the form of outright grants, low-interest

loans, and other aid intended to help finance a return to prestorm conditions is quite another. Shifting a large portion of the cost of recovery to the taxpayers encourages people to rebuild who would not have chosen to do so if they had to shoulder the full cost themselves. The prospect of receiving federal and state reconstruction assistance after the next hurricane creates an incentive for others to relocate their homes and businesses from inland areas of comparative safety to vulnerable coastal areas. Therefore, over the past several decades “the coastal population growth rate was more than double the national growth rate”; the percentage of property under development or already developed and the value of real property in coastal zones have risen *pari passu* (Ewing, Kruse, and Sutter 2007, 319).

People who voluntarily put themselves in harm’s way, taking on the additional risk of living and working in disaster-prone areas, adequately insuring their lives and property against wind and flood—and paying actuarially fair premiums that reflect the greater risk—have every right to expect prompt reimbursement for the damages they have sustained and every right to rebuild if they wish. But both before and after Katrina, public policies have significantly lowered the cost of populating areas vulnerable to natural disaster.

For example, after the widespread flooding along the Mississippi River in 1993, FEMA initiated a “mitigation program,” buying up floodplain property to prevent the rebuilding of homes and businesses that in due course would be swept away again. That program was one of the bureaucratic casualties of FEMA’s absorption by the Department of Homeland Security (Carey et al. 2005). Hoping to score political points with Hurricane Katrina’s victims, Mississippi’s attorney general Jim Hood filed a lawsuit against three of the affected area’s largest insurers—State Farm, Allstate, and Nationwide—seeking to force them to pay claims for flood damage even on policies with riders that explicitly excluded that hazard (Simons 2005).¹⁴ Although the attorney general’s lawsuit has not yet been resolved, the threat it poses to private contracting may have been mooted by Congress’s subsequent enactment of a \$29 billion hurricane relief package for the Gulf Coast, brokered by Senator Thad Cochran of Mississippi, who chaired the Senate’s Appropriations Committee. That package includes \$11.5 billion in nonrepayable “community development block grants” for Alabama, Florida, Louisiana, Mississippi, and Texas, providing payments of up to \$150,000 for homeowners who want to rebuild, whether they were insured or not (Cogswell 2005; Hsu 2005).

14. Populist anger at private insurance companies was more properly directed at FEMA, which manages the federal flood insurance program. Since 1983, a program called “Write Your Own” has allowed private insurers to issue federal flood insurance policies and collect policyholders’ premiums. The premiums, minus an administrative fee, are then transferred to FEMA, which also pays all claims. As of 2002, eighty-six private insurance companies participated in the program, accounting for 95 percent of all federal flood insurance policies then in force (Young 2008).

The expectation of receiving publicly financed disaster relief may explain why 69 percent of the residents of Mississippi's Gulf Coast did not have federal flood insurance when Katrina hit (Chappell et al. 2007). If history is any guide, many of the uninsured property owners simply may have chosen to ignore requirements to purchase such insurance (Kunreuther and Pauly 2006).¹⁵ In fact, rates of participation in the federal flood insurance program have consistently been low since it was created by the National Flood Insurance Act of 1968 (Young 2008). The reluctance of large numbers of owners of property in hazardous areas to insure against flood, even when required to do so and even though the insurance is sold at subsidized rates,¹⁶ may reflect biases in risk perception or myopia wherein "people treat low-probability catastrophe events as if they are zero-probability events" (Ewing, Kruse, and Sutter 2007, 318). It is also true, however, that federal flood insurance is mandatory only for property that is mortgaged and then only for the outstanding balance on the property owner's loan. Hence, banks and other lenders, not property owners per se, are the principal beneficiaries of the flood insurance program as currently structured. Moreover, because the program now collects only about \$2 billion in premiums every year, it is chronically insolvent (Young 2008).

FEMA, with its premium balances rapidly depleted by Katrina-related claims and its borrowing authority at the statutory limit, was forced to suspend payments to flood insurance policyholders on November 16, 2005. The payments were not resumed until the following March, when Congress raised the program's debt ceiling (Young 2008). Anticipating that publicly financed compensation for uninsured casualty losses caused by a major natural disaster such as Katrina will be forthcoming in any case, property owners in flood-prone regions have little incentive to participate in the insurance program.

Rushing to the aid of the victims of natural disaster is a very human impulse.¹⁷ The lesson of moral hazard is simply that by lowering the costs of populating areas known to be at risk from hurricanes, taxpayer-financed disaster relief has unintended consequences: more lives lost and a bigger price tag the next time around. Moreover, if the residents of New Orleans were to bear more of the cost of flooding, they would have stronger incentives to see that the tax dollars flowing to local levee boards and other agencies responsible for building and maintaining the city's defenses were actually spent in ways that reduced their vulnerability to breach.

15. Of the 84 percent of uninsured property owners who applied for public disaster assistance to pay for damage caused by flooding in northern Vermont in 1998, 45 percent were in fact required to have purchased federal flood insurance (Kunreuther and Pauly 2006, 107). See also Kunreuther and Pauly 2004.

16. Owing to the subsidy for federal flood insurance, private insurers cannot profitably offer competing policies in high-risk areas (Young 2008). Because the business of insurance is regulated at the state level, private insurers are precluded from pooling exposure to risk for policy holders in the multistate regions that are vulnerable to particular kinds of natural disasters.

17. Stories of the hundreds or perhaps thousands of ordinary men and women who in Katrina's wake lent helping hands to neighbors and strangers alike are told vividly in Horne [2006] 2008 and Wells 2008.

The Private Sector Acts

In testimony before a special congressional investigative committee on September 27, 2005, former FEMA director Michael Brown admitted that his agency was “bad at logistics, and often was unable to track shipments of emergency supplies” (qtd. in Block 2005). In combination with lethargic decision making at the top, an inability to coordinate efforts with first responders at the state and local levels owing to storm-wrecked communications and jurisdictional conflicts, and a bureaucratic mindset that favors rule following over discretionary action, logistical breakdowns fatally compromised FEMA’s reaction to the crisis of Katrina. It became part of the problem rather than part of the solution. Indeed, bureaucratic glory seeking (Sobel and Leeson 2006) may have led it to block nongovernmental first responders’ efforts. Anecdotes are legion of FEMA officials on the ground delaying or even turning away volunteers from other states and shipments of needed supplies (see, for example, NBC 2005 and U.S. House of Representatives 2005).¹⁸ On September 1, Louisiana officials may have denied a Red Cross request to begin moving emergency supplies into New Orleans (“Katrina: What Happened When” 2005).¹⁹

Although logistic breakdowns plagued FEMA, many of the nation’s leading private enterprises owe their success to efficient, large-scale distribution networks. In Katrina’s aftermath, companies such as Wal-Mart, Home Depot, and FedEx confronted a challenge less daunting than did their counterparts in the public sector.

18. Some private-sector responses may also have been inhibited by fear of prosecution under anti-price-gouging laws, which make it illegal to charge more for gasoline and other items suddenly in short supply after a natural disaster has struck than was charged before it.

19. The Red Cross, the nation’s largest disaster-relief charity, operating under a congressional mandate to provide immediate assistance to catastrophe’s victims, was missing in action for at least two days in the hardest-hit areas on the Mississippi Gulf Coast (Strom and Robertson 2005) and in New Orleans (Thomas 2005b, 49). Responding to complaints, a spokeswoman for the organization said that the Red Cross “was unprepared for the scope of the disaster and initially lacked enough food and supplies” (Strom and Robertson 2005). The charity’s response was handicapped further by a decision taken in the 1990s not to maintain shelters in floodplains, which meant that no such facilities were available to meet the needs of the tens of thousands of people Katrina stranded in New Orleans. After 9/11, the Red Cross even stopped negotiating a cooperative relationship with Louisiana to provide support for state-operated shelters there (Strom and Robertson 2005). Despite the organization’s huge bankroll—it received nearly three-quarters of the \$1 billion Americans donated to help hurricane victims during the first month after Katrina struck (Strom and Robertson 2005)—the Red Cross was not much quicker to respond than were FEMA or other government agencies. The Red Cross’s use of the generous charitable donations it receives has been a subject of criticism for decades. Although every disaster triggers a substantial inflow of cash to the organization’s coffers—usually reinforced by supportive appeals from the president, celebrities, and corporations—and donors are led to believe that their money will be spent to aid the victims of the calamity du jour, the Red Cross routinely raises more money than it actually spends on any particular disaster-relief effort. It spent only \$12 million of the \$55 million donated in the wake of the 1989 San Francisco earthquake, for example, and only about one-fourth of the money it raised after the bombing of the federal building in Oklahoma City in 1995. The Red Cross’s reputation was sullied more recently by revelations that it kept \$40 million of the more than \$1 billion it received for the victims of 9/11. That disclosure forced the resignation of the agency’s head and led the Red Cross to pledge that all of the money would in future be spent as donors expected it to be spent (Strom and Robertson 2005). The tax-exempt status accorded to charitable nongovernmental organizations and the absence of a bottom line for evaluating performance lead to the expectation that these organizations will tend to be less efficient by market standards than private, for-profit enterprises.

After all, the private sector's main task was to restore business operations in the affected area. Nevertheless, these companies did not tend only to their narrow interests when catastrophe struck. The disaster plans they had in place allowed them to fill broader needs far in advance of the official first responders: "Wal-Mart frequently beat FEMA by days in getting trucks filled with emergency supplies to relief workers and citizens whose lives were upended by the storm" (Zimmerman and Bauerlein 2005). For more than a week, Wal-Mart and a handful of other private enterprises served as the storm-wrecked area's "only lifeline" to the outside world (Leonard 2005).

Katrina shut down 126 Wal-Mart stores, including 12 in the New Orleans metropolitan area, and 2 of the company's distribution centers as it barreled ashore on Monday, August 29. Half of the stores lost power, some were flooded, and 89 sustained physical damage. By Friday, September 9—less than two weeks later—all but 15 of these facilities had reopened (Zimmerman and Bauerlein 2005). Two more stores were operating the next Friday, and by then Wal-Mart had located 97 percent of the employees displaced by the storm, offering them jobs at any of its retail outlets in the country (Leonard 2005, 77).

Wal-Mart's rapid response to Hurricane Katrina was coordinated by its Emergency Operations Center, located near corporate headquarters in Bentonville, Arkansas, and staffed by meteorologists and loss-prevention specialists. Planning began on August 23, six days before the storm made landfall on the Gulf Coast. Based on detailed information about customers' buying patterns in hurricane-prone areas, Wal-Mart began prepositioning supplies it knew would be in high demand before the storm hit (bottled water, flashlights, batteries, generators, and tarpaulins) and after it hit (mops, chainsaws, and Strawberry Pop-Tarts). Backup generators and dry ice also were deployed to help store managers cope with power outages; teams of roofers were mobilized to deal with building damage; and company employees outside the affected area were alerted to prepare to substitute for locals unable to get to work. Many of these resources were predeployed on both flanks of Katrina's predicted path in order to increase the chances that no damaged store would be inaccessible. Besides preparing to deal with the disruption of its own business operations, Wal-Mart delivered \$3 million worth of emergency supplies for general distribution in the disaster area after Katrina struck and donated \$17 million in cash to the relief effort (Leonard 2005, 77–80).

Home Depot began to prepare for Katrina four days in advance of its landfall. All but ten of its thirty-three stores in the affected area were open the next day, and only four remained closed a week later. Like Wal-Mart, Home Depot prepositioned generators and extra workers on both sides of Katrina's path to ensure a rapid response (Fox 2005, 52). FedEx supplies a similar story. Before the storm moved ashore, the company had deployed thirty thousand bags of ice, thirty thousand gallons of water, and eighty-five generators in Baton Rouge, Louisiana, and Tallahassee, Florida, so that it could move quickly to meet its employees' needs in the disaster area;

prearranged temporary housing for those workers; and dispatched four self-contained “facility repair kits” to fix any damaged physical assets. FedEx also assisted the Red Cross by repositioning sixty tons of relief supplies before Katrina hit; after the storm, usually at no charge, it delivered another 440 tons of supplies to the Gulf Coast for that organization. The company’s Kinko’s division predeployed photocopiers, toner cartridges, and seven hundred cases of paper for use by FEMA and the Red Cross (Kratz 2005, 84).

Although it is true that private firms “had to get [their] stores open, not evacuate a city” (Fox 2005, 52), it is also true that disaster planning and response are only minor, albeit critical components of their organizational functions. In contrast, responding to disaster is FEMA’s only mission. Nevertheless, for reasons given earlier, it and other public agencies performed poorly when Katrina struck. Self-interest surely motivated the private sector’s response to disaster, as it does all human action. Wal-Mart and other companies that donated money and relief supplies to the storm’s survivors undoubtedly expected to benefit financially from the customer goodwill their charity cultivated. Nevertheless, incentives evidently matter.²⁰

Summary and Conclusions

Nothing about Hurricane Katrina—the “federal storm” (Wells 2008, 202)—should be cause for surprise. New Orleans’s vulnerability to flooding has been known for years. That the city’s inadequate defenses were not fortified in anticipation of the threat posed by the inevitable landfall of a Category 2 or stronger storm is a predictable consequence of the incentives and constraints that shape the behavior of government institutions at all levels of authority. The same factors also explain the lethargy and politicization of the public sector’s response to disaster. Katrina did not reveal anything that could not have been anticipated on the basis of public-choice reasoning. Self-interested politicians are no different when confronted by an emergency than they are in more ordinary times.

20. For an instructive comparison of the methods (and costs) of private contractors retained by some cities on the Gulf Coast to remove the debris left in Katrina’s wake and those of contractors hired and supervised by the U.S. Army Corps of Engineers, see Lipton 2005. By Christmas Day, just short of four months after the disaster, cleanup was approximately 60–70 percent complete in communities that hired private contractors, but only 40–45 percent complete in jurisdictions that called in the corps. Clifford Levy (2005) reports on another striking contrast between public and private institutions in Katrina’s aftermath. Two months after the storm made landfall, eight of New Orleans’s thirty-five Catholic schools were open, with several more in operation within the next few weeks. The public-school system, in contrast, was still in total disarray. “Plagued by bad management, low test scores and corruption” before Katrina hit—in 2004, the FBI had set up an office in the city school system’s headquarters after local officials could not account for \$70 million in federal aid—the Louisiana legislature, at Governor Blanco’s request, authorized a state takeover of most of New Orleans’s public schools (Seida 2005). Compare also a Katrina-damaged bridge spanning the Bay of St. Louis owned and operated by CSX railway, repairs to which were completed ahead of schedule, with the nearby Highway 90 vehicle bridge, “which will take years fully to rebuild” (Stuckey 2005).

In sum, disaster relief is a bad public good indeed. As a matter of fact, even broadly construed as a form of social insurance, it does not fit the definition of a pure public good in its details, where, as the saying goes, the devil is to be found. A successful disaster-relief effort demands, first and foremost, the predeployment and mass distribution of emergency supplies, nearly all of which are private goods. The private sector, with distribution networks already in place and with the organizational structure, equipment, and practical knowledge required for their smooth operation, has a comparative advantage in swiftly meeting the needs of a disaster's victims. Owing to weaker incentives for using resources efficiently, planning horizons that are attuned not to the long run, but rather to the election cycle, an aversion to risk taking, and the absence of a bottom line for evaluating performance, the public sector is institutionally incapable of anticipating and responding to catastrophe in a timely manner. Only 25 percent of the respondents to a post-Katrina survey conducted in Mississippi identified government "as their most important source of aid" (Chappell et al. 2007, 360).

Disaster relief is a bad public good also because it fosters corruption and encourages people to put themselves in harm's way. Moral hazard may be an unintended consequence of publicly financed responses to acts of God, but by lowering the cost of building homes and businesses in hazardous areas, it nonetheless continuously raises the values of property and the number of lives at risk. And it hardens hearts: "[T]wo-thirds of Americans oppose extensive assistance if another hurricane were to strike New Orleans again in the near future" (Ewing, Kruse, and Sutter 2007, 322), as sooner or later it surely will. Two years after Katrina, the levees remained vulnerable, and lives were still at risk (Bourne 2007).

In the case of Hurricane Katrina, as in many other natural disasters, the immediate reactions of for-profit businesses, nongovernmental organizations large and small, and countless individual volunteers amply demonstrate that the private sector can and will supply disaster relief in adequate and perhaps socially optimal quantities. Except for the deployment and coordination of National Guard units, local police, and firefighters to enforce the rule of law and to protect private property, along with some gap filling by public-health officials, national government ought not to bear the primary responsibility for disaster relief. The price tag is simply too high. That conclusion should be the main lesson we learn from relief efforts in the wake of Hurricane Katrina.

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