

Government as Risk Manager¹

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On Friday, July 11, 2008, after a run on IndyMac Bancorp in which people lined up outside the bank's branches and withdrew \$100 million per day, the U.S. Federal Deposit Insurance Corporation seized IndyMac. The next Monday, July 14, IndyMac reopened its branches for business under FDIC supervision. The lines were gone. IndyMac employees largely remained in place. Depositors had immediate access to their funds up to the federally insured amount—\$100,000 per person in ordinary accounts and \$250,000 per person in retirement accounts—and the FDIC began the slow process of winding up the bank. The deposit insurance system had worked to protect depositors and maintain confidence in the banking system, preventing the type of mass banking panic that crippled the American financial system in the early 1930s.

While there are many parallels between the current financial crisis and the onset of the Great Depression, deposit insurance has made this fundamental difference. There are other differences as well. We have unemployment insurance, along with Social Security, Medicare, Medicaid, and state insurance guaranty funds. People who lose their jobs will receive income replacement benefits for at least some period, and the infrastructure is in place to extend those benefits if necessary. The elderly and the disabled will have a basic income, good health insurance, and basic long-term-care insurance, regardless of what happens to their private retirement plans or other investments. In addition, the state insurance guaranty funds provide protection for insurance products similar to that provided by the FDIC for bank deposits. None of these programs existed in 1930. They will not eliminate the dislocation from the bursting of the housing bubble, the credit freeze, the contraction of consumer demand, or the resulting lost jobs. But they will make a difference.

In this chapter we fit these government insurance success stories into a larger framework of government risk management. Although not always recognized, risk management represents one of the most powerful tools that government has—and one with a long and successful history in the United States. The government has a vital role in managing risk because private markets for risk do not always work optimally on their own. Indeed, this is why programs such

as Social Security, Medicare, and federal deposit insurance are among the most successful—and most popular—policies ever adopted in this country.

In the pages that follow, we explain the four basic ways to manage risk: prevention, risk shifting, risk spreading, and loss control. We set out five principles of effective government risk management gleaned from extensive historical study: (1) link responsibility and control, (2) manage moral hazard, (3) pool risk in sound institutions, (4) adopt market conforming approaches to the extent possible, and (5) structure markets to promote safe products. Finally, we describe some promising new government risk management ideas that incorporate these principles.

Risk Management 101

There are four basic ways to manage risk: prevention, risk shifting, risk spreading, and loss control. *Prevention* (or risk reduction) attempts to reduce the frequency and severity of bad things that can happen. Much health and safety regulation falls into this category. *Risk shifting* transfers the responsibility for bad outcomes, often from the person who suffers the initial loss to the person or entity that caused it (or, in some cases, the person or entity best able to absorb and manage the risk). Liability rules fall into this category. *Risk spreading* distributes the costs of particular bad outcomes across a large pool of people. Insurance is the standard loss-spreading institution, and many government programs are forms of insurance. *Loss control* manages or mitigates the consequences after the bad outcome has occurred. Much of the work of fire departments and emergency management agencies, and some of the work of public health and welfare agencies, falls into this category. The sections that follow describe each of these four ways to manage risk, setting the backdrop for our explication of the core principles for government risk management.

Prevention

Prevention, or risk reduction, is a crucial form of risk management. Much government regulation—from speed limits to workplace safety rules—aims directly at loss prevention, and numerous risk reduction strategies are detailed throughout this book. Our main goal in this chapter is to highlight other public policy approaches to risk management and the impact that these other approaches can have on private incentives to reduce risk. For this reason we leave most of the details of prevention to the field specialists in such areas as public health, environmental protection, food and drugs, and occupational safety. Here we focus on ways that risk shifting and risk spreading can promote, or at the very least not undercut, prevention, and on the need to pay attention to loss control.

Risk Shifting

Risk shifting assigns responsibility for a potential future loss to someone other than the person on whom it would initially fall. Risks can be shifted by law, as illustrated by state workers compensation laws, which make employers responsible for many of the financial consequences of occupational injuries. Risks also can be shifted by contract. For example, contracts among owners, builders, and architects specify who will be responsible for which kinds of losses that may occur in the course of designing and building a structure. These contracts operate within a set of background liability rules that leave some losses with the person who directly suffers them and that shift other losses to the person who caused them or who for some other reason is legally responsible. Making these background liability rules is one of the most important risk management activities of government.

Much government risk shifting occurs through liability *creating* rules (such as medical malpractice law), but some very important risk shifting also occurs through liability *limiting* rules (such as limited liability or bankruptcy law). For example, bankruptcy limits people's liability for repaying debts in certain circumstances, providing them with the opportunity to get a fresh start, either as a business or individual. Similarly, there is a federal law that limits consumers' responsibility for unauthorized charges on their credit card accounts. This law facilitated the growth of the credit card market by reducing consumers' fear of credit card fraud. Likewise, corporate law limits the liability of shareholders to the value of their shares, allowing people to invest in businesses without exposing their entire personal net worth. All three of these liability-limiting laws shift risk from borrowers to creditors.

Shifting risk can change people's incentives to prevent loss. Being responsible for a bad outcome increases the incentive to prevent it. Conversely, the ability to shift the risk of that bad outcome to someone else reduces the incentive to prevent it. These incentive effects are an obvious feature of liability-creating rules. But they are an equally important feature of liability-limiting rules. Limiting consumer liability for credit card fraud shifts risk onto credit card companies and, as a result, creates an incentive for those companies to reduce fraud. Credit card companies actively look for unusual transactions using sophisticated computer programs, and they call cardholders for confirmation when a question arises. The limitation on liability provided by bankruptcy law creates an incentive for lenders to monitor borrowers and prevent them from taking on too much debt. And limited liability for shareholders creates an incentive for lenders to examine carefully the operations of corporate borrowers. At the same time, however, those individuals whose liability is limited face

a reduced incentive to avoid fraud or excessive risk taking—a problem often referred to as “moral hazard.”

Risk shifting can be a flexible, low-cost, and effective government risk management tool, especially in a global economy in which many risks lie beyond the direct reach of the U.S. government. But it is essential that policymakers manage the incentive effects of risk shifting rules in an effective manner. For this reason, several of our risk management principles provide guidance on harnessing these incentives.

Risk Spreading

Risk spreading is a special type of risk shifting, so everything that we have to say about the incentive effects of risk shifting applies to risk spreading as well. Risk spreading differs from other kinds of risk shifting, however, in that the risk of loss shifts to an organization that in turn distributes it broadly, typically by collecting premiums from a large number of people to cover the financial costs of the losses that occur. Insurance is the paradigmatic risk-spreading institution and the primary focus of our analysis here.

There are four main kinds of government insurance: social insurance, financial soundness insurance, catastrophe insurance, and a residual category that we call “market enhancement insurance.”

Social insurance protects a population against fundamental risks of life, as a society defines them. Social Security, Medicare, Medicaid, unemployment insurance, workers compensation, and the mandatory minimum amount of automobile insurance are all examples of social insurance in the U.S. Among these, workers compensation and automobile insurance are notable in being provided by private insurance companies in most instances. Health insurance more generally is in the process of being recognized as a form of social insurance in the U.S., and it too is provided largely by private companies.

Financial soundness insurance protects people from the insolvency of important financial institutions such as banks, pension plans, and insurance companies. Typically provided by the government, financial soundness insurance offers customers an additional level of security while generally leaving the provision of the services themselves to the private market. Financial soundness insurance can be *explicit*, meaning that the government protection is created by law and specified in advance, or *implicit*, meaning that people expect that the government will provide the protection even though that protection is not specified by law in advance. The Federal Deposit Insurance Corporation, the Pension Benefit Guaranty Corporation, and the various state insurance guaranty associations provide explicit financial soundness insurance.

Organizations widely believed to be protected by implicit federal government financial soundness insurance include private financial institutions that are “too big to fail” because of the systemic financial risk that could result from their failure. Fannie Mae and Freddie Mac, the federally chartered corporations active in the secondary mortgage market, were widely believed to be protected by implicit financial soundness insurance, a belief that was confirmed when the federal government took them over in 2008. Like many other policy analysts, we strongly prefer explicit insurance to implicit insurance, because implicit insurance generally violates one or more of our risk management principles.

Government *catastrophe insurance* protects people from some of the consequences of catastrophic events that private insurance companies are unable or unwilling to insure. Flood, terrorism, and nuclear accident insurance are the leading examples of federally provided catastrophe insurance in the U.S. Some states also support earthquake and windstorm insurance programs. Like financial soundness insurance, catastrophe insurance can also be explicit or implicit. The National Flood Insurance Program is an example of explicit insurance. After-the-fact disaster relief is an example of implicit insurance.

Market enhancement insurance is our name for the final category of government insurance. As the name suggests, this category includes a variety of insurance programs that facilitate the operation of a market. These programs can support private insurance markets, as illustrated by the residual market mechanisms that exist in many states to facilitate the provision of autoworkers compensation, and property insurance to high-risk individuals or businesses. These programs can also foster other markets, as illustrated by the export-import insurance that the federal government provides to stimulate international trade.

Loss Control

Bad things do happen, sometimes in spite of all that we do to prevent them, at other times precisely because we have not done enough. In either case, being prepared to deal with a loss after it happens can be as important to limiting overall risk—and, in some cases, to maintaining the social fabric—as working to prevent the loss itself. The ongoing effort to recover from Hurricane Katrina is a case in point. Arguably more could have been done to prevent the loss (for example through better maintenance of the levee system), but it was inevitable that a hurricane would eventually hit New Orleans and, therefore, that after-the-fact loss-control efforts would be needed someday. Although a substantial amount had been done to get ready, the loss-control effort stumbled, and the social costs multiplied because the people charged with putting the plans into effect were not sufficiently prepared.²

As the Hurricane Katrina case illustrates, loss control is a special kind of prevention directed at managing bad outcomes that do occur. People in the insurance industry discuss losses in terms of frequency and severity and recognize that prevention efforts can be directed at reducing both. Loss control is directed at severity. We distinguish, on the one hand, between severity-reduction efforts such as sprinkler systems, storm shutters, and other efforts to protect vulnerable property and, on the other, efforts to reduce severity by actively managing the overall impact of an adverse event after it occurs, such as emergency response. For us, protection efforts falls into the broader prevention category, while actively managing a loss falls into the narrower loss-control category. In any event, drawing a precise conceptual boundary is much less important than understanding the importance of loss control.

Five Principles of Effective Government Risk Management

We have distilled the relevant research on the topic into five core principles of effective government risk management. The first two principles—*link responsibility with control* and *manage moral hazard*—apply to every government risk management program. The third principle—*pool risk in sound organizations*—applies to risk-spreading programs. The final two principles—*prefer market-conforming approaches* and *structure markets to promote safe products*—reflect a preference for market-based solutions and a prescription for helping them succeed.

We do not claim that these five principles are the beginning and end of government risk management. We do claim, however, that policymakers who ignore these principles—especially the first three—will be disappointed with the results and may even do more harm than good. In what follows, we explain the principles and provide some concrete examples of government risk management programs that successfully apply them.

1. Link Responsibility with Control

We present this principle first to emphasize its importance. Sound risk management requires placing responsibility on people in a position to do something about the risk. Concerned about product safety? Then place responsibility for product injuries on the people who make the products. Concerned about pollution? Then place responsibility for pollution on the polluters. Concerned about borrowers overextending their credit card debt? Then place responsibility on those pushing the credit as well as the borrowers who are “consuming” it.

In many cases, ideas have evolved over time about who is best positioned to control a particular risk. Nineteenth-century accident law, for example, placed

most of the responsibility for workplace accidents on workers, not employers, on the grounds that the workers knew about the potential risks of their work and often were the most immediate cause of workplace accidents. Modern workers compensation, by contrast, recognizes that employers have substantial control over the workplace, especially workplace design, and therefore makes employers partly responsible for workplace accidents. Making employers responsible does not eliminate worker responsibility; it simply shifts some of the financial impact from workers to their employers.

As workplace accidents illustrate, control is a relative concept. Rarely does anyone have complete control, at least with respect to a loss that would be significant enough that we would think about getting the government involved. Instead, people have more or less control. Consider product safety. Consumers have some control over whether a product is used properly, while manufacturers have control over how safe the product is if used properly (and, perhaps, how likely it is that the product will be used improperly). Retailers and wholesalers have no direct control over how the product is used or made, but they do have control over what products they offer for sale and, compared to consumers, better information about the products and greater ability to influence manufacturers. For this reason, product liability law assigns responsibility for injuries from defective products not only to manufacturers, but also to retailers and wholesalers. Product liability law also assigns some responsibility to consumers through legal rules that limit liability in cases involving product misuse. As a result, product liability law represents a good attempt to meet the risk management principle of linking responsibility and control, even if it does not always succeed.

2. Manage Moral Hazard

Moral hazard is the term for a threat that arises when responsibility is uncoupled from control. People in control of a loss do not have the same incentive to prevent it when they know that others will be held financially responsible. All forms of insurance and some other forms of risk shifting present this moral hazard problem. For that reason, managing moral hazard is a central concern in the private insurance industry and the primary occupation of many who work in that industry. Here, government should take its cue from the private sector. Moral hazard matters.

There are three well-known and time-tested tools for managing moral hazard: making sure that enough of the loss continues to fall on the insured person to maintain the prevention incentive (for example, insurance deductibles and co-pays); conditioning insurance coverage on a commitment to engage in specific loss-prevention efforts; and insisting that some control over the loss be shifted

along with the risk. In shorthand, we refer to these tools as: *leaving some loss with the insured*, *contracting on care*, and *taking control*. To a very substantial degree, the success and failure of government risk management programs turns on how well it uses these tools.

Federal bank deposit insurance and the “too big to fail” doctrine are both forms of insurance that have the potential to create moral hazard. Deposit insurance explicitly protects depositors from bank failure, and the “too big to fail” concept provides a form of implicit insurance to other bank creditors. These forms of insurance generate moral hazard by reducing the incentives of depositors and other bank creditors to monitor bank solvency and to do business only with the healthiest banks.

Well into the 1970s, the deposit insurance and bank regulation system set up during the New Deal did a good job of managing that moral hazard, using the tools just described. First, the government did not provide full protection. Only the first \$100,000 in deposits per person was insured by the FDIC, leaving an incentive to monitor solvency with the very largest depositors (who were likely in a better position than small depositors to do so). Moreover, the application of the “too big to fail” doctrine was sufficiently uncertain that creditors could not be sure that they would be fully protected, especially for credit provided to smaller banks. Second, the government coupled the deposit insurance program with regulations that obligated banks to keep capital reserves and engage in other practices that reduced the risk of failure. This is conceptually similar to the contracting on care that happens in the private insurance context. Finally, the government took some control over prevention from banks—through the bank-supervision process, which authorizes regulators to manage risk by, for example, conducting examinations, prohibiting unsafe practices, and evaluating major transactions.

The definitive history of what happened to banking regulation since the 1970s has yet to be written, but one thing is clear. More and more of what financial institutions did fell outside the reach of the regulators, even as public guarantees—both implicit and explicit—were progressively expanded. Increasing the amount of government insurance while decreasing the government’s ability to manage the associated moral hazard had an inevitable outcome: more insured losses. That is exactly what happened in the years leading up to the savings and loan failures of the late 1980s and early 1990s, and again—at least in part—in the years leading up to the financial crisis of 2007 to 2009. Whenever public insurance exists, adequate public monitoring (via effective regulation) is absolutely essential to control the inevitable moral hazard.

3. Pool Risks in Sound Organizations

This third risk management principle is so obvious that it almost did not make our list. Yet policymakers violate this principle sufficiently often that we had to include it. The idea is simple to state (but not always simple to implement): organizations that serve as risk pools must have the financial and other capacity needed to handle the risks that they take on. For insurance regulators this principle dominates all others.

Here are several examples of government risk management that violates this principle.

The Pension Benefit Guaranty Corporation

The PBGC insures participants in traditional, defined-benefit pension plans from losing their pension benefits if their employers are unable to pay. Unfortunately, the PBGC does not operate on a financially sound basis. The premiums charged to employers for this protection are too low in relation to the risk. In addition, employers have discretion that allows them to “game the system.” For example, there is a variety of rules that allow an employer to report that a pension plan is much better funded than it really is.³ Although the PBGC is supposed to be entirely funded by employer premiums, and it does not have a formal government guarantee, many people expect that the federal government will bail out the PBGC if it gets into trouble. As a result, even employers operating sound pension plans, and workers in those firms, have little incentive to advocate that the PBGC operate on a financially sound basis.

State-Based Catastrophe Risk Pools

A number of states have created insurance mechanisms to protect their citizens from natural catastrophe risks that are not covered by private insurance policies. The Florida state-based hurricane risk pool, Citizens Property Insurance Corporation (CPIC), is a prominent example. State-based pools are almost always underfunded, for two main reasons. First, most states are too small to fund enough reserves in the early years of a natural-catastrophe risk pool. Second, states often lack the political will to impose adequate risk-based premiums on people who build near a coast, river, or fault line. As a result, there is not enough money on reserve to pay claims when a major disaster hits, particularly during the early years. For example, as researchers from the Wharton School have shown, Florida’s CPIC does not charge an adequate premium to property owners living close to the coast and it does not have enough reserves to pay claims from a major hurricane.⁴ When the next big hurricane hits Florida, the state’s CPIC will have to find more money, most likely from a combination of state government bonds, assessments from private insurers, and possibly even federal support.

Employer-Funded Health Care

U.S. health care policy from at least the 1950s has promoted employment-based health care as the main approach to health insurance for working-age Americans and their children. From a risk-pooling perspective, there are two problems with employment-based health care. First, there is a fundamental mismatch between employees' risk-pooling needs and employers' risk-pooling promise. Employers' promises last only as long as the employment relationship, but employees' health-care risk exposure lasts at least until they reach retirement age and become eligible for Medicare. Second, employers too often are not sound risk-pooling organizations. When an employer goes bankrupt, workers lose both their jobs and their health-care benefits. Moreover, the health-care cost overhang of an aging workforce in a declining industry makes it even harder for companies to survive, as we see in the auto industry today, increasing the likelihood that people will be forced out of the workplace before reaching retirement age. Employment-based health care could operate on a financially sound basis, but perhaps only with some public mechanism for protecting employees from losing their health care when they lose their jobs and for managing the health-care costs of industries with aging workforces.

Exempting Over-the-Counter Credit Default Swaps from Regulation

In the years leading up to the financial crisis of 2007 to 2009, the market for credit default swaps (CDS) grew enormously, providing a form of insurance against losses on credit instruments (from traditional corporate bonds to collateralized debt obligations, or CDOs). One problem with this market is that highly rated financial institutions such as AIG were able to write huge numbers of CDS contracts without putting down any collateral or holding any meaningful reserves. From a risk-pooling perspective, this turned out to be a major mistake. When the downturn came and the riskiness of virtually all credit instruments increased, AIG found itself unable to meet its CDS obligations, and federal policymakers decided they had no choice but to spend more than \$100 billion to rescue AIG, or face a financial catastrophe of the first order. Had the government regulated the safety and soundness of AIG's CDS activities, AIG could not have taken on so much risk and would not have needed such an expensive government bailout.

4. Prefer Market-Conforming Approaches to Public Risk Management

This fourth principle reflects the American preference for free enterprise. It suggests, first, that market enhancement should be preferred to market replacement, where possible. Once the government provides a market-replacing risk

management service, it can be hard to change that service and harder to eliminate it, even when there is good evidence that the private market is ready to take over some or all of the risk. By contrast, market competition forces companies to adapt their products over time without the need for centralized decision making. For this reason, market-enhancement programs not only are consistent with core American values, they also increase the odds that risk management services can adapt to meet people's needs over time.

Nevertheless, this principle does not mean that the government should never provide a risk management service. Indeed, some of the most visible and successful federal government risk management programs in the U.S. are market-replacement insurance programs: Social Security, unemployment insurance, deposit insurance, and Medicare. In each of these cases, there was and is widespread consensus that the private market could not effectively manage the risks that these government programs took on.

In such cases this market-conforming principle means that the government should preserve the beneficial incentives that the market provides to the greatest extent possible. When a government provides insurance, for example, it should charge a price for that insurance, as it does in each of the programs we just mentioned. Paying a price for government insurance leads people to consider the cost of the insurance, and a risk-based price gives people an incentive to lower their risk, which helps prevent loss.

There are many government insurance programs, even social insurance programs, that are market-enhancement, rather than market-replacement, programs. For example, state governments play a market-enhancing role for workers compensation, automobile insurance, and homeowners' insurance, by creating residual market mechanisms that allow high-risk people and businesses to get insurance.

Whether the government should replace or enhance the market for private health insurance is among the leading public policy issues of the day. Medicare was created as a market-replacement health insurance program, but there was no real market for health insurance for the elderly when Medicare was enacted in 1965. By contrast, we have an active employment-based private health insurance market today. There are legitimate concerns about the high administrative costs of that insurance, however. Moreover, almost no one believes that the private market alone can provide enough affordable insurance for high-risk individuals or for those with very low incomes. In thinking about how best to address the gaps in the private health insurance market, key questions include, first, whether market-enhancement programs will be enough and, second, whether the administrative cost savings offered by a market-replacement program are big enough to justify giving up on the dynamism of the competitive market. Either way, the ultimate policy solution should be market conforming to the extent

possible. For example, although Americans with pre-existing conditions should not pay higher (risk-based) premiums, smokers probably should.

The market-conforming principle also applies to prevention and risk shifting. Rules that shift the risk of loss to those with the greatest control over the risk can represent a market-enhancement approach to prevention. Risk shifting gives people an incentive to reduce loss without dictating how they are supposed to do that. For this reason, liability rules, properly created and applied, represent a free-market, bottom-up alternative to command-and-control-style health and safety regulation.

Government-quality regulation often represents another market-conforming approach to public risk management. Ordinary consumers, for example, are not always well positioned to evaluate the safety or quality of many of the goods and services that they use on a daily basis. Medicine, foods subject to undetectable contamination or spoilage, and many financial products are all examples of products that we have to trust in order to consume. Absent quality regulation, markets in these kinds of trust-based goods might not develop at all, or they will be less robust than consumers would want, because consumers don't have enough information to make informed choices. Government quality regulation of goods and services that depend on trust and that cannot be assessed adequately by consumers themselves represents an important mechanism for building and supporting private markets. It has been said, for example, that the modern pharmaceutical market would not exist without the FDA and that the modern mutual fund industry would not have developed without the Investment Company Act of 1940, which set basic standards for mutual funds.

5. Structure Markets to Promote Safe Products

This last principle generalizes from the example of trust-based goods just described. The idea here is to structure markets so that sellers compete in ways that promote safety and other risk management objectives. We do not suggest that the government should pursue safety at any cost, simply that policymakers should be attuned to their ability to structure markets to promote safe products.

In particular, policymakers should be on the watch for, and distinguish between, two kinds of situations: first, when consumers cannot easily tell the difference between the quality of different products and, second, when consumers will not adequately consider the risks posed by different products or will not reliably make reasonable judgments based on those risks. The behavioral economic tools described in chapter 2 of this book provide some promising strategies for identifying these situations.

Both kinds of situations call for quality regulation, but the kind of quality regulation they require is different. If consumers cannot distinguish among the

qualities of different products, the government can improve consumer welfare simply by defining and enforcing different grades of quality or mandating the provision of relevant information about the risk. Government grades of beef are one example; energy efficiency ratings are another. If consumers cannot be counted on to adequately consider risks or to make reasonable judgments based on those risks, however, the government may need to do more, for example, by adopting liability rules, taking the riskiest products off the market, or taxing risky products so that the price the consumer pays takes the risks into account. Product liability law is a good example of the liability approach; the Consumer Product Safety Commission is a good example of a government agency that takes unsafe products off the market; and cigarette taxes are a good example of using tax policy to discourage overuse of a risk-creating product.

This last, market-structuring principle applies with special force to risk management products and services. Research and experience show that consumers often have trouble adequately evaluating the quality of insurance and many other risk management products. Insurance advertising provides good evidence of this point. “Like a good neighbor, State Farm is there.” “You’re in good hands with Allstate.” “Nationwide is on your side.” These slogans represent efforts to encourage consumers to trust insurance companies, but like most insurance advertising, they do not convey meaningful information about the quality of the products advertised.

This is not a criticism of insurance advertising. Insurance companies know that people need to trust insurance companies or else they won’t buy insurance, so the companies do what they can to convey images of trustworthiness and stability. The companies cannot do very much to sell on the basis of quality, because the quality of most insurance products is not observable by ordinary consumers. Most consumers hope never to make a claim and, when they do, they have little or no basis for comparing the quality of the service that they receive. Even health insurance—which many consumers use on a regular basis—is not fundamentally different, because very few people are repeat users of the really big-ticket items. Indeed, one of the best arguments for keeping employment-based health insurance is that employers may be better situated than individuals to evaluate the quality of competing health insurance providers.

What all this means is that there is an important governmental role for regulating the quality of many products, including financial services products and, especially, insurance products. One of the risk management tools that we describe in the next section has the potential to improve the quality of insurance products by providing a way for consumers to compare the quality of the insurance products offered by different companies.

Applications: New Tools for Managing Major Risks

In a short chapter in a short book, we cannot explain all of the permutations of these risk management approaches and principles. Instead, we would like to show how they could be used in practice. This final section briefly describes new tools for managing major risks: import safety, natural catastrophes, health care for the temporarily unemployed, student loans, and systemic financial risk.

Import Safety: Bonded Warranties and Subsidized Testing⁵

Import safety is a hot-button issue. The U.S. imports massive amounts food, medicine, toys, children's clothing, and other products from countries that do not have the same health and safety regulations that we have. Think of the contaminated heparin, the toy trains with lead paint, the melanin-laced candy, and the adulterated pet food that have come from China in recent years. U.S. and European health and safety regulators are working on ways to improve inspections and other procedures in developing countries, but those efforts are not enough by themselves.

One promising policy option could be an import safety warranty program that would supplement these important efforts to improve regulation and testing in developing countries. The program might have four parts. First, importers and sellers of imported products would warrant that the products meet established U.S. safety and health regulations. Second, the importers would back up that warranty by obtaining insurance or posting a bond. Third, consumers would have the option to assign their warranty rights to warranty rights enforcement organizations, preferably with assignment being the default (meaning that the rights would be assigned unless the consumer actively chooses otherwise). Finally, there would be subsidies available for concerned consumers and small retailers who want to send products out for testing, leading to a decentralized testing environment that would supplement government testing and make it harder for importers to evade detection.

To ease enforcement, the warranty would operate in a simple fashion. The warranty would obligate the seller or importer to pay statutory damages based on three factors: the retail price of the product, the seriousness of the risk, and the success of the importer in recalling the unsafe products and providing refunds to consumers. The statute would direct an appropriate government agency to create guidelines that would make these factors easy for a court to apply. The statutory damages would allow the warranty claims of many consumers to be brought in a single enforcement action, led by the warranty rights enforcement organization. Otherwise the importers or sellers could avoid

responsibility by making each consumer bring an individual claim and prove their individual damages—an impossible task in too many cases.

The testing subsidy part of the import safety program would allow consumers and small retailers to send product samples for testing at an affordable cost. The federal government would provide coupons that could be used at approved testing labs to obtain a discounted price on approved tests. The testing labs would market their services and provide consumer access to the coupons, most likely on the Internet. Consumers and retailers would pay part of the testing costs themselves, to discourage excessive or unwarranted use of the testing system.

This new idea takes a risk-shifting approach that satisfies our risk management principles. It shifts more of the risk of unsafe products to importers and sellers, who are better positioned than consumers to evaluate risk. (Although sellers and importers do not make or grow the products, they have much better information and greater ability to invest in risk assessment expertise than consumers.) The program requires the consumer to bear some of the cost of the testing, managing the moral hazard that could result if the government bore the entire cost. Because of the insurance or bonding requirement, the program pools risks in financially sound organizations. Finally, it is a market-enhancement program that gives safe products a leg up in the competition for consumer dollars.

Natural Catastrophes: Reinsurance for All-Risk Property Insurance⁶

As Hurricane Katrina reminded us, the private insurance market does not handle natural catastrophe risks on its own. We have a hodgepodge of state and federal government programs that provide coverage for earthquake and flood risks and, in some highly exposed regions, windstorm risk. One promising policy option is replacing this hodgepodge with a federal *reinsurance* program that would allow ordinary insurance companies to sell “all-risk” property insurance policies to protect homeowners and other property holders.

Reinsurance is insurance for insurance companies. Government reinsurance for natural catastrophes would insure insurance companies against natural-catastrophe losses. Private insurance companies would pay risk-based premiums in return for the federal government’s commitment to reimburse the insurers for a percentage of the payments that they make for losses arising out of the covered natural-catastrophe risk. The reinsurance approach would improve on the current hodgepodge of government-run direct insurance programs by allowing consumers to buy one insurance policy that covers all of their property risks. This would relieve consumers from battles with their insurance companies about the causes of damage to their homes—wind, which is covered by ordinary homeowners insurance, or flood, which is not—as we saw in the aftermath of

Hurricane Katrina. In addition, it would create a national risk pool for natural catastrophes that would be better able to operate on a financially sound basis than state-based pools. Finally, the reinsurance approach would allow private insurers, if they chose, to experiment with absorbing more natural-catastrophe risk by reducing the amount of the reinsurance that they purchase from the government.

This program also meets our risk management principles. It shifts the risk of insurance coverage gaps from consumers, who are in a poor position to know what coverage they need from whom and what losses are covered by which policy, to insurers and the federal government, which have greater ability to assess the natural-catastrophe risk in any area and control the drafting of contracts in a way that prevents coverage gaps. Because the reinsurance would be priced on the basis of risk, the program would better manage the moral hazard created by natural-catastrophe insurance than the existing government programs (which may encourage people to build homes in disaster-prone areas). A federal reinsurance program is a more sound risk-pooling organization than the state-based windstorm and earthquake pools that it would replace, primarily because of the greater geographic reach of a national pool. Finally, a risk-based reinsurance approach enhances the private insurance market, rather than replacing it with government-run retail insurance.

Unemployment: Insuring the Health-Care Risk

Providing universal access to health care is a bigger problem than we can tackle in this chapter. Nevertheless there is one piece of that problem that could be addressed with a relatively simple risk management tool: adding a new health insurance premium payment feature to unemployment benefits. Existing law (COBRA) gives laid-off workers the right to continue in their employers' health care plan as long as they pay the *full* cost of the plan—*both* the part of the insurance premium that they paid while working and the employers' share (which typically is much larger than the employee's share). With some justification, this has been called a "let them eat cake" approach to unemployment health-care benefits, because laid-off workers are hardly in a position to pay dramatically more for health insurance than they did when they were working. Including a health-care premium payment benefit in unemployment insurance would provide the "bread" that unemployed workers need to preserve health benefits for their families. This new benefit would increase the price of unemployment insurance, but the social-welfare benefits would almost certainly exceed the cost.

Moreover, this modest but important step would meet our risk management principles. First, it would place more of the risk of involuntary unemployment on employers, who have more control over that risk, and less of the risk on workers and their dependents, who have less control. Second, because it would

not provide an additional cash benefit to workers, it would probably not represent a major source of moral hazard. Moreover, unemployment insurance already contains moral-hazard control features: unemployment income benefits replace less than all of a worker's income, the benefits are time limited, and recipients are required to actively look for work and accept reasonable offers (though this last requirement is often difficult to enforce). Third, the government has the authority to make sure that the new benefit does not impair the financial soundness of state unemployment insurance pools. Indeed, because of the stress created by the current financial crisis, the state unemployment risk pools already are going to need federal financial assistance. The new health-care benefit could be incorporated in that process. Finally, including this premium payment benefit in unemployment insurance would enhance the market for private health insurance by keeping more people more consistently in the health-care risk-spreading pool, and it would enhance the market for health-care services by allowing more people to maintain their existing relationships with doctors and other health-care providers. In this regard the premium payment benefit would be superior to the current proposal to provide Medicaid benefits to the unemployed, because many health-care providers do not accept patients who are on Medicaid.

Unsafe Financial Products: The Insurance Transparency Project

Many insurance products differ from other financial products in one fundamental respect: the consumer only has access to insurance money when something bad happens and the insurance company has tremendous discretion over the claims process. For example, with auto insurance, the consumer can only file a claim after an accident; with homeowners insurance, only after a fire, flood, or other unwanted event. This means that the quality of traditional insurance products consists not only in the explicit terms of the insurance contract, but also in the insurance company's approach to paying claims. With banks and mutual funds, by contrast, consumers don't need to worry about the companies' approach to paying claims. With a bank account or mutual fund consumers can take out their money whenever they want.

Today it is impossible for a consumer to reliably evaluate an insurance company's approach to paying claims. Consumers Union conducts some consumer satisfaction surveys and publishes the results in *Consumer Reports* magazine, but we cannot assess the validity of those surveys by comparing them to objective evaluations of companies' claims-paying history, because there are no such evaluations. Of course, people can talk to their friends and neighbors, and state insurance departments maintain records of consumers' complaints. But none of these information sources provide any basis to distinguish among insurance

products and companies in any way that is even remotely comparable to what is possible for cars and appliances, for example.

Given advances in information technology, it would be possible for a trusted third party to obtain claims information in electronic form from insurance companies that would allow them to be rated on a scale similar to the credit scores that financial service companies use to rate consumers.⁷ This could be done by the Treasury Department, by a new federal insurance regulator, or even by the National Association of Insurance Commissioners, the coordinating body for the existing state-based insurance regulatory system.

This new idea satisfies our risk management principles. Such a system would place responsibility for good claims behavior on the entities in control of that behavior—insurance companies. It would manage the moral hazard that results when insurance companies are able to sell products that promise to pay claims but are then free to delay or shirk when it comes time to pay. It would encourage consumers to buy insurance from companies with a good track record, thereby pooling more risk in sound organizations. It would enhance the insurance market. And it would structure that market to help good companies with good insurance products win the competition for consumers' insurance dollars.

Income-Contingent Student Loans⁸

Economists have long recognized the need for a government role in student lending—because the student loan market does not work like the ordinary credit market. When businesses borrow to buy new machines or individuals borrow to buy a house or car, they can use the machine, the house, or the car as collateral. But when a student borrows for college, there's no tangible asset to collateralize. If the student does not repay the loan, there is nothing for the creditor to seize. Fortunately, we gave up debtors' prisons long ago.

The economist Milton Friedman identified this problem as early as 1955, noting that a working market for student loans hardly existed at that time. A decade later federal policymakers began guaranteeing student loans to help build this market. Although private lending to students rose sharply as a result, the system remains far from perfect. Students who borrow to cover tuition and living expenses put themselves at risk. Awash in debt after graduating, they not only face financial pressure to avoid worthwhile but low-paying jobs (teaching, for example), but they also have to hope for no delays in finding a job, and no significant interruptions once their careers have commenced. Their debt-service payments will remain fixed, whether they have a high-paying job or not.

Fortunately, we could ease this burden by changing the way we finance higher education. Instead of guaranteeing lenders against bad loans (as we currently do), we could protect students from losses on their educational

investments. Specifically, we could ensure that every single American could pay for college or graduate school (or job training) on the basis of a federal income-contingent loan. The loan could extend up to thirty years (like a mortgage) and would reduce or eliminate annual payments if the recipient's household income fell below a predetermined trigger.

In addition to expanding access to higher education, this loan program would also reduce costs. Under the current approach, the federal government guarantees roughly three-quarters of all loans for postsecondary education. Private lenders benefit when the loans are repaid, and the federal government is stuck with the losses when students default. The federal government also pays for private collection services, which are often provided by the very lenders whose "losses" were covered by federal guarantees in the first place. Under the new program, collection would be undertaken by the IRS, through regular tax withholding. Repayment would thus occur almost automatically, reducing delinquency rates and allowing for a lower interest rate on the loans.

This idea satisfies our risk management principles far better than the current approach, which decouples responsibility from control. Under the existing system, private lenders have a strong incentive to make loans, even to less-than-creditworthy borrowers, since the federal government assumes all of the risk through its guarantees. In fact, the appeal of private gains without the risk of loss has been so great that many lenders cut corners (ethical and perhaps even legal) in a drive for market share. Under the new program, the federal government would assume both the risk and the responsibility for making collections. Most important of all, students would see their risk drop (since they would not have to repay their loans if their income faltered), and this would almost inevitably expand participation in higher education—a big benefit both for the students themselves and for American society as a whole.

Some might say that the program violates our fourth principle (prefer market-conforming approaches), since the new government program would displace private lenders. But in fact the existing system is in no real sense private, since the federal government already bears all of the risk. The new approach would strengthen incentives and put the federal guarantee where it belongs—behind students, rather than behind the banks that lend to them.

Managing Systemic Risk in the Financial System⁹

In 2008, terms such as *systemic risk* and *too big to fail* took on new meaning in the face of a powerful financial storm. Financial contagion had been a recurring problem for much of American history, with major crises striking just about every fifteen to twenty years from 1792 to 1933. After that, however, the nation

enjoyed more than fifty years of relative financial stability following the introduction of federal deposit insurance and other New Deal financial reforms. In time, many Americans probably came to take this favorable state of affairs for granted. The S&L debacle of the mid- to late 1980s temporarily disrupted the calm, but even so it was hardly a major crisis by historical standards. By contrast, the financial crisis of 2007 to 2009 has threatened many of the central pillars of the American financial system, from investment banking and insurance companies to money market funds and the commercial-paper market.

In addressing the crisis, federal officials have attempted to calm markets and rescue ailing institutions by spreading financial resources, especially in the form of guarantees, in virtually every direction—more than \$10 trillion in potential commitments by the end of 2008, according to the Congressional Budget Office. Large-scale risk absorption by the federal government quickly became the strategy of choice, though unfortunately with few of the necessary safeguards against moral hazard. Perhaps there was no other choice, given the pace and magnitude of the crisis. Looking forward, however, it is imperative that policymakers take control of the situation, reducing or eliminating the dangerous incentives that they have created along the way.

Of particular concern are the implicit federal guarantees that now saddle every financial institution that appears “too big to fail.” Federal rescues of leading financial firms—from Bear Stearns, Fannie Mae, and Freddie Mac to AIG and Citigroup—have sent a clear signal that such large and strategic firms cannot be allowed to collapse, since the systemic consequences of failure could prove catastrophic, setting off an avalanche of losses. The willingness of federal officials to allow Lehman Brothers to declare bankruptcy under Chapter 11—and the severe market turmoil that followed—made this the exception that proved the rule. The main downside of this too-big-to-fail strategy is moral hazard, since creditors, counterparties, and shareholders of major financial firms will inevitably let down their guard, hopeful that the federal government will come to the rescue, particularly in cases of systemic turmoil. In the absence of careful management, such moral hazard will almost certainly invite excessive risk taking and greater financial losses in the future.

One solution would be to identify and regulate—and potentially even insure—“systemically significant” financial institutions in normal times, rather than simply waiting for a crisis to strike. At the present time, federal officials wait until a financial firm is on the verge of failure to decide if it is systemically significant—that is, if its failure would be likely to provoke broader financial turmoil and cascading losses. By that time, however, the situation is already critical. Instead, officials should decide which institutions are systemically significant on an ongoing basis (that is, in normal times), and institutions found to

be “systemically significant” should be regulated more stringently than others to guard against moral hazard and make failure less likely.

In particular, systemically significant institutions should face stricter leverage and liquidity ratios, reducing the likelihood that they would get into trouble in the first place or contribute to a downward spiral by having to dump already falling assets in a downturn. Systemically significant institutions might also be required to buy federal capital insurance, which would collect premiums in normal times and offer prespecified capital infusions to *all* systemically significant institutions (not just ailing ones) in times of crisis. In this way, the current open-ended implicit guarantees would be made explicit—and explicitly limited. Finally, systemically significant institutions that reach insolvency in any case (despite the tougher regulation and federal capital insurance) should be put through an FDIC-style receivership process, rather than being allowed to enter Chapter 11 bankruptcy, which is ill-suited to handle the failure of major financial institutions. This would ensure that no firm can ever grow too big to fail, further reducing the moral hazard stemming from the recent federal rescues.

An important advantage of the proposed system is that it would discourage financial institutions from becoming systemically significant in the first place. This is just the opposite of the situation that obtains now, in which financial firms have good reason to become too big to fail, so as to garner a free implicit guarantee from the federal government. This troubling incentive can be corrected by being clear about the systemic significance of financial institutions and regulating (and potentially insuring) them in normal times, rather than waiting to act until a crisis arises. Such an approach would put a premium on prevention (as opposed to just crisis management) and importantly would meet all of our principles, including in particular our second principle regarding the need to manage moral hazard.

Conclusion

Policymakers from across the political spectrum agree that governments are, inevitably, in the risk management business. As the current financial crisis demonstrates, government is the risk manager of last resort. Properly designed public risk management programs are among the most powerful government tools and the most popular and successful government programs.

We have set out a set of simple but important principles of effective government risk management drawn from extensive historical study. When managing risk, the government should link responsibility and control, manage moral hazard, pool risk in sound organizations, adopt market-conforming approaches to the greatest extent possible, and structure markets to promote safe products.

To illustrate how these principles work in practice, and also to provide some new ideas for policymakers to consider, we have sketched out six new risk management programs: bonded import safety warranties, natural catastrophe reinsurance, health-care continuation benefits for the unemployed, an insurance transparency project, income-contingent student loans, and systemic risk management for the financial system. Not all of these programs are ready for immediate adoption, but together they suggest the possibility of a new era in government risk management.

Notes

- 1 This chapter draws conceptually from David Moss, *When All Else Fails: Government as the Ultimate Risk Manager* (Cambridge: Harvard University Press, 2002); Tom Baker, *Insurance Law and Policy*, 2nd ed. (New York: Aspen Publishing, 2008); and Tom Baker, *On the Genealogy of Moral Hazard*, *Texas Law Review* 72 (1997): 237.
- 2 See the U.S. Government Accountability Office's "Catastrophic Disasters: Enhanced Leadership, Capabilities, and Accountability Controls Will Improve the Effectiveness of the Nation's Preparedness, Response, and Recovery System" (GAO-06-618, 2006, at 99–100). This report to congressional committees made recommendations in the wake of Hurricane Katrina for executive action regarding the nation's preparedness, and its response and recovery system. See also: "A Failure of Initiative: The Final Report of the Select Bipartisan Committee to Investigate the Preparation for and Response to Hurricane Katrina," U.S. House of Representatives 163 (2006): http://katrina.house.gov/full_katrina_report.htm (last visited February 8, 2009).
- 3 See Jeffrey R. Brown, "Guaranteed Trouble: The Economic Effects of the Pension Benefit Guaranty Corporation," *Journal of Economic Perspectives* 22, no. 1 (Winter 2008): 177–98. The PBGC also violates the principle of managing moral hazard by charging the same premiums to employers operating a conservatively funded pension plan and those operating a poorly funded plan.
- 4 See Howard C. Kunreuther and Erwann O. Michel-Kerjan, *At War with the Weather* (Cambridge, MA: MIT Press, 2009).
- 5 This idea will be developed further in a chapter by Tom Baker in Cary Coglianese, Adam Finkel, and David Zaring, eds., *Import Safety: Regulatory Governance in the Global Economy* (forthcoming 2010).
- 6 See David Moss, "Courting Disaster: The Transformation of Federal Disaster Policy Since 1803," in Kenneth A. Froot, ed., *The Financing of Catastrophe Risk* (Chicago: University of Chicago Press, 1999).
- 7 This excellent idea is not ours. We borrowed it, and the label, from Dean Starkman, the creator of the Insurance Transparency Project blog, which tracked the insurance aftermath of Hurricane Katrina.

- 8 Adapted from David Moss, “Leave No Risk Behind,” On My Mind, *Forbes*, July 23, 2007. Available at <http://www.forbes.com/forbes/2007/0723/036.html>.
- 9 See David Moss, “An Ounce of Prevention: The Power of Public Risk Management in Stabilizing the Financial System” (HBS Working Paper 09-087, January 2009).

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