Information and Incentives: Lessons of the Hurricane Katrina Relief Effort*

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Abstract

This paper examines natural disaster relief following Hurricane Katrina in search of lessons we might take away from this experience. The resulting lessons are three-fold: First, the coordination problem that natural disaster relief confronts is fundamentally no different from the one that individuals confront under "normal" circumstances. Namely, society must overcome both an "information problem," related to resource allocation, and an "incentive problem," related to agents' incentives to act on this information, for disaster relief to be effective. Second, centrally-planned natural disaster relief fails to overcome these problems for the same reasons that centrally-planned economies do. Third, private sector decision making directed at natural disaster relief succeeds in surmounting these problems for the same reasons it succeeds in this capacity under "normal" circumstances. Evidence from disaster relief following Hurricane Katrina supports each of these claims.

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1 Introduction

On August 25, 2005 Hurricane Katrina ravaged the Gulf Coast, leaving unimaginable destruction in its wake. The disaster caused over $90 billion in damage. This is more than twice as damaging as the costliest hurricane in US history before Katrina, Hurricane Andrew. The havoc Katrina wreaked killed more than 2,000 citizens and the debris it generated—some 100 million cubic yards—was 35 times the rubble the September 11th attacks created in Manhattan. In the aftermath of this tragedy there was chaos. Although some of this chaos was unavoidable, a significant portion was preventable. Man's folly compounded nature's fury, exacerbating one of the most horrific disasters in US history.

In this paper my goal is to examine what lessons we might be able to draw from the man-made disaster following Hurricane Katrina. Three simple but important insights emerge from the relief efforts devoted to Katrina. First, the coordination problem that natural disaster relief confronts is fundamentally no different from the one individuals confront under "normal" circumstances. Second, the failure of central planning is as pronounced when government attempts to plan natural disaster relief as it is when government attempts to plan "normal" economic activities. Second, and closely related, the superiority of private decision making over central planning is as true for natural disaster relief as it is for traditional economic activities.[1]

None of these lessons should startle students of economics. Their basic elements were noted by Adam Smith more than 230 years ago. Most recently, they were confirmed by the collapse of communism and ascendance of free markets in central and

[1] My discussion here borrows heavily from previous work that examines this issue, co-authored with Russell S. Sobel. See, in particular, Sobel and Leeson (2006a; 2006b; 2007).

eastern Europe. Despite this, it is important to elaborate these lessons for natural disaster relief since they tend to be ignored, or are assumed to not apply, in this context.

Given the special circumstances that create and attend natural disasters it is tempting to think that the basic problems confronting an effective response to natural disasters are fundamentally different than those confronting all other human affairs. To be sure, in some ways the process of natural disaster relief is quite different from other activities. For example, the atmosphere of decision making following a disaster is more uncertain. In many cases disaster victims do not know where they are supposed to go, what should be their priorities, or more generally what they should do to secure their lives and property. Adding to this uncertainty is the fact that following a severe natural disaster the normal means of individuals' activities, such as transportation, communication, and access to money, are often temporarily incapacitated. These special circumstances surrounding natural disasters can affect the process of disaster relief in important ways.

Despite this, the basic principles that govern the effective organization of natural disaster relief are fundamentally no different from those governing the effective organization of any other activities that require individuals to coordinate their actions. The exceptional features pointed to above following natural disaster do not overturn these basic principles. They merely constrain the effectiveness of any mechanism of relieving natural disaster. Thus, while we should expect the extent of social coordination following a natural disaster to be less than it is under normal conditions, we should not expect the basic 'rules' dictating coordination success or failure to be different than those that determine such success or failure normally.

To be effective, natural disaster relief must overcome two fundamental obstacles to successful coordination. These two obstacles are the same ones that stand in the way of every other goal that requires social coordination. The first of these is an "information problem;" the second is an "incentive problem."

The information problem social coordination universally confronts refers to generating the knowledge required to reconcile the diverse and changing individual ends of the members of society, or more specifically, tapping into the local, dispersed, and fragmented knowledge of disparate and separated individuals to coordinate their ends. In the context of natural disaster relief the information problem takes multiple forms including generating information about what relief supplies are needed and who needs them, so that relief resource can be efficiently allocated, and generating information about the success or failure of ongoing relief efforts to determine which, if any, activities need modification. Information related to each of these items is localized and dispersed. It does not exist in a complete or near-complete form given to any single individual, or group of individuals, in society. Instead it is "scattered" across the many members of society, each of whom has bits of knowledge relevant for the success of the greater relief effort.

The incentive problem that plagues all undertakings requiring social coordination refers to aligning the incentives of the various individuals whose action is required to achieve a desired goal, and more specifically to ensure that each of them has the incentives to behave "correctly," i.e., to act in a way that facilitates this end's achievement. In the context of natural disaster relief the most important manifestation of this problem is aligning the incentives of potential disaster relief suppliers—those who

are capable of bringing relief resources to bear on the problems facing disaster victims—with the needs of disaster victims, and ensuring that incentives exist for potential relief suppliers to do so in a time-sensitive and effective way.

Like all processes requiring social coordination, if natural disaster relief cannot overcome the dual problems of information and incentives, it is destined to fail. The obvious question that arises in recognition of this fact is what general method of organizing human affairs is most capable of surmounting these obstacles?

There are two basic methods of organization that may be invoked toward this end. The first is through public sector action whereby government centrally plans natural disaster relief efforts. The second is through private sector action, which relies on the activities of private individuals acting out of profit or charity, to relieve natural disaster victims. It is important to note that these two potential methods of organizing natural disaster relief are exhaustive. Although, when considered as a whole, it certainly possible for private sector action to address certain parts of the relief effort and government to plan other parts, this does not fundamentally alter the binary choice we confront in relieving natural disasters. Any given individual activity that is part of the larger relief effort must overcome the same two problems pointed to above, that of information and incentives. To the extent that the means chosen to organize any individual activity of the larger relief effort are incompatible with addressing either of these two problems, this activity will fail. Thus, a part public, part private 'mix' approach to organizing natural disaster relief merely pushes the binary choice back to the level of constituent relief efforts; it does not supply additional organizational options.

The remainder of this paper explores these two methods of organizing natural disaster relief to identify which is better equipped to overcome the information and incentive problems that plague natural disaster relief efforts. Although my analysis focuses specifically on the case of Hurricane Katrina, the lessons it provides are applicable to natural disaster relief more generally.

2 The Information Problem

More than 60 years ago, in his seminal article, "The Use of Knowledge in Society" (1945), Friedrich Hayek identified *the* problem of social coordination. As he put it:

> The peculiar character of the problem of a rational economic order is determined precisely by the fact that the knowledge of the circumstances of which we must make use never exists in concentrated or integrated form, but solely as the dispersed bits of incomplete and frequently contradictory knowledge which all the separate individuals possess. The economic problem of society is thus not merely a problem of how to allocate 'given' resources—if 'given' is taken to mean given to a single mind which deliberately solves the problem set by these 'data.' It is rather a problem of how to secure the best use of resources known to any of the members of society, for ends whose relative importance only those individuals know. Or, to put it briefly, it is a problem of the utilization of knowledge not given to anyone in its totality (1945: 519-520).

Hayek's critical insight, latter called "the knowledge problem," highlighted two central features of social organization. First, every society confronts a "division of knowledge" analogous in many respects to the division of labor. Information is fragmented, diverse, and often contained in inarticulate forms, held separately and locally by the many individuals who compose society. Second, the foremost obstacle that every effort at social coordination must overcome is somehow tapping into this dispersed

information and processing it in forms that individuals can use to mutually achieve their ends.

Hayek suggested a solution to the knowledge problem in the context of economic decision-making generally. Given information's decentralized nature and importance for achieving social coordination, he concluded the importance of allowing decentralized private sector actors to direct the bulk of economic decision making. Unlike the private sector, Hayek argued, central planning has no way of tapping into this information in a productive way:

> If we can agree that the economic problem of society is mainly one of rapid adaptation to changes in the particular circumstances of time and place, it would seem to follow that the ultimate decisions must be left to the people who are familiar with these circumstances, who know directly of the relevant changes and of the resources immediately available to meet them. We cannot expect that this problem will be solved by first communicating all this knowledge to a central board which, after integrating all knowledge, issues its orders. We must solve it by some form of decentralization (1945: 524).

As noted above, Hayek's insight is as true for natural disaster relief as it is for "normal" economic activity. The inherently centralized nature of political decision making prevents government from generating the information required to effectively supply natural disaster relief. In contrast, the inherently decentralized nature of private sector decision making allows the private sector to tap into the decentralized information critical to such relief.

Information fundamentally depends on the institutional context in which it is created. All institutional contexts create some kind of information. But very few generate the kind needed to coordinate spatially and temporally separated suppliers and demanders.

One of the most important issues of information for natural disaster relief involves identifying what relief supplies are needed, who needs them, and who has the means to meet these needs. Some disaster victims need water, others need shelter, and still others need food. The needs in different geographic areas will also be different. It is likely that all disaster victims will need basic necessities, but the extent to which different individuals need these things will vary. Further, not all disaster victims will need these items as critically as others. In addition there will be many instances of specific areas needing specific help, such as rooftop rescues or massive bus evacuations, which are unique and unexpected. Finally, individuals have specialized resources only they know can solve the diverse problems that emerge following a disaster. No one person or agency could ever have access to all of this knowledge. Solving this information problem is critical because without it, demands go unsatisfied, both because required supplies are not called forth, and because existing supplies are misallocated, leaving those in need without life-saving essentials.

Consider first how private sector participants come to discover this information. In the marketplace, the interactions of suppliers and demanders generate market prices for various goods and services. As Hayek pointed out, these prices convey information about localized supply and demand conditions, indicating to suppliers where supplies are needed most and communicating to demanders when they may expand consumption (because supplies have become more abundant relative to demand) or curtail consumption (because supplies have become less abundant relative to demand). The beauty of the market is that it generates market prices, which convey information about

relative scarcities and intensiveness of demand, coordinating the most willing suppliers with the most urgent demanders.

Even the charitable activities of private individuals and non-profit organizations, which suffer somewhat from the absence of market prices to guide them, are likely to be directed toward satisfying the most highly valued needs. Individuals making donations have an incentive and desire to make sure their donations are used effectively, and an incentive to search out information as to the best use of their donated resources. Non-profit organizations who are not careful stewards of their donated resources soon find they have fewer donations to allocate. For-profit firms that choose to be charitable are careful to allocate their resources in a way that generates value, because this generates the highest return to the firm in terms of reputation, and thus future profits.

This is how private sector suppliers of disaster relief essentials, such as Wal-Mart, were able to quickly bring necessities like water to bear on the plight of Katrina victims who had been hit the hardest. While FEMA was still busy trying to distinguish between its head and its tail, Wal-Mart was already back in business, providing the items rescue workers and victims needed, in the right quantities, at their everyday low prices, and sometimes even for free. Wal-Mart, which has donated more than $20 million to Hurricane Katrina relief efforts, supplied the essential items hurricane victims and disaster relief providers needed. "Over $3 million in supplies were given directly to shelters, providing a lifeline for stranded residents."[2] This included chain saws and boots, sheets and clothes, and water and ice.[3] As one hurricane victim put it, Wal-Mart

[2] Sean Higgins, "Wal-Mart is Lauded for Fast Relief Aid to Katrina Victims," *Investor's Business Daily*, September 9, 2005.
[3] John Tierney, "Let Wal-Mart Take Over Emergency Management," *New York Times*, September 21, 2005.

"was the only place we could find water in those first days . . . I still haven't managed to get through to FEMA. It's hard to say, but you get more justice at Wal-Mart."[4] Wal-Mart's amazing capacity to bring the needed supplies to bear on the atrocity created by Hurricane Katrina has had even its staunchest critics praising the company.[5] Why couldn't FEMA, with the full power and resources of the federal government at its disposal, do this?

To answer this question, consider how political decision makers might come to know how to allocate disaster relief supplies. Unlike the private sector, the political process does not generate market prices, nor does government have the incentive to be as careful a steward of the resources it hands out to needy victims. For market prices to emerge, goods and services must be bought and sold. But the government is not in the business of selling anything. It only takes resources (taxes), and then gives them to others (through government purchases or direct transfers). Consequently, political decision makers do not have market prices directing them where expenditures are needed most. This is why central planning failed and economies of the world overwhelmingly choose not to centralize the production and distribution of goods and services. Governments simply have no way of knowing what to produce or how to distribute the resources under their control. Why then we would think that centrally planned disaster relief would work? Here, too, government and its agencies do not have access to the information required to effectively distribute disaster relief.

Further, government employees have a much weaker incentive than private individuals to seek out information about where resources are most urgently needed and

[4] Quoted in: Ibid.
[5] Sean Higgins, "Wal-Mart is Lauded for Fast Relief Aid to Katrina Victims," *Investor's Business Daily*, September 9, 2005.

ensure value is created by the resources they allocate, even when compared to cases where the private sector gives resources away for free. Individuals are simply not as careful with other people's resources as they are with their own. These simple insights from basic economic theory go a long way in explaining the chaos, confusion, and ultimate failure of FEMA-provided disaster relief distribution following Hurricane Katrina.

In the first week of relief activities alone, FEMA refused to ship trailers to Mississippi that could be used as temporary housing for disaster victims, turned away critical generators needed by hospitals and victims for power, turned away trucks with water demanded by many, prevented the coastguard from delivering fuel critical to facilitating recovery activities, and refused Amtrak's offer to evacuate victims who desperately needed to get out the disaster zone.[6] The last Amtrak train left New Orleans empty.[7] FEMA clearly had no clue what was needed, or by whom. Even the American Bus Association, representing Greyhound Bus Lines, offered to help FEMA evacuate the Superdome and Convention Center. But, like so many others who offered their assistance, the American Bus Association's offers fell on deaf ears, and they were never even able to even get a reply or response from FEMA officials.[8]

FEMA moved a medical team of 30 people capable of treating hundreds of hurricane victims from Alabama to Mississippi, and then to Texas. For 11 days, medical team members say their relief activities were reduced to treating one small cut. And then

[6] Democratic National Committee, "Bush's FEMA Turns Natural Disaster into Bureaucratic Disorder," Press Release, September 7, 2005.
[7] Kathleen Parker, "Three Heroes Outwitted Bureaucracy," *New Hampshire Union Leader*, September 14, 2005.
[8] Andrew Martin and Andrew Zajac, "Offers of Buses Fell between the Cracks," *Chicago Tribune* (online edition), September 23, 2005.

FEMA moved them again—everywhere but where they were needed and could accomplish the most, which was in New Orleans.[9] As one frustrated medical team member lamented, "We joined the team to help people who need it and we are not helping anybody."[10]

In other critical areas resources were diverted to superfluous areas or sat idle and unused as well. A mobile communications unit, which could have provided much needed equipment to relief workers and victims, for instance, sat in Germany, with a chartered private plane ready to leave, for nine days.[11] A similar situation prevailed in the case of 1000 firefighters who believed that their much-needed efforts would be put to actually helping hurricane victims. Instead, they were sent to a hotel in Atlanta, forced to take days of sexual harassment courses, and eventually deployed by FEMA with only the job of handing out fliers with FEMA's phone number on it. As one firefighter astutely observed, "It's a misallocation of resources. Completely."[12]

Effectively allocating disaster relief resources also requires feedback about whether or not ongoing relief activities are in fact working. Are disaster victims getting what they need? Or are disaster relief efforts failing to provide for disaster victims? To appreciate government's inability to generate this feedback information, it is again useful to contrast this with the private sector.

In markets, the profit and loss mechanism informs suppliers whether or not they are satisfying the needs of demanders. Those who are, earn profits, which reward them

[9] Stone Phillips, "What Went Wrong in Hurricane Crisis," interview transcript, *Dateline NBC*, September 9, 2005.
[10] Lisa Myers and the NBC Investigative Unit, "Relief Chaos in Katrina's Wake," msnbc.com, September 8, 2005.
[11] Myers, 2005.
[12] Quoted in: Lisa Rosetta, "Frustrated: Fire Crews to Hand out Fliers for FEMA," *Salt Lake City Tribune*, September 12, 2005.

with greater command over resources in the economy. Those who are not are punished with losses, and lose control over these resources. Profits and losses communicate to suppliers whether or not their activities are desirable to demanders, whether they should expand output, or alter their activities (Mises 1949). In the context of relief management, profits and losses tell private providers of disaster relief essentials like water, food, shelter and even private protection against criminals, whether or not they are effectively fulfilling the needs of disaster victims.

Consider, for example, the numerous private security agencies that protected the property of residents and business owners. These private firms emerged to satisfy an unmet demand for property rights protection created by government's failure to perform this task in the wake of the disaster. In Louisiana alone, within 14 days of Katrina's landfall, the number private security firms climbed from 185 to 235.[13] The growing numbers of security firms offering their services to disaster victims reflected the growing profitability of providing this service, which in turn reflected consumers' satisfaction with these services and their demand for additional protection.

Private non-profit organizations confront a similar feedback mechanism because they rely on voluntary donations. The non-profits who create the most value for those they help garner more donations, while those who squander their resources suffer lower future donations. While this feedback is not as strong as the pure profit and loss mechanism, it remains stronger than for government, which finances its activities through coercive taxation. Lily Duke, for instance, an independent film producer with no previous relief experience, arrived in New Orleans with a single truckload of donated food. Because of her effectiveness in supplying aid to Katrina victims, donations to her

[13] Jeremy Scahill, "Blackwater Down," *The Nation*, October 10, 2005.

operation have increased exponentially. She now operates three distribution centers serving 20,000 people a day.[14]

Because the resources under government's control are not primarily based on performance, government lacks an effective feedback mechanism. Consequently, political actors have very little idea about whether or not they should expand their activities, shift their activities, or drop them altogether. Political actors know only the costs of their activities. But they have no information in the form of feedback about the desirability of them. This makes *economically* allocating resources and coordinating the supply of these resources with those who desire them through the political process exceedingly difficult, if not outright impossible. Economic allocation requires that both the costs and benefits of activities be considered. But politics provides little information about the latter to political decision makers (Mises 1944).

When it comes to disaster relief management, this can be a serious problem. For example, FEMA set up trailer parks that went virtually unused. It faced neither profits nor losses from its decision about where to locate temporary housing. Consequently, trailers were deployed where they weren't needed, at an astonishing cost to taxpayers.

FEMA spent $1.3 billion on 95,000 trailers for hurricane victims, and in some cases $38,000 per lot to make parks trailer ready—double the cost of the trailers themselves. Because FEMA chose to locate the trailers in remote places, away from cities and jobs, FEMA is also planning to spend millions to cook meals, provide bus service, and security for the trailer parks. In the not too distant future, FEMA will turn around and pay yet again, this time to tear the parks down. Only 16,000 of the 95,000 trailers, less than 17%, are occupied. Based on these figures, FEMA is spending an

[14] John Seewer, "Resident Becomes Aid 'Boss' in New Orleans," Associated Press, November 13, 2005.

estimated $125,000-$200,000 per family for temporary housing. All this despite the fact that more than one million rental apartments priced at $700/month or less sit vacant across the region. If a private firm had misallocated their resources in this fashion, it would have suffered losses. FEMA's incredible misallocation, however, carried little penalty or consequence for FEMA decision makers despite the considerable harm done to disaster victims.[15] In fact, FEMA's failure was rewarded with billions of additional dollars in funding for the agency's continued work.

How can FEMA learn if its relief activities are fulfilling the needs of disaster victims? How can it know how to change its course of attack, or whether it should change it at all? The inability to effectively evaluate the ongoing success or failure of disaster relief activities when disaster relief is centralized created significant problems for the relief efforts of FEMA and led government figures involved in managing the relief, at even the highest levels, to incorrectly and arbitrarily asses FEMA's success.

Department of Homeland Security Secretary Michael Chertoff, for example, evaluated the success of government's actions as follows: "We are extremely pleased with the response that every element of the federal government, all of our federal partners, have made to this terrible tragedy."[16] It is as if were completely unaware of the abysmal failure of government's actions so obvious to non-governmental observers. President Bush was equally unable to evaluate the failure of government's relief activities. Commending FEMA Director Michael Brown on FEMA's efforts, Bush now-famously remarked, "Brownie, you're doing a heck of a job."[17] Unable to objectively

[15] Aaron C. Davis, "FEMA Trailer Parks Subject to Criticism from All Sides," *The San Jose Mercury News*, October 31, 2005.
[16] Quoted in: Phillips, 2005.
[17] Quoted in: Ibid.

determine the effectiveness of the government's efforts, he later changed his tune, calling FEMA's response to Katrina "unacceptable."[18] Though political decision makers' assessment of government's actions eventually hit the mark, it came too late—only after changing government's relief strategy was a non-issue, well after the situation in New Orleans and elsewhere was already improving.

3 The Incentive Problem

Like the information individuals face, the incentives they face also crucially depend on the institutional context in which they operate. The incentives faced by individuals in the political sphere are different from those faced by individuals in the market. As I discussed above, in the market, actors are guided by the profit and loss motive. To maximize their return, they must satisfy the consumers of their goods or services.

Political actors, in contrast, do not face these same incentives for customer satisfaction. This does not mean that political actors do not face any incentives. They undoubtedly do; but the nature of these incentives is fundamentally different (Buchanan and Tullock 1962).

One example of this the inherent "type two" error bias in political decision making. Economists distinguish between are two types of policy mistakes: "type one" and "type two" errors. Type one errors involve mistakes that result from not being cautious enough. For example, if the FDA approves a new drug without sufficient testing, and the drug makes millions seriously ill, it has committed a type one policy error.

[18] Stephen Bainbridge, "The Invisible Helping Hand," Tech Central Station, September 8, 2005.

Type two errors, on the other hand, involve mistakes that result from being too cautious. If the FDA, for instance, has an overly burdensome testing requirement for new drugs, potentially helpful drugs are prevented, or at least delayed, from reaching consumers who could have greatly benefited from them. This would be a type two error. Economic analysis informs us that government agencies like the FDA and FEMA are overly prone to commit type two errors—to be too cautious.

The reason for this is rooted in the incentives that the political arena creates for government actors. If a disaster is declared and FEMA jumps the gun, getting involved immediately, it may commit a type one error. Because type one errors are overt mistakes, they are highly visible and are therefore accompanied by a higher likelihood of admonishments from citizens, the press and possibly other government agencies. Suppose, for example, that FEMA allows rescue workers to enter the disaster zone and they are hurt. FEMA is likely to be blamed for letting them in prematurely.

Type two errors, in contrast, are less visible and thus much less likely to result in admonishment. If FEMA waits too long to enter a disaster zone, it might be blamed for acting slowly, as it was in the case of Katrina. But this blame is far less than what it might receive if it entered a disaster zone immediately, before an effective plan were totally worked out, and consequently bungled its relief effort in a more overt fashion. FEMA consequently has an incentive to delay action *even if* more disaster victims are harmed by it not entering than if it entered prematurely. Victims lost under FEMA's explicit watch are highly visible, and FEMA's culpability is immediately obvious. Victims lost before FEMA enters because it delays action are less visible, making FEMA's responsibility in this case indirect and less clear.

FEMA's incentive for over cautiousness in taking action helps to explain its widely-acknowledged slow response to Katrina. This slow response was certainly not because FEMA was unaware of the potential for such a disaster in New Orleans. According to experts at the National Hurricane Center, the danger in New Orleans was known by many for years, giving FEMA plenty of time to devise a plan and work out its execution. As he put it, for "many years" local, state and federal government had "been warned over and over again about this very scenario."[19] Hurricane experts from the Center had even run drills of a Katrina-like scenario the year before, in a study funded by FEMA itself. FEMA officials who participated in the presentation of the final study scoffed at the results, discounting them as impossible, and dragged their feet in acknowledging and preparing for this eventuality. Even after FEMA became aware of an impending category 5 hurricane striking New Orleans with certainty, it chose not to pre-deploy the resources clearly identified in the study funded and presented to FEMA officials in the year before the storm hit.[20]

As one observer described it, the entire relief process exhibited tremendous "government hesitancy."[21] Take the case of the levee breakthrough in New Orleans the day the hurricane hit. Although government agencies were aware the levee system had broken by 6:00 p.m. Monday, officials waited until the next day, at which point the city had been flooding for nearly 24 hours, before sounding the alarm.[22] Similarly, FEMA did not request military assistance for a full day after Katrina ravaged New Orleans—and when it finally did, it was for two helicopters to perform flyovers. Even local

[19] Quoted in: Phillips, 2005.
[20] Ibid.
[21] Larry Eichel, "What Went Wrong," Knight Ridder Special Report, September 11, 2005.
[22] Ibid.

government officials delayed their response. New Orleans Mayor, Ray Nagin, for instance, waited 15 hours after receiving a call from National Hurricane Center Director Max Mayfield informing him that untold disaster would soon be upon the city, to mandate an evacuation.[23]

After disaster struck, government waited some more. Walter Maestri, Emergency Mangaement Director of the Jefferson Parish, reported that federal help of any kind took nearly a week to arrive. "For approximately six days we sat here waiting."[24] And all of this sluggishness occurred despite much noise to the contrary before Katrina made landfall from FEMA Director, Michael Brown, who declared the day before the disaster, "FEMA is not going to hesitate at all in this storm. We are not going to sit back and make this a bureaucratic process. We're gonna move fast, we're gonna move quick and we're gonna do whatever it takes to help these disaster victims."[25] If only his incentive were to act quickly instead of delaying action, perhaps this could have come true.

Unlike government, for-profit disaster relief suppliers have no reason to consistently err on the side of making type two errors. Waiting excessively long to enter a disaster zone means foregoing profit opportunities to competitors who get there first. Consider again the case of Wal-Mart, which "began preparing for the hurricane the week before it hit by moving supplies and trucks into position."[26] "Wal-Mart got aid to the [disaster] region faster than any local, state or federal government organization . . . While

[23] Ibid.
[24] Quoted in: Phillips, 2005.
[25] Ibid.
[26] Tierney, 2005.

local and federal groups . . . bickered over who was in charge, Wal-Mart sprang into action."[27]

Reputational concerns, which exist for private firms but do not for government, prodded fast movement by the private sector as well. Unlike government agencies, which do not depend on positive consumer evaluations to stay in business, private businesses reap the benefits and incur the losses of rises and falls in their reputation among the public. Private disaster relief suppliers therefore have a greater incentive to move swiftly and perform well. For private disaster relief providers, reputation matters.

Wal-Mart, recently under heavy criticism for its business practices, greatly improved its public image by effectively responding to Katrina. The expectation of such a reputation boost likely influenced the speed and generosity with which Wal-Mart attended to the needs of hurricane victims. As Wal-Mart CEO Lee Scott commented regarding disaster relief activities, "When you do the right thing, good things accrue to you."[28]

4 Concluding Remarks

F.A. Hayek's (1945) critical insight was that private decision making generates information and incentives that coordinate the diverse ends and activities of all those participating in the market. When government substitutes central planning for these decisions, essential information is generated in an untimely fashion, generated inaccurately, or not generated at all. Because of this, central planning cannot effectively

[27] Higgins, 2005.
[28] Quoted in: Ibid.

coordinate numerous and dispersed individuals with different endowments, wants and needs.

Hayek's point holds true for all forms of central planning. The failure of command and control in this regard is as assured in the case of natural disaster management as it is for the creation of five-year plans. There is no reason to think that FEMA, or any other government agency charged with FEMA's task, is immune to the information problem. Disaster relief, like all other forms of decision making requiring coordinated human behavior, necessitates information about a new constellation of market conditions to be acted upon, information that directs activities in such a way that those needs are economically satisfied, and incentives for individuals to act on this information. Without this, coordination is impossible.

Markets create this information and the incentives to act upon it. Government, by its nature, cannot create either. This realization has clear implications for disaster management policy. Namely, government must be removed from disaster management to the same extent that it is removed from all other successful market activities. Concretely, this means that government's near-monopoly control on disaster relief and role as a centralized "clearinghouse" of relief activities must be relinquished for disaster management to be effective. Tinkering with government disaster management at the margins is no more likely to make government disaster relief effective than tinkering with the Soviet Union's centrally planned economy was likely to improve its effectiveness.

Improving the leadership at FEMA, for example, will no more improve government's ability to centrally plan natural disaster relief than improving the leadership in the Soviet Union would have permitted the Soviet government to centrally plan its

economy. Even the most benevolent and effective of directors cannot overcome the information problem described above; and even most intelligent director cannot possibly have even a small part of the decentralized information required to coordinate an activity as large and complex as natural disaster relief at his disposal. Likewise, replacing FEMA with a new government agency of natural disaster relief management, as some have recently called for, will also be ineffective. The problem of natural disaster relief does not lie with FEMA, per se; it lies with the unavoidably centralized nature of government decision making.

In government's place, the private sector should be allowed to coordinate relief activities, as it did to a limited extent because of government restrictions following Hurricane Katrina. Despite government-erected hurdles, private for-profit and non-profit actors were remarkably successful in relieving the victims of Katrina, especially in those areas such as New Orleans that were hit hardest by the hurricane. The private sector proved itself capable, as it does under "normal" circumstances, of generating the relevant information at each of the critical nodes of disaster response. The public sector, in contrast, also like under "normal" circumstances, did not.

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