Wal-Mart to the Rescue

Private Enterprise's Response to Hurricane Katrina

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In the several years that have passed since Hurricane Katrina struck the Gulf Coast in the late summer of 2005, it has become increasingly clear to many observers that governments at different levels were at fault for almost every stage of the sequence of events that turned the passing of a fairly strong hurricane to the east of New Orleans into a catastrophe. Government has been quite appropriately the target of a great deal of criticism both by local residents and by observers elsewhere with regard to the special interests at work in constructing the elaborate system of pumps, levees, and canals that try to make the city's water go everywhere but where nature wants it to go; the problems with the actual canal and levee construction by the U.S. Army Corps of Engineers; the botched evacuation plans; the confusion over which levels of government should respond, and how, to the multiple and very visible failures of the Federal Emergency Management Agency (FEMA); and the ongoing inability of various levels of government to rebuild the New Orleans area. Unfortunately, as is often the case when existing government agencies fail to do their assigned task, the response to this government failure has been for many people, especially those in the agencies involved, to argue that those failures were owing to a lack of will, resources, or expertise. As numerous public-choice economists and economic historians have documented, this call for more government power is a typical response to crisis,

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The Independent Review, v. 13, n. 4, Spring 2009, ISSN 1086–1653, Copyright © 2009, pp. 511–528.

with the end result being a surge in the size and scope of government from which a full retreat is never made.[1]

Lost in this increasingly common narrative of Katrina, however, is any discussion of the few institutions that *did* respond effectively in the aftermath of the storm. Not much has been said about the role private enterprise played in providing necessary resources in the immediate aftermath and in helping to reestablish a sense of normalcy in the days and weeks that followed.[2] The best example of a successful private-sector response is that of Wal-Mart and other "big-box" retailers, such as Home Depot. The untold story of Katrina involves the way in which Wal-Mart in particular responded with speed and effectiveness, often in spite of government relief workers' attempts to stymie it, and in the process saved numerous lives and prevented looting and chaos that otherwise would have occurred.

A recent study by the Kennedy School of Government (Rosegrant 2007a) carefully documents Wal-Mart's response from a business-process perspective. A short sequel (Rosegrant 2007b) looks at how Wal-Mart has tried to use that success to change the way disaster response takes place, with mixed results. However, neither these studies nor any other yet published offers a "political economy" of Wal-Mart's success.[3] Wal-Mart's successful response to Katrina, along with the failure of FEMA and other government agencies, seems to confirm the more general conclusion of modern political economy that private institutions better mobilize resources than do public agencies. To those steeped in the literature of modern Austrian economics, the new institutional economics, property-rights economics, and public-choice theory, Wal-Mart's superior performance comes as no surprise. In this article, I deploy these theoretical approaches along with recent work in the economics of organizations to offer a political economy narrative of Wal-Mart's successful response to Katrina. Those successes resulted from Wal-Mart's position in a competitive institutional environment that provides the knowledge and the incentives necessary to generate a successful response to disaster situations and fosters the sorts of organizational learning that promote the development of effective routines that can be deployed in other kinds of situations.

Wal-Mart to the Rescue

Wal-Mart, like other big-box retailers, clearly has every reason to protect its own assets in a natural disaster. Major retailers of all sizes are increasingly creating their

1. On the so-called ratchet effect that a crisis has on the size of government, see Higgs 1987.

2. The one government agency generally acknowledged to have performed well during Katrina was the U.S. Coast Guard. One explanation for its success is that it has had both independence from the political process and a decentralized organizational structure, much like Wal-Mart. It also had a fairly clear and visible "output"–namely, saving lives through rescues. Despite the Coast Guard's lacking the ability to rely on profit and loss for knowledge and incentives, it at least could take advantage of local knowledge through its decentralized organizational structure and its long-standing, powerful, organizational culture of agility and independence.

3. William Shughart (2006) and Russell Sobel and Peter Leeson (2006b) note the positive role Wal-Mart played, but they do not make an exploration of its success a central theme of their analyses.

own in-house departments to facilitate their response to and recovery from any interruption of their business, whether owing to natural disaster, terrorism, or more localized problems, such as a blackout or a fire. Frequently regarded as related to "business continuity," these offices monitor all sorts of situations at the retailer's stores. Wal-Mart has had such an office for a number of years, and each Wal-Mart store has a tightly scripted protocol for responding to in-store problems, which may be as simple as the injury of a customer or an associate, and for getting related information to the business continuity director's office at the headquarters in Bentonville, Arkansas. In most cases, these offices were designed to deal with threats to the company's own property. However, during Katrina they found themselves broadening their scope of operations by providing needed resources for the communities in which they operated, especially the hard-hit New Orleans area.

Hurricane Katrina made landfall in southeastern Louisiana and southwestern Mississippi on August 29, 2005. After forming in the Atlantic and crossing Florida as a relatively weak Category 1 storm, Katrina strengthened quickly in the Gulf of Mexico, at one point becoming an extremely powerful Category 5, then weakened to a Category 3 or 4 storm with winds of about 125 miles per hour by the time it made landfall on the Gulf Coast. The storm's broad wind field subjected much of the Gulf Coast to a long period of hurricane-force winds, causing significant damage. In addition, storm surges were estimated to be between fifteen and twenty-five feet, but reliable data are not available. The surges caused major flooding all over the Gulf Coast.

In the New Orleans area, significant wind damage occurred, but the surges, the more deadly problem, caused multiple failures of the city's levees, which later reports have indicated were improperly built or maintained in the first place (Independent Levee Investigating Team 2006). The resulting floods left approximately 80 percent of the city under water, in some places under as much as eight or ten feet of water. The combination of wind and water damage made many buildings uninhabitable and destroyed supplies and machinery, forcing from their homes those who did not evacuate and causing the death of more than one thousand people. Thousands of residents had to be rescued from their own homes. The flooding also closed almost all of the major roads in and out of the city, making it difficult to get people out or supplies in. Finally, many of those who stayed behind and were flooded out of their homes ended up at the Superdome or at the city's convention center, where supplies were very limited and conditions physically uncomfortable.

Wal-Mart arrived in the New Orleans area long before FEMA and had the supplies the community needed. Both President Aaron Broussard and Sheriff Harry Lee of Jefferson Parish in suburban New Orleans lauded Wal-Mart's work. In an appearance on *Meet the Press,* Broussard noted the speed with which Wal-Mart had brought truckloads of water to his area and then quoted Lee as saying, "if [the] American government would have responded like Wal-Mart has responded, we wouldn't be in this crisis."[4] Phillip Capitano, mayor of the New Orleans suburb of Kenner, reported that "the only lifeline in Kenner was the Wal-Mart stores. We didn't have looting on a mass scale because Wal-Mart showed up with food and water so our people could survive." Other community leaders in the New Orleans area and in cities elsewhere along the Gulf Coast also praised Wal-Mart's quick and effective response to the storm (Leonard 2005). Wal-Mart was not alone in providing much-needed resources to the stricken areas; other big-box retailers, such as Home Depot and Lowe's, also responded similarly. However, Wal-Mart's response was the largest and, according to local reports, the most effective.

In the three weeks following the storm's landfall, Wal-Mart shipped almost twenty-five hundred truckloads of merchandise to the affected areas and had drivers and trucks in place to ship relief supplies to community members and organizations wishing to help.[5] Home Depot provided more than eight hundred truckloads of supplies to the hard-hit areas and used buses to transport one thousand employees to the region from other areas (Bond 2005). Besides what Wal-Mart sold as a result of quickly reopening its stores, the company also provided a large amount of free merchandise, including prescription drugs, to those in the worst-hit areas. For example, several truckloads of free items went to New Orleans evacuees staying at the Astrodome and at the Brown Convention Center in Houston. Most important, Wal-Mart got this assistance to the devastated areas almost immediately after the storm had passed rather than in the days—in some cases weeks—that it took government agencies to provide relief to residents.

The incentives for private firms to protect their own capital led them to begin preparations for the storm well before its landfall. Three days earlier, Home Depot activated the "war room" at its Atlanta headquarters, negotiating with various vendors to get needed supplies staged to move into the hurricane zone (Ward 2005). Wal-Mart's response began slightly earlier. The company's emergency command center, run by Jason Jackson, the director of business continuity, is normally staffed by six to ten employees, who respond to the variety of routine incidents in stores across the country. Faced with a larger-scale problem, such as a hurricane, "the staff is joined by senior representatives from each of the company's functional areas." In view of the possibility of widespread damage to multiple stores in an urban area, the command center may include as many as sixty employees. The easily expandable structure of Wal-Mart's emergency response protocols "drives the ability to be agile and flexible" (Worthen 2005). The company also uses its own hurricane-tracking software and has contracts with private forecasters for the latest information on storms. By Wednesday, August 24, five days before Katrina's eventual landfall on the Gulf Coast, the command

4. *Meet the Press,* September 4, 2005, transcript available online at http://www.msnbc.com/id/9179790.

5. See http://www.walmartfacts.com/FactSheets/8302006_Katrina_Relief.pdf.

center had gone into planning mode, and two days later, when Katrina struck Florida, the complement of personnel in the command center exceeded fifty persons (Zimmerman and Bauerlein 2005).

Given the frequency of damaging hurricanes along the Gulf Coast and in Florida as well as the large number of stores Wal-Mart has in that area, the company has a well-rehearsed process for dealing with threatening storms. Central to that process is passing information down from the senior-management level to regional, district, and store managers. The company's goal is to respond in ways that are "uniform across the company" (Rosegrant 2007a, 3). As Katrina moved into the Gulf, posing a potential threat to New Orleans and other large cities, Wal-Mart invoked those protocols. The company moved emergency supplies such as generators, dry ice, and bottled water from their current warehouse locations "to designated staging areas so that company stores would be able to open quickly" (Zimmerman and Bauerlein 2005). These staging areas were set up just outside the likely worst-hit areas to facilitate a quick response with minimal danger of damage. For example, a distribution center in Brookhaven, Mississippi, had forty-five trucks in place before Katrina's landfall (Barbaro and Gillis 2005).

Once the storm had passed, the protocol directed district and store managers to relay information about store conditions back up the chain of command to the emergency operations center. Katrina had knocked out the company's computerized inventory-management system in the areas it hit, not to mention much of the local phone infrastructure, so Wal-Mart associates and managers relied for the most part on satellite cell phones that its own loss-prevention teams brought in as early as Tuesday, the day after the storm. Those teams in New Orleans were supplemented by the regional vice president, Ronny Hayes, and the regional manager for Wal-Mart's One-Hour Photo group, Deb Hoover (Rosegrant 2007a). With all of its key players in the emergency operations center's command room receiving on-the-spot information from two senior managers in New Orleans, Wal-Mart quickly got a good sense of the disaster's dimensions and adjusted its estimate of the supplies its stores and the community would need. For example, when it became clear that a number of stores had suffered damage and that homes and other businesses were facing severe flooding, Jason Jackson had his replenishment staff send more mops, bleach, and similar products to the affected areas. As noted, Wal-Mart trucks with relief supplies were rolling into New Orleans on the day after the storm.

Aside from Wal-Mart's having provided supplies to hard-hit areas several days ahead of FEMA, additional evidence of the effectiveness of the private sector's response was the speed with which Wal-Mart reopened stores closed by the storm. At the peak of the storm, 126 stores and two distribution centers were closed. Of these facilities, "more than half ended up losing power, some were flooded, and 89 . . . reported damage" (Zimmerman and Bauerlein 2005). Within ten days after landfall, all but fifteen of its stores were open. The fifteen still closed had suffered major flooding or severe structural damage.

Another element of Wal-Mart's successful response was the great degree of discretion the company gave to district and store managers. Despite the perception many have of Wal-Mart as "top heavy" and authoritarian, store managers in fact have sufficient authority to make decisions based on local information and immediate needs. As Katrina approached, Wal-Mart CEO Lee Scott sent a message directly to his senior staff and told them to pass it down to regional, district, and store managers: "A lot of you are going to have to make decisions above your level. Make the best decision that you can with the information that's available to you at the time, and, above all, do the right thing" (Rosegrant 2007a, 5). In Katrina's aftermath, senior management's commitment to this principle was often put to the test. In several cases, store managers allowed either emergency personnel or local residents to take store supplies as needed. A Kenner, Louisiana, employee used a forklift to knock open a warehouse door to get water for a local retirement home. In Marrero, Louisiana, employees allowed local police officers to use the store as a headquarters and a sleeping place because many had lost their homes. The employees did not feel the need to get approval from supervisors before taking these actions, and supervisors later praised them for their good on-the-spot decision making.

Wind and flooding severely damaged the Wal-Mart in Waveland, Mississippi. Assistant manager Jessica Lewis, who was unable to reach her superiors to get permission, decided to run a bulldozer through the ruins of her store to scoop up basics that were not water damaged, which she then plowed into a pile in the parking lot and gave away to residents. Lewis also broke into the store's locked pharmacy to supply critical drugs to a local hospital. Wal-Mart's Jason Jackson praised both of her actions: "What Jessica did is a good example of autonomy" (Rosegrant 2007a, 9–10). Given the breadth of Wal-Mart's reach and the variety of local conditions and cultures in which it operates, it makes sense to allow local managers significant discretion in their day-to-day operations. That sense of empowerment is especially useful when unusual local conditions, such as a natural disaster, require agility and improvisation.[6] Wal-Mart's life-saving response during Katrina demonstrates the wisdom of that strategy and contrasts with the more rigid and hierarchical structure typical of government agencies, such as FEMA.

6. The story of the Waveland, Mississippi, store is also of interest for another reason: it demonstrates further the improvisational skills of private actors. The store was damaged so severely that the structure could not be reopened right away. Realizing that the community needed the supplies that Wal-Mart had, the managers improvised by first setting up a sixteen-thousand-square-foot tent in the parking lot immediately after the storm to offer at least the basics, including pharmacy services. Later, they made some slight repairs to a portion of the physical structure that was salvageable and opened a fifty-seven-thousand-square-foot "Wal-Mart Express." This outlet was an innovation in response to this storm; Wal-Mart Expresses did not exist previously. The fifty-seven thousand square feet were still only approximately one-fourth as large as the original store. About a year after the storm, the Waveland SuperCenter was fully renovated and reopened.

Knowledge and Incentives in Economic Theory

Put next to FEMA's well-documented failures, Wal-Mart's successes appear even more dramatic. Given the generally negative press that Wal-Mart gets, especially from local politicians who tend to blame Wal-Mart for every problem their communities face, the almost universal praise the company received for its response to Katrina is stunning. The public sector, not surprisingly, has tried to learn from Wal-Mart's successes. Yet, for reasons to be discussed later, the attempts to do so have largely failed. To understand Wal-Mart's successes (and, by implication, FEMA's failures) and why it is unlikely that government agencies can replicate those successes without relying much more extensively on the private sector, we need to explore the political economy of markets and politics. We need to understand specifically the ways in which the market's institutional arrangements provide the incentives and the knowledge necessary for private actors to be in a position to respond as they did during Katrina.

The conventional argument in favor of markets is that private ownership of the means of production provides the right incentives for owners to produce the kinds of goods people want and to do so as efficiently as possible. Because the private owners have their own wealth at stake, they will be responsible stewards of those resources. More important, private ownership's ability to capture the future stream of potential profits in the firm's current net worth, especially in the form of a stock price, gives the current owners the incentive to take a long-run perspective on the firm's performance. Owners have little to gain from running the firm into the ground today because doing so will only destroy the firm's value. Making decisions that properly balance current profit possibilities with strategies for longer-run success maximizes the firm's present value, which can always be transferred to future owners through exchange. More narrowly, private owners depend for their profitability on continuing to please their customers over time, assuming that rivalry occurs among multiple producers. In such an environment, firms that alienate their customers by whatever means will quickly be punished by those customers, who will take their business elsewhere. The gains from proper stewardship and the risk of losses from customer "exit" suffice to provide the incentives necessary for efficiency under private ownership.

As strong as these incentives are, they are only half the story at most. Critics of markets have long wondered whether the same, or better, results might hold without the need for private ownership if only humans were less self-interested and therefore did not require incentives to engage in rational economic behavior. Marxians who called for comprehensive economic planning rather than markets and radical supporters of economic planning whose ideas percolated through the first few decades of the twentieth century argued that although private ownership's incentive structure generates some good results, those results come at the cost of "wasteful" competition. If production can be rationally coordinated ex ante through collective planning processes, they claimed, we can have the market's efficiency without the wastes of competition (where the appropriateness of resource-allocation decisions is known only through ex post signals of profit and loss) and without the inequalities of wealth and power that the planners saw as resulting from private ownership. Expressed in the rhetoric of science and rationality, these calls for planning at least attempted to counter the claim that the incentives of private ownership are necessary for efficient resource allocation.

The socialist-calculation debate of the interwar years offered a second explanation for the superiority of private ownership that did not rely solely on incentive effects. Ludwig von Mises ([1920] 1935) argued that rational resource allocation is impossible without the aid of genuine market prices because only prices that emerge out of monetary exchange in a free market can provide the basis for calculating how resources should best be allocated. Producers need to know not only the prices of possible outputs they might create to determine which outputs are more valuable, but also, more crucially, the prices of the various inputs they might use to make those outputs in order to avoid waste. Where capital goods and labor have multiple but not infinite uses, we require a way of comparing their value in those alternative uses. Mises argued that only market prices make possible this value comparison because such prices result from exchange against the same good—money. Monetary exchange provides the means by which the economic value of all goods and services can be reckoned. If planners attempt to allocate resources in the absence of market prices, they will have no way of knowing either ex ante what capital combinations and possible outputs would appear to be the most rational or ex post whether the chosen combinations and outputs had been in fact rational uses of resources. In effect, Mises turned the "waste of competition" argument on its head by demonstrating that in *comparative terms,* planning would be far more wasteful than the market.

F. A. Hayek ([1940] 1948a, [1945] 1948b) extended the Misesian arguments by situating them more clearly in the context of knowledge. He argued that the price system communicates knowledge among economic actors. Prices serve as surrogates for market participants' combined knowledge. When we buy and sell, or refrain from doing so, we make our knowledge available to others through our contribution, however small, to the combined effects that push prices up and down. Moreover, Hayek noted that much of the relevant knowledge in economic interaction is contextual or tacit. Contextual knowledge refers to what he called the "knowledge of time and place" ([1945] 1948b, 80). By virtue of a producer's "location" within the ecology of the economy and often owing to his accumulated experience, he knows his customers and suppliers in ways that are specific to that context and that would not exist except in that context. Relocating the same producer to a planning bureau would destroy that contextual knowledge. The related concept of tacit knowledge refers to knowledge held by both producers and consumers that cannot easily be expressed in words or numbers. We know a great deal that we cannot necessarily articulate, such as how to keep our balance on a bicycle. In the market, experience, context, and skill can lead individuals to know things about their environment and about how to react to it—knowledge that cannot be communicated except through the choices they make in the marketplace. Hayek and later writers such as Donald Lavoie (1985) argued that government planners and agencies have no way to acquire this contextual and tacit knowledge, and therefore they cannot duplicate the success of private owners who operate in a genuine market.

Knowledge and Incentives in Wal-Mart's Response to Katrina

The key roles of knowledge and incentives in explaining Wal-Mart's success can best be seen by comparing its performance to FEMA's. FEMA lacks both the knowledge and the incentives necessary to meet citizens' demands. Not only does it lack the market signals to guide learning, but it also faces problematic incentives inside the political process. Its main task is framed as the "coordination" of other agencies, levels of government, resources, and private actors. "Coordination" by itself is really a second-order output; the results of such coordination are what ultimately matters. Thus, "coordination" as a mission is problematic because as an output it is largely unobservable, and therefore it is difficult to know how much its "coordination" activities contributed to the final outcomes. All else constant, how easily can FEMA know whether it is succeeding or failing if "coordination" is its primary mandate? The first problem plaguing FEMA's ability to be effective is that it is operating largely in the dark with respect to whether it is achieving its main objective. Without clear feedback, its ability to learn from its mistakes is compromised, and its ability to blame others for its failings increases as a result.

By contrast, private organizations such as Wal-Mart have a much clearer, though by no means unambiguous, signal of whether they are getting the job done right or wrong—changes in prices and in profits and losses.[7] During a crisis such as Katrina when a great deal of what Wal-Mart did was to donate relief supplies, market signals admittedly do not provide clear and immediate feedback about the appropriateness of the firm's choices. However, those market signals have helped to inform Wal-Mart about how best to manage its supply chain and optimize its inventories during normal business situations. Those lessons can be transferred over to crisis situations with reasonable assurance that the same techniques will work, and the market signals generated by the price of the company's stock in response to its handling of similar situations in the past provides that assurance. During Katrina, Wal-Mart used its well-honed logistical skills, informed by years of responding to market signals, to operate effectively. In addition, its strong performance during

7. The quality of the market signals that private enterprise receives also depends on the stability of the political environment in which it operates. Political uncertainty can create "signal noise" that makes it more difficult for individuals, firms, and communities to interpret market signals correctly and thereby undermines their ability to form accurate expectations and plan for the future. Emily Chamlee-Wright (2007) explores how such politically generated signal noise has made recovery from Katrina more difficult than it might otherwise have been.

Katrina will likely lead to increased profits down the road, both through the company's speed in restoring full operations and through the creation of additional customer loyalty owing to its assistance to the community. Those increased profits provide knowledge about what the company should do, but FEMA receives no comparable signal.

Beyond the knowledge signals of prices and profits, private firms are often very effective at acquiring knowledge of local conditions that can be extremely useful in a crisis. At the most basic level, operating in the marketplace demands that firms selling physical goods or personal services locate near the demanders. Large retailers such as Wal-Mart place stores across the United States in locations that generally correspond to the population distribution (Hicks 2007). However, Wal-Mart is particularly known for locating in smaller towns and suburban or exurban areas and for getting involved with the local community in a variety of ways, not to mention often serving as a node of social interaction for both customers and associates. As a result of this decentralization of resources inherent in serving a dispersed market, firms such as Wal-Mart are likely to have supplies and human capital near disaster sites and to have both knowledge of the particular communities in which they operate and connections with community leaders. Because their employees, both managers and associates, are drawn from the local community and are routinely involved in residents' lives, they have contextual and tacit knowledge that may be—and during Katrina was—very useful in a crisis. These relationships also build mutual trust that can be put to productive use during a crisis.

By contrast, FEMA does not have offices in every small town or the knowledge gained by daily interaction with residents. FEMA employees are more likely to be based in Washington or a state capital and, as professionals, are more likely to be relatively new to an area should they be located where a disaster strikes. They lack the local knowledge required to know where help is most needed.[8] Because Wal-Mart draws its employees from the same socioeconomic groups that Katrina hit hardest, those employees were especially well positioned to use contextual, cultural, and tacit knowledge in ascertaining what needed to be done. FEMA employees were much less likely to be in this position. Moreover, considering FEMA's more hierarchical and less decentralized organizational structure, it is not surprising that the agency was largely at a loss as to how to respond to community needs, even while firms such as Wal-Mart were already meeting those needs.

8. Some evidence for this claim appears in news reports from June 2008 that FEMA was forced to give away to other government agencies $85 million in supplies intended for Katrina victims because it did not know the supplies were still needed and could no longer afford to store them. This transfer occurred even though FEMA was referring people looking for housing and supplies to the very local agencies that would gladly have made use of those supplies had they only known of their existence. FEMA's lack of local, contextual knowledge lay at the root of this problem. The contrast is striking between FEMA's stocking its warehouses with goods that went unused and Wal-Mart and other private businesses' emptying their warehouses and getting supplies to residents.

Aside from the limitations of its knowledge, FEMA does not have the incentives necessary to respond appropriately. Like all public-sector organizations, it does not have the incentive of profits and losses to ensure that it carries out its mission. As public-choice theory indicates and studies have demonstrated empirically, government agencies are much more likely to concern themselves with augmenting their budgets or pleasing key political actors who control their access to additional resources.[9] One way to justify additional funding is to claim that a lack of funds explains the agency's failures. This connection is one form of perverse incentives that government agencies face. Another, identified by Russell Sobel and Peter Leeson, is that government agencies have an incentive to avoid Type 1 errors (errors of commission) and therefore are more likely to commit Type 2 errors (errors of omission) (2006a, 6–7). Thus, they are likely to adopt a more cautious and conservative strategy, even if a less cautious one would yield greater net benefits to the public. FEMA's tendency to be conservative and rule bound is endemic to its institutional environment, so that expecting its actions to display an agility and flexibility even close to the private sector's is probably hopeless. It willingly tolerates greater Type 2 error because its overt, visible errors tend to be punished more strongly than its less visible ones. In addition, errors of omission form a more plausible basis for arguing that the agency needs more power and resources in order to act effectively. In contrast, errors of commission look more clearly like "mistakes" than the product of a lack of resources.

Private firms such as Wal-Mart have much more incentive to undertake reasonable risks and have no differential incentive to make or avoid either kind of error. Unlike government agencies, for which mistakes of all sorts are costly but getting the job done right has no specific payoff to decision makers, private-sector firms can profit by taking on risky projects successfully. The reward and punishment systems of the market process are largely immediate and powerful: if firms take the right action, they profit; if they do not take the right action, they may face losses. Because owners and managers themselves will gain economically from success in a way that bureaucrats do not, the market's incentive structure leads firms such as Wal-Mart to calculate carefully the prospective net benefits of the options open to them. Errors of commission mean absolute losses and errors of omission mean lost profit opportunities, both of which such firms have essentially equal incentive to avoid, especially in the extremely competitive retail sector. Because private firms have owners who are residual claimants and who therefore gain and lose in step with the firm as a whole, they face much stronger incentives to meet customers' and the community's needs. Wal-Mart's superior performance in Katrina illustrates this claim nicely.

Certainly part of Wal-Mart's motivation for engaging in the relief effort in a comprehensive way was the long-term payoff for its profitability and reputation.

9. A useful overview of these sorts of public-choice considerations is Mitchell and Simmons 1994. On this particular issue, see pages 58–62.

This longer-term perspective is not available for government agencies such as FEMA, which suffer from the short-sightedness endemic to the political process. The planning horizon of the political process is often as short as the two-year cycle of House elections and certainly no longer than the four years of the presidential term.[10] Every two years, agencies are always under the constant threat of new leadership, new priorities, reorganization, reassignment, or outright abolition. FEMA's history of changing missions and being bounced around the bureaucracy has heightened the difficulties of its long-term planning and of its retention of any organizational learning it might acquire.

Profit-seeking firms are often criticized for supposedly being interested only in short-term gains, but private ownership as well as capital and equity markets assure that such firms have to take longer-term interests into account. This reality was clear during Katrina as the big-box stores chose to give up some potential short-run profits in order to gain in the long run and, in so doing, better served the community. A Home Depot executive commented that any profits it might lose in the short term were more than compensated for by increased customer loyalty: "If we can be there when a customer needs us most, we can win that customer for life" (qtd. in Ward 2005). Wal-Mart's Jason Jackson noted that what ultimately matters for the company's financial health is that "we will have a community to go back to in the end" (qtd. in Langford 2007). Long-run interests also worked against resort to so-called "price gouging." As another Home Depot executive put it, "I can't think of a quicker way to lose customers than price-gouging" (qtd. in Langford 2007). In fact, since 2004, Wal-Mart has had a corporate policy of instituting regional price freezes when hurricanes approach in order to avoid accusations of price gouging. Managers recognize that the company's long-run profitability and its relationship with the community depend on skillfully navigating between a narrow short-run financial interest and a larger reputation in the community.

Operating in the marketplace also gives Wal-Mart an additional advantage over other organizations involved in disaster relief. Because relief organizations, whether governmental or nonprofit, do not operate in a competitive market context where they deal directly with their customers or clients on a daily basis, they have no need to create a large number of appropriately sized physical locations for any supplies they might wish to stock. In addition, on a day-to-day basis, they require only a small number of employees to take care of administrative duties. Only when disaster strikes do supplies and workers need to get to the affected areas. Private firms, especially big-box retailers such as Wal-Mart with numerous locations in highly populated areas, will already be present. Nonprofits or government agencies' attempts to mimic this strategy would correctly be seen as highly wasteful because such attempts would

10. Discussing the lack of incentive governments have to promote disaster mitigation rather than simply attempting to clean up afterward, Dennis Mileti notes that "the costs of mitigation are immediate while the benefits are uncertain, may not occur during the tenure of the elected officials, and are not visible (like roads or a new library)" (1999, 160). Sobel and Leeson (2006a) also consider some of these issues.

involve keeping all kinds of supplies and employees sitting in multiple warehouses "just in case." Such choices would be good examples of the sort of Type 1 error that these agencies wish to avoid because idle workers and spoiled, outdated, or unused supplies would be much more visible than the errors implicit in arriving after the fact. Because private firms have daily operations in the market, they have precisely the kinds of resources needed already in place to be converted to disaster relief if the situation arises.

These differences manifested themselves during the 2006 hurricane season. Susan Rosegrant reports on FEMA's attempt to match Wal-Mart's performance by stockpiling food and ice without coordination with private firms in anticipation of a busy 2006 season in the Gulf (2007b, 3). When the predicted busy season failed to materialize, FEMA had to "throw out some 279 truckloads of food worth about $43 million" (2007b, 3). In June 2008, the agency was forced to give away $85 million worth of unused Katrina supplies. In light of these developments, FEMA probably will not engage in strategies that risk such visible errors of commission again. By contrast, Wal-Mart *always* has resources at the ready because it needs to have them available for its day-to-day business. With ongoing markets to serve rather than only discrete, stochastic events to call forth their involvement, private retailers have the incentive and knowledge to maintain a constantly replenished stock of goods that may serve as vital resources during a crisis. Giving the private sector a larger role in disaster relief would eliminate the sort of waste FEMA created in 2006.

Competition and Organizational Learning

Aside from knowledge and incentives more narrowly construed, a broader explanation of Wal-Mart's effective response to Katrina is that it operates in an extraordinarily competitive marketplace, and this environment is largely responsible for the way in which it has developed its resources, formed behaviors, and created routines that combine those resources and behaviors. Recent reports in the strategic-management literature have characterized the firm as a set of *resources,* a group of *activities* in which the firm engages, and a collection of *routines* that link the resources to the activities (Mathews 2006, 75).[11] Routines are the various rules, procedures, behavioral patterns, and the like that define how a firm operates. As the name suggests, they grow from repetition and may become increasingly effective as the firm evolves. Effective routines allow the firm to engage in increasingly complex tasks essentially by increasing its capabilities, understood as the potential embodied in its resources. Rather than viewing the firm's resources as a static collection of things, the emphasis on routines provides a "dynamic capabilities" perspective on the firm's behavior

11. The concept of "routines" comes from Nelson and Winter 1982.

(Teece, Pisano, and Shuen 1997). The firm is not simply a collection of resources, but an institution that can learn to improve its own operation so as to enhance the productivity of those resources. Such organizational learning is much more likely to take place in a highly competitive environment where the organization is subject to constant pressure to improve its short-run efficiency and long-run capabilities. Organizations under competitive pressure will also be more entrepreneurial because they will be better able to apply their resources and routines to novel contexts.

Constant exposure to this sort of highly competitive environment has led Wal-Mart to develop a set of organizational practices that are honed to be efficient. Perhaps more important, these routines are so tightly matched to the company's resources and behaviors that they are easily deployed in novel situations. The competitive pressure of the retail market has helped the company to develop organizational routines that are efficient at a point in time, while also ensuring that as an organization it can learn from novel situations and incorporate that learning into dynamically efficient metaroutines. The company's employees know not only how to act effectively, but also how to learn how to act effectively. Its routines effectively embody its capabilities.

Wal-Mart's successes during Katrina sprang from its learning in previous responses to hurricanes, but also from the everyday demands on its supply chain and distribution network to get goods to the stores that need them. The firm's whole inventory-relevant technological infrastructure is geared to the quick movement of goods to stores and within them.[12] Several authors have argued that its innovations in these areas are a key causal variable in the increased productivity of the U.S. economy in the late 1990s and may explain more than half of the productivity gains in the retail sector from 1987 to 1995 (Johnson 2002; see also Vedder and Cox 2006, 128–34).

Much of this efficiency has been developed through the "learning by doing" associated with the competitive marketplace. Just as individuals learn by being put in novel situations that require the application of existing resources and capabilities to new activities and that have a clear measure of success, so firms learn to develop routines to bridge their resources and activities in the competitive market. Environment matters because even if an organization has clearly defined activities and a set of resources to bring to bear on them, it will not be likely to develop the linkages between them unless it experiences genuine pressure to perform and innovate. Put differently, the more competitive the environment, the more likely it is that an organization will behave entrepreneurially with respect to both the world outside

12. Wal-Mart is widely recognized as an innovator in inventory management and has recently become one of the first large retailers to use Radio Frequency ID to manage inventory flow at distribution centers and retail stores. One of the goals is to track in-store sales with a degree of accuracy that prevents stores from ever running out of merchandise on their shelves and to adjust the merchandise mix to changes in the customer base as quickly as possible.

the organization and its internal structures. Wal-Mart's experiences in a highly competitive industry have heightened its alertness to the unexpected and its ability to learn from its mistakes, both of which are key elements of effective disaster response.[13] It has honed the agility and responsiveness that disaster experts would love to inculcate in FEMA and other government agencies. Those characteristics, however, are a product of the competitive market environment in which Wal-Mart operates, not of its organizational structure or of the quality of its leadership per se.

In 2005, Wal-Mart also demonstrated a willingness to trust its lower-level employees to apply its well-honed routines to novel situations. As noted, managers and associates are given a fair degree of discretion, and during Katrina they were instructed and expected to make decisions "above their level" without prior approval. How could Wal-Mart trust the quality of those decisions? The answer is twofold. First, it has organizational routines that its employees are used to deploying and know are successful; and it has a demonstrated capacity to learn from its own activities. Second, it has a powerful corporate culture in which its core philosophical ideas are inculcated in managers and associates from the outset.[14] The combination of known organizational routines, a capacity to learn, and a powerful corporate culture ensures that lower-level employees can be trusted to apply known protocols to novel situations in ways that are consistent with the organization's overall vision. By giving lower-level employees such autonomy during Hurricane Katrina, Wal-Mart made it possible for them to act on their tacit knowledge. Because tacit knowledge is by definition uncommunicable through ordinary language, acting on it requires that its possessor have a significant degree of autonomy.[15] Had Wal-Mart employees been held to very tightly scripted protocols, they would not have been able to improvise on the basis of their tacit and contextual knowledge in the effective ways that they did. Issues of organizational structure are not independent from those involving how well such organizations can make use of their employees' tacit knowledge.

13. Louise Comfort (2005) considers the discovery and correction of error to be one of five critical criteria for an effective disaster-response system and criticizes specifically "the inability to identify and correct errors as the event evolved" as one of the great failures in the government's response to Katrina. In her call for designing systems that avoid this failure, however, she fails to consider whether structural and institutional features of the public and nonprofit sectors might make such learning problematic and, conversely, whether the private sector's different features make the learning more likely. "Discovery and correction of error" is precisely the role that Israel Kirzner (1973) assigns to the entrepreneur. He also explains why the market is more likely than other institutional arrangements to generate such entrepreneurship.

14. Wal-Mart has long been known for its attempts to create a consistent and powerful corporate culture. It devotes a whole section of its Web site to issues of corporate culture, including everything from its "three basic beliefs" to Sam Walton's "ten rules for building business" to the "Wal-Mart cheer." The Wal-Mart corporate culture also includes the "ten-foot rule," which means that associates should approach any customer within ten feet of them to see if he or she needs help, and the Web site includes a description of the "Saturday morning meetings," which take place at corporate headquarters in Bentonville, Arkansas, and provide a forum for explaining and debating core issues facing the firm as well as celebrating the employees' successes.

15. I thank Josh Hall for this observation.

The combination of factors that enabled Wal-Mart to trust its lower-level employees and permit them to use that autonomy so well is most effectively produced in a competitive environment, which explains why such autonomy was virtually absent from FEMA.[16] Many of the stories of FEMA's failures involved its managers' inability to "think on their feet" and to trust in lower-level bureaucrats' decision making. Wal-Mart's ability to respond to the unexpected, to deliver goods to the community, and to trust in its lower-level employees' choices is the result of its being a profit-seeking firm operating in a highly competitive marketplace and is nearly impossible to duplicate outside of that context.

Conclusion

The tale of Hurricane Katrina as a massive failure of government at all levels is a widely accepted one, even among people normally not inclined to point the finger of blame at government, but the lesson many draw is that the failure was one of will or resources or expertise. Much less often argued is that the failures were endemic to the institutional environment of the political process, which cannot provide the knowledge and the incentives required for effective resource allocation in the way that private organizations can. In contrast to the story of FEMA's failures, the largely untold but indisputably true story of Wal-Mart's success illustrates the advantages the private sector has in managing the logistical challenge of resource allocation during a natural disaster. The incentive provided by private ownership and the knowledge provided by market signals, such as prices and profits, all set in a competitive environment, create firms such as Wal-Mart that can respond with agility and improvisation to a crisis such as Katrina with results far superior to those achieved by government agencies. A political economy perspective on Wal-Mart's heroic performance strongly challenges the belief that with more will or resources or expertise, government can respond effectively to a major disaster. The Katrina story has two parts: the government's massive failures and the private sector's notable successes. Disaster policymakers who ignore the latter half of the story do so not only at their own peril, but also at the peril of millions of Americans who may be the next victims of another disastrous government disaster-relief effort.

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16. As indicated in note 2, the U.S. Coast Guard was able to capture some of this combination, especially the powerful organizational culture, in its long history, and therefore it was more like Wal-Mart than FEMA in its response to Katrina.

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Acknowledgments: I thank participants at the 2008 Association of Private Enterprise Education meeting in Las Vegas, especially Josh Hall, for helpful comments. I also thank the Mercatus Center for its generous support of the original research for this project.