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PRIVATE SOLUTIONS TO PUBLIC DISASTERS: Self-Reliance and Social Resilience

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Private Solutions to Public Disasters: Self-Reliance and Social Resilience

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"...what has so often excited wonder, the great rapidity with which countries recover from a state of devastation; the disappearance, in a short time, of all traces of the mischief done by the earthquakes, floods, hurricanes, and the ravages of war. An enemy lays waste a country by fire and sword, and destroys or carries away nearly all the moveable wealth existing in it: all the inhabitants are ruined, and yet in a few years after, everything is much as it was before. "

-John Stuart Mill, 1848, Principles of Political Economy

I. Introduction

It is often in the aftermath of the worst calamities of nature and war that the power of human ingenuity and resilience is most clearly demonstrated. John Stuart Mill, writing in 1848, was amazed at the rapidity with which inhabitants of a devastated area were able to recover. It is at the very time when public and private infrastructure and formal institutions are at their weakest following a public disaster that you would expect civil society to collapse. Yet, calamity after calamity has exhibited the resounding ability of private actors to coordinate recoveries from the most severe of crises.

Unfortunately, not all catastrophes have rapid or even complete recoveries. In part, these slow or incomplete recoveries are contributable to the uncontrollable features of the disaster, such as its magnitude, as well as its particular form. Mill argued that large-scale destruction of human capital impedes the rapidity of recovery because it is precisely the local knowledge that is necessary to coordinate a rapid recovery. More importantly, especially for economists and policy makers, is that there are institutional features that can significantly impede the natural tendency of unfettered people to achieve a complete and rapid recovery following a disaster.

Profit-seeking entrepreneurs are vital to any recovery process. Entrepreneurs must be able to unrestrictedly allocate land and labor resources to their most-urgent employments, as expressed by customers through prices. Any interference with the structure of prices distorts the signals that entrepreneurs receive, misdirecting or hampering their efforts. Misallocation of resources can literally be a matter of life and death in the immediate aftermath of a natural disaster or war. Price ceilings dampen the ability of profits to induce increased supply of needed goods and services and distort the

ability of prices to signal consumers to ration and economize scarce resources. Poor policy unnecessarily blocks and inhibits the labor and capital adjustments necessary for a complete and timely recovery by distorting entrepreneurial calculation and preventing entrepreneurs from allocating resources to their most productive uses.

Despite having their plans frustrated through the regulations and uncertainty created by government action, humankind has still demonstrated a remarkable resilience following a natural or manmade disaster. We argue that this is due to the civilizing and coordinating roles played by civil society. For-profit companies, charities, and churches play a vital role in the recovery process. These organizations have proven to be the first and most well-equipped responders to disasters, jump-starting the recovery process.

II. Compounding Nature's Fury with Man's Folly

Humankind has shown an amazing resilience when it comes to overcoming nature's fury. Yet when nature's fury is compounded with man's folly, this resilience can be lost, yielding ground to corruption and dilapidation due to signal-distortions and regime uncertainty. Ironically, it is often well-intentioned people who create the folly that magnifies nature's fury due to a misunderstanding of the way in which incentives affect man's behavior.

We use the case of Hurricane Katrina to show what types of institutions and policies are robust to natural disasters, allowing for maximum speed and totality of recovery. We show how natural disasters can magnify the adverse effects of poor institutions and policies already in place. Hurricane Katrina hit Louisiana in August of 2005 causing over \$100 billion in property damage and 1,800 deaths (Chamlee-Wright & Rothschild, 2007), making it one of the worst natural disasters to ever hit the United States. The destruction caused by Hurricane Katrina was amplified by policies in place before Katrina hit, such as flood insurance and a corrupt levee board; policies in the immediate aftermath of Katrina, such as excessive layers of regulation; and in the longterm through the creation of instability and uncertainty for investors.

Even though entrepreneurs were burdened with excessive and inhibiting regulations and poor policy, civil society was still able to show an amazing resilience in the aftermath of Hurricane Katrina. Corporations like Wal-Mart and Home Depot, as well as small businesses like gas stations, were able to respond quickly to the devastation caused by Katrina, and providing necessary goods and services that would allow more businesses and residents to come back to New Orleans. Profit-seeking entrepreneurs and private charities and churches played a central coordinating role in the aftermath of Katrina.

Pre-Katrina

The Army Corps of Engineers was entrusted with overseeing and constructing levees around Louisiana after the Great Flood of 1927, though the federal government had been overseeing the levees since creating the Mississippi River Commission in 1879 (Davis, 2000). The Army Corps of Engineers found itself caught in conflicting layers of bureaucracy, primarily between the demands and desires of the federal government and the local citizens and politicians of Louisiana. Local politicians, controlling the Levee Board and the Sewage & Water Board, were more concerned with cleaning up the more

salient problems facing New Orleans, such as corruption, schooling, and urban infrastructure problems (Brinkley, 2006; Cooper & Block, 2006).

Schleifstein and McQuaid, three years prior to Katrina, put out a report that concluded that inadequate levees would not hold up to a direct hit by a Hurricane (Horne, 2006). John Barry (1998) wrote a book detailing the history of the Mississippi Flood of 1927, especially focusing on the failures of the Army Corps of Engineers and local politicians to take flood control seriously. John McPhee wrote a book detailing how the levees would eventually fail; Eric Berger, a science journalist, reported on the devastation that a direct hit on New Orleans would cause (Brinkley, 2006). Despite the urgent heeding of these, and several other experts, no substantial measures were taken to fortify the weakened and often ill-constructed levees (Heerdon and Bryan, 2006). When Katrina hit, the Army Corps of Engineers was managing a largely dilapidated system of levees insufficient to stand up to a storm of the magnitude of Katrina. In 1990, Colonel Diffley had stringently warned the board that the levee wall was incompetent, critiquing the performance of board's chief levee designer (Horan, 2006). Not only did the levees lack structural integrity, but the construction was also persistently behind schedule; upgrades had been pushed back as long as 13 years, leaving one section of flood work still unfinished when Katrina hit (Horan, 2006). With the levees standing 14 feet above the average water level of Lake Pontchartrain, locals believed themselves safe as long as the city pumps were working to take care of any spillovers. This of course assumed that the levees, constructed by the Army Corps of Engineers, would hold up. Charitable organizations, such as the Red Cross, familiar with the danger that a large storm posed and the weakness of the levees, refused to operate within the flood zone.

The condition of the levees was bad enough that a significant number of personnel evacuated prior to the storm, leaving the remaining employees understaffed (Horan, 2006). Though the initial break in the levee was only 20 feet and could have been shored up with the heavy equipment and sandbags owned by the levee agency, levee employees did not respond and the break turned into a 200-foot gap. The poor state of the levees was primarily due to the notorious corruption on the levee board. The corruption even persisted after Katrina hit, when the levee board president used the tragedy of Katrina to hand out lucrative contracts to family members, including his wife's cousin and her son, and even cut himself a check \$98,000 above the normal stipend (Horan, 2006). The levee board adamantly and successfully resisted the advice of the Army Corps of Engineers to concentrate resources by fortifying frontal protection for the levees, instead of focusing on relying on an extensive network of pumps up to several miles past the levees (Horan, 2006). Recommended frontal protection consisted of a system of floodgates, which came in at one-third of the cost of the favored pump and levee arrangement, but would require continuous maintenance by the levee board—a task they were not willing to commit themselves too.

Local politicians were able to funnel federal money earmarked for levee renovation and construction to benefit special interest groups. The shipping industry successfully lobbied for harbor upgrades and canal dredging projects from this federal money, both projects that actually increased the changes of hurricane damage (Brinkley, 2006). In addition, local politicians resisted undertaking costly and unpopular, but highly recommended, projects in order to bolster their popularity with the voters by putting resources into more salient public projects.

While local politicians were shirking on their duty to maintain the system of levees, state and federal government officials were actively encouraging homeowners and businesses to reside in the disaster-prone areas threatened by the dilapidating levees. What economists call moral hazard problems were created in disaster-prone areas with subsidized flood insurance and the expectation of post-disaster relief. Moral hazard problems occur when people who are protected from incurring the full cost of choices they make act differently than how they would act if they did bear the full cost of their actions, resulting in more poor and costly decisions being made than would be if they weren't protected. Lowering the cost of residing in areas with high flood and wind risk artificially increases the number of people and the amount of property in disaster-prone areas (Sutter, 2008). In an unmolested market, increased insurance rates and the expectation of incurring storm damages would force residents to account for and bear the cost of living in disaster-prone areas. The expectation of disaster relief and subsidized insurance significantly reduce the costs of constructing and residing in these areas.

Furthermore, state governments have been notoriously resistant to allowing insurance companies to mandate mitigation efforts by customers located in these highrisk areas. If insurance companies had more leeway in turning down high-risk customers who do not take cost-effective preventative measures, these areas would have the incentives to build more structurally sound buildings. Preventive measures, as easy as installing window shutters, can significantly reduce the probability of wind damage.

State governments interfere with insurance companies' risk assessments and premiums for varying types of mitigation in two ways. First, several states in disasterprone areas require that mitigation discounts be approved by them, allowing competing

insurance companies and politically elected officials to second-guess insurance companies' decisions. Second, some states such as Louisiana, Florida, and Carolina, require that certain mitigation practices be given a discount. Since insurance companies already have the incentives to offer discounts to effective mitigation practices, government interference, when binding, requires resources to be allocated to mitigation measures that have not proven effective. Laws that require insurance companies to fund sham mitigation practices stem from political favors to interested parties and genuinely concerned politicians who do not have a full understanding of insurance markets.

New Orleans's long tradition of special interest legislation, in addition to leading to poor levee maintenance and construction, also shackled entrepreneurs' abilities to respond to consumers needs in the wake of the havoc created by Katrina. In post-disaster recoveries, these restrictions prove extraordinarily burdensome for two primary reasons. First, the bureaucratic process of applying for permits, inspections, and getting assistance through the regulatory process is especially difficult with many public buildings damaged and public employees displaced. Filling out the paperwork required for engaging in various forms of business activities is already a formidable process, let alone when public infrastructure is shut down or understaffed. Second, as John Mill pointed out, the return of people with local human capital is vital for the recovery process. Entrepreneurs, vital for recovery, may become frustrated by a complicated bureaucratic process and may simply choose to not return following a disaster. At best, regulatory processes only slow down and prevent entrepreneurs from putting their human capital to immediate use. In order to attract residents and other business owners back to the affected areas, there must be initial enterprising business owners who come back and provide basic goods and

services. Residents and other business owners waiting for these basic goods and services to be provided before returning to New Orleans are, overtime, more likely to establish themselves in the cities they took refuge in, making it costlier to return to New Orleans.

Occupational licensing, granted to construction unions to artificially increase wages, restricted construction experts from other states from setting up shop in the disaster-stricken areas to jumpstart the rebuilding process. The construction permit process required a six-month waiting period, which was not rescinded in the wake of the damage created by Katrina. To their credit, the city of New Orleans did suspend inspections on construction projects, allowing, for instance, carpenters and electricians to inspect their own work. Historic preservation regulations also inhibited rebuilding in New Orleans, a city with several historic districts. Historic districts that were afflicted by severe flooding were kept under draconian preservation laws, making it difficult for contractors to quickly rebuild and restore these buildings.

Restrictions on the adult-to-child ratio for child-care centers put in place before Katrina were also not relaxed following the storm (Chamlee-Wright, 2008a). In order to start making progress on recovery, entrepreneurs and business owners needed to have places to take their children for care and supervision. Even two years after Katrina hit, only 94 of 275 day-care centers in New Orleans had re-opened. With so many damaged buildings and missing employees, the adult-to-child capacity restrictions meant that many parents would be unable to focus completely on recovery efforts. Refugees with children, fleeing in droves to cities such as Houston and Atlanta, found it hard to take on full-time employment due to similar restrictions in those cities as well.

Zoning regulations and building codes also shackled entrepreneurs in their efforts to speedily re-open stores to offer basic services and goods to returning residents and other business owners. The opening of a health clinic in New Orleans was delayed by nearly six months due to the fact that it was located in a residential zone and had building code violations such as a handicap ramp with handrails on only one side. Similarly, a laundry mat in New Orleans had to wait weeks for an inspection after the building was completed and ready to open up.

Layers of regulation and profit windfalls from post-disaster relief create an institutional environment ripe for corruption. In 2004, Louisiana was ranked 40th out of 50 states in the Pacific Research Institute's Economic Freedom of the States Index and had relatively high costs of conducting business compared to other states. In addition, Louisiana was ranked the third-most corrupt state in the nation in 2004. Louisiana also had lower education levels and more people living below poverty lines than the national average.

During Katrina

The folly already in place prior to Katrina, which drastically increased the amount of damage the storm caused, was also compounded with folly during the storm and its immediate aftermath. While most economists are familiar with the concept of the tragedy of the commons, coined by the biologist Garrett Hardin, most are not familiar with the tragedy of the anti-commons. The tragedy of the anti-commons occurs when several government agencies have the ability to regulate and control a common area, creating unnecessary, and oftentimes repetitive, and even conflicting, layers of bureaucracy.

Additional layers of bureaucracy, especially following a disaster, can cost lives as it slows down the response times of entrepreneurs. In addition, complicated layers of bureaucracy, especially when combined with political windfalls from disaster relief, drastically increase the chances of venality.

The relief efforts for Hurricane Katrina orchestrated by FEMA have been notoriously plagued by corruption and abuse. In fact, according to the Government Accountability Office, the cost of corruption and abuse could reach \$2 billion. In a study on natural disasters and corruption, Leeson and Sobel (2008) found that every additional \$1 per capita spent on disaster relief by FEMA increases corruption in the average state by up to 2.5 percent due to the windfalls created by the programs. This suggests that the states along the Gulf Coast might be notoriously corrupt precisely because they are frequently hit by natural disasters. Leeson and Sobel estimate that eliminating FEMA disaster relief would reduce corruption by more than 20 percent in the average state. In a separate article, Leeson and Sobel (2007) trace the origins of the corruption to the timesensitive nature of disaster relief; increased oversight shows little promise in curbing this corruption because, in their words, "protocol will take a backseat when disasters actually strike."

When infrastructure and normal modes of communicating and organizing activity are slow, incomplete, and contain noisy signal interference following a public disaster, the need to allow market prices to adjust to communicate information to the relevant actors becomes even more important. Hayek (1945) discussed the heavily dispersed nature of knowledge and the importance of a freely fluctuating price system because it was the most efficient system to coordinate economic activity across an array of activities

do to the ability to convey the specific knowledge of time and place to the relevant economic actors. With so many needs after a natural disaster, it is difficult, especially for an altruistic government agent operating in the field, to decide whose and what needs should be met first. Sobel and Leeson (2007) find that while private actors are able to respond to transient, decentralized information in a timely manner following a disaster, public officials are forced to make decisions with, at best, scanty and outdated information.

Price controls following a disaster are known for distorting price signals, which is unfortunate at a time when those signals are most needed to coordinate the allocation of resources to their most urgent employment. William Carden (2009) noted that emergency situations are inherently chaotic and that a well-functioning unmolested price system can significantly reduce the degree of chaos. Price ceilings discourage economical consumption and take-away the profit-seeking motive for entrepreneurs to find innovative ways to arbitrage resources to where the demand is highest.

Post-Katrina

Continuous government interference in the market, policy reversals, and varying responses to disasters create uncertainty for market actors. Entrepreneurs who see current profit opportunities are hesitant to undertake investments due to the political uncertainty. Robert Higgs (1997) calls this process of government adversely affecting investment by not credibly committing to a set policy and adhering to it *regime uncertainty*. In the after-math of a disaster, the stymieing affects of regime uncertainty on investment is magnified, as it paralyzes the entrepreneurship and investment necessary for a full and

rapid recovery. Market actors, left in the dark concerning what goods and services will be provided by government agencies and when they will be provided, cut back on muchneeded investment. Government regulations, such as price controls, distort the signaling process and prevent the market adjustment that is at the very heart of economic efficiency.

By focusing on standard post-disaster recovery procedures, public officials did not take account of the necessary role that private actors played in the recovery process (Chamlee-Wright and Storr, 2008). Focusing on procuring more federal dollars, stronger regulation, and periodically implementing new recovery plans, policymakers intruded upon the recovery process, preventing entrepreneurs from rapidly returning to their businesses. In a structured set of neutral interviews, residents on large named barriers erected by government policies and programs, in particular ones intended to assist redevelopment as the biggest challenge they faced since returning (Chamlee-Wright and Storr, *Working Paper (a)*). Profit-seeking entrepreneurship though, is robust not only to natural disasters as John Stuart Mill pointed out, but is oftentimes robust to man's folly.

Though unnecessarily inhibited, entrepreneurs, through persistence and creativity, were still able to coordinate the start of a recovery. Population estimates from the U.S. Census Bureau for the New Orleans, LA MSA show that the total population of the MSA reached 86 percent of pre-Katrina population by July of 2008 as shown in table 1.¹ Clearly, a full recovery is still away off, especially in the parishes most severely hit by Katrina, but the data still shows an impressive display of resiliency. The observed resilience has been found to be largely due to private-sector responses, and not formulaic

¹ The parishes of Jefferson, Orleans, and Plauqemines dispute the 2008 figures, claiming that the U.S. Census Bureau has understated these numbers. If undisputed 2007 figures are used instead of the 2008 figures, then total population of the New Orleans MSA has reached 85 percent by July 2007.

public-sector responses (Boettke, Chamlee-wright, Gordon, Ikeda, Leeson, and Sobel; 2007). In fact, it is precisely in those areas where public-sector influence undermined private-sector response times where the least recovery progress has been made.

 TABLE 1: Population by Parish, New Orleans, LA MSA (U.S. Census Bureau)

			Plaque- St.		St.	St.	St.	
	Jefferson	Orleans	Mines	Bernard	Charles	John	Tammany	Total
Jul-05	450,848	455,046	28,565	64,890	50,116	45,568	217,367	1,312,400
Jul-06	422,222	210,768	21,610	13,924	51,868	47,647	223,863	991,902
Jul-07	440,339	288,113	21,597	33,439	51,982	47,678	226,263	1,109,411
Jul-08	436,181	311,853	21,276	37,722	51,547	46,994	228,456	1,134,029

III. Self-Reliance and Social Resiliency

According to Nobel Laureate Thomas Schelling, the primary problem residents of New Orleans faced in the recovery process was that of coordinating expectations (Gosselin, 2005). If residents expected people to come back and work to bring about a recovery, than it would happen. On the other hand, if residents did not expect others to come back, then they would not come back either, and the human capital necessary for recovery would never materialize. Private corporations, such as Wal-Mart and Home Depot, and determined small business owners were able to solve Schelling's coordination problem by being the first movers. By quickly getting their stores re-opened and their employees back in town, these businesses were able to provide the basic goods and services that were necessary for other residents and business owners to come back to New Orleans as well.

Emily Chamlee-Wright (2008b; 2007), with in-depth interviews in New Orleans, found that private actors played a large role in coordinating a recovery through mutual assistance, commercial cooperation, and private re-establishment of community resources. Residents with house damage and business owners who found their stores damaged and/or looted would not have been able to return immediately to post-Katrina to jumpstart the recovery process without mutual assistance. Returning residents were able to coordinate a return with others by committing to exchanging their different skills and remaining resources. A lumber store owner was able to trade room in his largely undamaged house for assistance in rebuilding his store, which had been badly damaged and looted. Chamlee-Wright also found that commercial entities showed novel and extensive cooperation with each other in order to signal to evacuees that New Orleans would recover and that basic goods and services would be available to returning resident looking to start the recovery process. Companies were willing to offer harder-hit companies generous terms of credit, and even free supplies in order to help other these other businesses open up to attract back more residents. Churches, such as the Mary Queen of Vietnam Catholic Church, were able to re-establish community services, vital for attracting back the local knowledge necessary for a complete and timely recovery.

The *Doux-Commerce Thesis*, put forth by the *Scottish Enlightenment* thinkers, holds that commerce plays a key role in civil society. It is the very act of trading that civilizes a society, as business owners and their customers seek to establish an honest reputation to facilitate future transactions. It is through the process of exchange that we find mutually beneficial margins to cooperate on and a motive to exhibit desirable moral

traits and characteristics. In the chaotic aftermath of a disaster like Katrina, this civilizing role of re-establishing commerce is necessary for the recovery process.

Despite being hindered by policies that exacerbated the toll of Katrina, there were notable efforts undertaken by private companies and organizations that significantly eased the severity of the disaster. Horwitz (2008) found that big-box retailers, such as Wal-Mart and Home Depot, operating under the knowledge generating and incentive inducing influences of competition, were able to respond significantly faster than FEMA. The private companies managed to get supplies to where they were needed, almost directly following the storm. Before Hurricane Katrina even made landfall, both stores had preemptively placed trucks, drivers, and supplies at strategic staging points, safely out of danger but close enough to rush in supplies in right after the storm passed. Wal-Mart, using its efficient supply chain, was able to get all but 15 of 89 damaged stores up and running within 10 days, supplying needed items to Katrina survivors. Within the first three weeks after the storm hit, Wal-Mart delivered almost 2,500 truckloads of supplies to the affected areas, while Home Depot delivered over 800 truckloads. Both organizations left local store managers with discretion so they could respond to local emergency situations. Several Wal-Mart managers were commended for providing free supplies to devastated survivors of the storm.

Churches and private charity organizations also played an important role in the recovery process following Hurricane Katrina. Chamlee-Wright and Storr (forthcoming in Rationality & Society; *Working Paper(b)*) did an in-depth cultural analysis of a Vietnamese-American community in New Orleans East, finding that the Mary Queen of Vietnam Catholic Church played a central role in the revival of the neighborhood

surrounding the church. One of the most astonishing features of their study is that the church is located in one of the worst damaged areas of New Orleans, one that the Urban Land Institute claimed had little chance of recovery. Within a few weeks after the storm, parishioners were returning and taking the initial steps towards recovery. An astounding 90 percent of the residents around the church had returned by the summer of 2007 and 70 of the 75 Vietnamese owned businesses were up and running. Even compared to less damaged areas, this was a remarkable recovery.

IV. Conclusion

The destruction and upheaval caused by nature's fury is often staggering. Throughout history, unfettered people have been able to overcome the worst tragedies of nature and war, displaying the amazing resilience and ingenuity of humankind. Yet, when governments impede upon the very process that allows the rapidity and completeness of recovery, civil society must overcome man's folly in addition to nature's fury. Placing additional regulatory obstacles and destabilizing programs in the way of entrepreneurs severely comprises the ability of private-actors to coordinate a complete and rapid recovery.

It was civil society that forged the way in coordinating a post-Katrina recovery. Entrepreneurs were able to overcome the obstacles of nature's fury and when necessary, man's folly in order to provide the basic goods and services necessary to jumpstart the recovery process. It was the initial commitments undertaken by businesses and private organizations, as well as the civilizing influence of the re-establishment of commerce,

which attracted residents back to New Orleans, demonstrating, once again, the amazing resilience of civil society in overcoming nature's fury.

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