RISK, RESPONSIBILITY, AND THE ROLE OF GOVERNMENT†

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I. INTRODUCTION

From the earliest days of the republic, government in America has played a vital role in managing risk. Although risk management is an essential function of government in every market economy, it seems to have exhibited special appeal in the United States—a nation famous for its distrust of "big government."

I was asked to explore the government's role in managing risk—including what works and what does not—and to suggest how we can better use this tool to address pressing threats and challenges facing our nation, from natural disasters to terrorism.

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It is worth noting that lawmakers have three broad options for managing risk—the same three that are available to private risk managers. First, they can *shift* risk, either from one private party to another (through liability law, for example) or from private parties onto the government itself (through government guaranties). Second, they can *spread* risk, typically by providing public insurance, such as unemployment insurance, or by legally requiring private insurance coverage—mandatory automobile insurance, for example. Finally, they can try to *reduce* risk directly by regulating dangerous substances, products, and activities such as lead in paint or excessive speed on the roads. In my own work, I have focused mainly on the first two options—risk shifting and risk spreading—although I have given some attention to risk reduction as well.[1]

II. A Core Function of Government

Because risk management is such a pervasive function of government, it is sometimes taken for granted. In contemplating the economic role of the state, we frequently think in terms of three standard categories: taxation, spending, and regulation. Though less familiar, public risk management is a distinct governmental function that is every bit as important as the other three. Perhaps the best way to demonstrate this point is to offer a few concrete examples.

A. *Limited Liability Law*

A good place to begin is with limited liability law, which in its modern form dates back to the early nineteenth century. The first state to enact a general incorporation law for manufacturing companies with explicit limits on the liability of shareholders was New York in 1811.[2] At root, all limited liability does is shift risk from shareholders to creditors. It involves no taxes, no spending, and no bureaucratic regulation; it simply shifts risk from one private party to another.

Some scholars have concluded that industrialization—particularly heavy industrialization—might not have been possible or proceeded as rapidly without limited liability and the capital mobilization that it fostered.[3] In 1911, on the hundredth anniversary of New York's original

1. *See generally* DAVID A. MOSS, WHEN ALL ELSE FAILS: GOVERNMENT AS THE ULTIMATE RISK MANAGER (2002).
2. *Id.* at 56 (citation omitted).
3. *E.g.*, *The Ownership of British Industrial Capital*, ECONOMIST, Dec. 18, 1926, at 1053.

statute, President Nicholas Murray Butler of Columbia University declared that "the limited liability corporation is the greatest single discovery of modern times . . . . Even steam and electricity are far less important than the limited liability corporation, and they would be reduced to comparative impotence without it."[4] Similarly, the President of Harvard University, Charles Elliot, characterized limited liability as "by far the most effective legal invention for business purposes made in the nineteenth century."[5] More recently, a number of scholars have raised the question of whether limited liability, specifically with respect to voluntary creditors, could have been achieved by contract, even in the absence of legislation on the subject.[6] Either way, it seems doubtful that there is much appetite in this country to repeal limited liability laws. On the contrary, this particular risk management policy seems very much here to stay.

B. *Discharge in Bankruptcy*

A second risk management policy that is often taken for granted is discharge in bankruptcy, which shifts risk from individual debtors to creditors. This policy, too, was introduced in the United States in the early nineteenth century, although it did not become a permanent feature of American economic life until passage of the federal Bankruptcy Act of 1898.[7] Originally seen as a means of motivating debtors to cooperate fully in the bankruptcy process, discharge was increasingly viewed in the nineteenth century as a device for reviving failed entrepreneurs by providing a "fresh start," encouraging entrepreneurs to take risks, and generally creating a backstop for debtors that would eliminate the scourge of debt "slavery."[8]

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4. FLETCHER, CYCLOPEDIA OF THE LAW OF PRIVATE CORPORATIONS 43 (1917) (quoting Nicholas Murray Butler, President, Columbia University, Address at the 143rd Annual Banquet of the Chamber of Commerce of the State of New York (Nov. 16, 1911)).

5. MOSS, *supra* note 1, at 53 (quoting HENRY WINTHROP BALLANTINE, BALLANTINE ON CORPORATIONS 6 n.11 (1927)); *see also The Ownership of British Industrial Capital*, *supra* note 3.

6. *See* Phillip I. Blumberg, *Limited Liability and Corporate Groups*, 11 J. CORP. L. 573 (1986); Henry Hansmann & Reinier Kraakman, *Toward Unlimited Shareholder Liability for Corporate Torts*, 100 YALE L.J. 1879 (1991); Roger E. Meiners et al., *Piercing the Veil of Limited Liability*, 4 DEL. J. CORP. L. 351, 359–64 (1979); *see also Limited or Unlimited Liability*, ECONOMIST, July 1, 1854, at 698.

7. Bankruptcy Act of 1898, ch. 541, 30 Stat. 544 (repealed 1978).

8. *See* MOSS, *supra* note 1, at 123–51. With regard to the notion of debt slavery, Representative James Connolly of Illinois declared during a debate over the 1898 bankruptcy bill,

Although observers continue to disagree about how easy or hard it should be to receive a discharge in bankruptcy, there does not appear to be any significant support for withdrawing the right altogether—that is, the nonwaivable right to discharge in bankruptcy. Like limited liability, bankruptcy discharge is a risk management policy that is deeply embedded in the American economic system and is very much here to stay.

C. *Social Security*

A third example is Social Security.[9] Although sometimes characterized as a form of redistribution or welfare, Social Security is fundamentally a risk management policy.[10] One of the leading sponsors of Social Security in 1935, Senator Robert Wagner, announced near the end

> The insolvent trader—the trader unable to pay his debts—is today a slave absolutely to every creditor that he owes. He is as thoroughly within prison bars as any man who is actually there. He is no longer a free man. . . . If it was good policy to emancipate the slave of the South . . . why is it not equally proper to lift up the white brother, to strike off the shackles from him, and let him also stand in God's pure sunlight a free man, and begin again the manly struggle for subsistence?"

Id. at 149 (citations omitted).

9. The Social Security Act of 1935 contained numerous provisions, including incentives for states to enact unemployment insurance programs. Social Security Act of 1935, 49 Stat. 620 (codified as amended at 42 U.S.C.A. §§ 301–1397jj (West 2003 & Supp. 2007)). However, the main federal program that it created was a form of compulsory social insurance providing cash benefits in retirement (old-age insurance). Since 1935, the term "Social Security" has come to be used almost interchangeably with "old-age insurance" in common parlance. Here, I use the term "Social Security" to refer mainly to the Act's old-age insurance provisions as well as the disability insurance provisions that were added beginning in 1956. *E.g.*, Act of Aug. 1, 1956, ch. 836, Title I, § 103(a), 70 Stat. 815 (codified as amended at 42 U.S.C.A. § 423 (West 2003 & Supp. 2007)).

10. *See* MOSS, *supra* note 1, at 19 ("The difference [between policies that reallocate (or manage) risk and those that redistribute income] is roughly analogous to that between private insurance and charitable giving. Both insurance and charity ultimately direct funds to individuals in need. In the case of insurance, however, the eventual beneficiaries are not in need (or even known) when the insurance contract is written. In fact, all of the participants in an insurance pool face approximately the same chance of falling victim to the insured hazard. Unlike charity, insurance is not normally viewed by those who purchase it as a means of assisting the poor, but rather is seen as a means of protecting themselves. . . . Whereas redistributive policies are enacted to *change expected outcomes* (by transferring resources from rich to poor), risk-reallocation policies are put in place to *make individuals' expected outcomes more certain* (often by pooling resources among those with comparable levels of risk).").

of the Congressional debate over the bill, "I am sure we all agree that one of the fundamental purposes of government is to give security to its people; and I do not think any greater contribution could be made to the happiness of our people than to give them security in old age."[11]

In preparing for retirement, individuals face a wide variety of risks, including market risk (i.e., volatility in financial returns), default risk (the chance that a financial intermediary or pension fund could fail and thus not make good on its obligations), longevity risk (uncertainty regarding length of life and thus the length of retirement that needs to be financed), work duration risk (uncertainty regarding when retirement—including involuntary retirement that may result from an illness or a disability—will begin), and inflation risk (the chance that nominal savings or nominal annuity payments will be worth more or less than expected as a result of unexpected changes in the aggregate price level). Social Security has been designed to help Americans manage all of these risks, many of which are difficult or impossible to manage privately in the marketplace. In fact, back in 1935, the drafters of the Social Security Act discussed and debated the various risks associated with retirement in considerable detail.[12] Because the program helps manage these risks, Social Security is often referred to as "old-age insurance."

The fact that Social Security helps many Americans manage a major life risk—one that they might otherwise have had trouble managing on their own—is perhaps part of the reason for the program's extraordinary popularity. In fact, it appears that many Americans view this as precisely the sort of thing that government ought to do: provide a degree of security that individuals are unable to provide for themselves. As Abraham Lincoln once said, "[t]he legitimate object of government, is to do for a community of people, whatever they need to have done, but can not do, *at all*, or can not, *so well do*, for themselves—in their separate, and individual capacities."[13] In many respects, Social Security seems to fit this description quite well.

D. *Federal Deposit Insurance*

A fourth example of a major risk management policy is federal deposit insurance, which reallocates risk from individual bank depositors to

11. *Id.* at 204 (citation omitted).

12. *See id.* at 198–213.

13. ABRAHAM LINCOLN, ABRAHAM LINCOLN: SPEECHES AND WRITINGS 301 (Don E. Fehrenbacher ed., 1989).

a collective federal fund—the Federal Deposit Insurance Corporation (FDIC).[14] After the enactment of federal deposit insurance in 1933, the sorts of banking panics and runs that were once common in this country by and large disappeared. This is not to say that FDIC solved all problems in the banking sector. Nevertheless, it did introduce a degree of stability and confidence in the banking system that was sorely missing before 1933. It is doubtful, moreover, that many Americans would be enthusiastic about eliminating federal deposit insurance if given the chance, because it has become such a well-known and well-accepted pillar of American economic policy.

E. *Product Liability Law*

Finally, consider the case of product liability law. Although this policy has sparked a degree of controversy in recent years that the other risk management policies have not, it is still like the others because it is fundamentally about the management or, more specifically, the reallocation of risk. The rule of strict liability in product injury cases shifts risk from consumers to producers and distributors. There is no taxation, significant government spending, or big government bureaucracy involved. Instead, product liability law simply shifts risk from one private party to another.

Of course, the implications of this exercise in risk shifting are quite considerable, and I will return to discuss several of these implications shortly. The point here—both of this example and of the others outlined above—is simply that risk management is a fundamental and pervasive function of government here in the United States, and one with deep historical roots.

III. FAILURES IN THE PRIVATE MARKETPLACE FOR RISK

Significantly, risk management is also a public function with deep conceptual roots. Government has an important role to play in managing risk because private markets for risk do not always work as well as we would like. As is well known, there are a number of generic problems that limit the effectiveness of the market—and private actors in general—in dealing with certain types of risk. Three classes of problems are of particular interest here: information problems, perception problems, and

14. *See* Banking Act of 1933, Pub. L. No. 73-66, ch. 89, 48 Stat. 162 (1933); Federal Reserve Act, ch. 89, § 8, 48 Stat. 168 (1933) (codified as amended at 12 U.S.C. § 1811 (2000)) (establishing the Federal Deposit Insurance Corporation).

commitment problems.

In thinking about why markets for risk sometimes break down, economists have focused especially on cases of *asymmetric information*—when one party (to an insurance contract, for example) knows much more about the risk in question than the other party. Two of the most commonly cited information problems of this sort are adverse selection and moral hazard.

More recently, psychologists and economists have identified a wide array of *perception problems*, including systemic cognitive biases, which can lead individuals to mis-assess and thus mismanage important risks of various kinds.[15] Many of us, for example, exhibit optimistic bias, which may lead us to underinsure in certain cases because we mistakenly believe that a particular hazard cannot or will not happen to us. In one widely cited study, when subjects were asked how safe they were as drivers, the vast majority of those interviewed said that they were safer than the median; most put themselves near the very top of the distribution.[16] Although you and I may both be safer than the median driver, not all of us can be safer than the median, regardless of whether each of us individually thinks this is the case.

A third class of problems that can undermine private markets for risk comes under the heading of *commitment*. Commitment problems exist because no private entity, no matter how big, is entirely immune from default. The fact that any firm can fail has significant implications for private attempts to manage risk, particularly with respect to insurance and other risk-management contracts that reach over long time horizons. An individual who saves during her working years and invests the proceeds in a private annuity that will be paid out during retirement runs the risk that the company providing the annuity could fail in the meantime, thus destroying her nest egg. Indeed, managing this risk is perhaps the main justification for the Pension Benefit Guaranty Corporation (PBGC), a federal entity that insures private defined-benefit pension plans, and is also an important motivation for Social Security itself.[17] As one official explained at Congressional hearings in 1935, the proposal for federal old-age insurance (Social Security) "affords a facility for saving for old age

15. *See* Ola Svenson, *Are We All Less Risky and More Skillful than Our Fellow Drivers?*, 47 ACTA PSYCHOLOGICA 143, 147 (1981).

16. *Id.* at 143–44, 146–47.

17. Employee Retirement Income Security Act of 1974, 29 U.S.C.A. §§ 1301–1311 (West 1999 & Supp. 2007).

which, provided by the Government itself, avoids the dangers of bank failures, of losses on securities and real estate, or of other means of investment or of hoarding."[18] Another speaker added that "the Government expects to be a going concern indefinitely."[19]

Although not all of these problems are strictly market failures as defined by economists, all three—information, perception, and commitment problems—can limit the effectiveness of private markets for risk, and all three have been used as justifications for government risk management in the past. The Nobel economist Kenneth Arrow and co-author Robert Lind once wrote that "one of the strongest criticisms of a system of freely competitive markets" was the "inherent difficulty in establishing certain markets for insurance."[20] Elsewhere, Arrow suggested that it was up to the government to "undertake insurance in those cases where [a private market for insurance] has failed to emerge."[21] The point is that there are strong conceptual rationales for government involvement in the management of risk (as a result of certain inherent market shortcomings), which reinforce the notable historical precedents discussed above.

IV. AMERICA AS A "RISK-FREE SOCIETY" AND THE PROBLEM OF MORAL HAZARD

Although, as we have seen, risk management policy already had a long history in the United States by the late twentieth century, criticism—and even mockery—of government risk management became increasingly fashionable in the late 1980s and early 1990s. Critics spoke disparagingly of a "risk-free society," a "nanny state," and the supposed collapse of personal responsibility. In 1989, a *New Republic* writer complained that the "desire for a risk-free society is one of the most debilitating influences in America today."[22] In the wake of the famous McDonald's hot coffee case several years later, another critic declared that America had "devolved from a country of pioneers into a nation of plaintiffs."[23]

18. MOSS, *supra* note 1, at 209 (citation omitted).

19. *Id.* (citation omitted).

20. Kenneth J. Arrow & Robert C. Lind, *Uncertainty and the Evaluation of Public Investment Decisions*, 60 AM. ECON. REV. 364, 374 (1970).

21. Kenneth J. Arrow, *Uncertainty and the Welfare Economics of Medical Care*, 53 AM. ECON. REV. 941, 961 (1963).

22. Henry Fairlie, *Fear of Living: America's Morbid Aversion to Risk*, NEW REPUBLIC, Jan. 23, 1989, at 14.

23. Debra J. Saunders, *Stop Me Before I Spill*, S.F. CHRON., Sept. 7, 1994, at

These critiques were based on a number of different arguments, but one of the most important arguments related to the problem of moral hazard—that is, that individuals, families, and firms might all act less responsibly (potentially contributing to an increase in aggregate losses) once they felt that they had the state's protection against various forms of risk. Consumers might be less careful handling consumer products (including hot coffee at a McDonald's drive-through) once they knew they could sue if injured. Individuals might be more likely to build homes in hazard-prone areas, given the existence of federal disaster relief; and so on.

To be sure, moral hazard is a serious potential problem and one that deserves careful consideration and vigilance within the context of public risk management. It is striking, however, that throughout American history, even before the term "moral hazard" was coined, the concept of moral hazard was consistently invoked by critics as the main argument against every major risk management policy, including many—such as limited liability law and federal deposit insurance—that are now well-established and broadly viewed as successful.[24]

Critics argued in the early nineteenth century that the enactment of limited liability law could unleash a torrent of moral hazard, encouraging reckless risk taking on the part of corporations and their shareholders.[25] One opponent of a Massachusetts limited liability bill under consideration in 1830, argued:

> [m]en who are restrained only by the limits of their capital stock . . . do not and cannot feel under the apprehension of those who are restrained, each one by his own personal jeopardy, to the amount of all his means: to the extent of his very livelihood. . . . Your best security always is in the apprehension of your debtor.[26]

A century later, critics claimed that federal deposit insurance could prove enormously destructive because it would encourage bankers to take increasingly wild risks with other people's money. As one opponent stated in 1933, "a reputation for high character would be cheapened and recklessness would be encouraged."[27]

A17.

24. On the origins of the term "moral hazard," see Tom Baker, *On the Genealogy of Moral Hazard*, 75 TEX. L. REV. 237, 244–67 (1996).

25. MOSS, *supra* note 1, at 67–68.

26. *Id.* (citation omitted).

27. *Id.* at 118 (citation omitted).

If the moral hazard critique had won the day every time it was seriously advanced, some of the nation's most important policy innovations would never have been enacted. This is not to suggest that the moral hazard critique is always wrong. Sometimes it proves exactly right. The key challenge is to identify the *conditions* under which moral hazard matters, when it bites and when it does not.

Many of the most successful risk management policies, including both limited liability law and federal deposit insurance, have overcome—or, at least, largely overcome—the moral hazard critique because they have built-in mechanisms for monitoring and controlling moral hazard. This turns out to be exceedingly important.

Recall that in the case of limited liability law, risk is shifted from corporate shareholders to corporate creditors. Shareholders do indeed have an incentive to take undue risk, just as the critics warned, because shareholders get all of the upside while creditors get stuck with at least part of the downside. This is the moral hazard—the bad news. The good news is that under limited liability, creditors also have a strong incentive to monitor the risk taking of corporations to which they lend. And for the most part, they do a very good job of it. This is why limited liability law did not turn our corporations into casinos, as the critics feared. There was a built-in mechanism—in this case, the creditors themselves—for monitoring and controlling moral hazard.

A similar dynamic exists in the case of federal deposit insurance. Here, the risk of loss is reallocated from depositors to a government fund (FDIC), which naturally relieves depositors of the responsibility to monitor their banks. In fact, with deposit insurance, customers might be tempted to deposit their funds in the riskiest banks. This is because the riskiest banks tend to pay the highest interest rates and because, with government deposit insurance, accounts held at a risky bank are just as safe as those held at any other. Depositors thus face a moral hazard, which has the potential to generate higher losses in the banking industry. Unlike limited liability, however, there is no private party with an incentive to monitor and control the moral hazard because deposit insurance shifts risk onto a public entity, not a private party.

Fortunately, the drafters of federal deposit insurance recognized this problem and wisely created a system of federal bank supervision as part of the same legislation that created the Federal Deposit Insurance Corporation itself. They created, in other words, a public system for monitoring and controlling moral hazard as it pertained to banking, which is why federal deposit insurance has not—for the most part—turned our banks into reckless risk takers.

Of course, policymakers do not always get this right. In any number of instances, major public policies have faltered because there was no meaningful mechanism for dealing with moral hazard. Our federal disaster policy, which potentially encourages homebuilding in hazard-prone areas, may be one example of this.[28] Our guaranteed student loan program, which provides federal guaranties to lenders who make student loans, may well be another, potentially encouraging all sorts of bad behavior on the part of lenders.

Without question, moral hazard is a real problem. But very often in the past, critics of public risk management have tended to see the problem of moral hazard as being omnipresent and intractable, rather than manageable. As we have seen, the historical record suggests otherwise. Moral hazard has become a significant problem in some cases of public risk management, but it has proved genuinely manageable—and thus reasonably under control—in many others.

V. A RISK REVOLUTION

Having just suggested that some critics may overestimate the *costs* of public risk management, I now want to suggest that many of these same critics may also underestimate the *benefits*. Although these benefits are naturally difficult to isolate, one way to get at them is to think about what the world was like before some of the major risk management policies were introduced.

28. Although the claim that federal disaster relief encourages building in hazard prone areas is often asserted (including by this author), the available evidence is at best mixed. To be sure, federal disaster relief, building in hazard-prone areas (particularly on the coasts), and aggregate disaster losses have all increased substantially in the United States since the 1960s. *See, e.g.*, David A. Moss, *Courting Disaster? The Transformation of Federal Disaster Policy Since 1803*, *in* THE FINANCING OF CATASTROPHE RISK, at 314–18, 321–338 (Kenneth A. Froot ed., 1999) [hereinafter Moss, *Courting Disaster*]. The question is whether rising federal disaster relief was truly a driving force. Professor Howard Kunreuther of Wharton, one of the leading authorities on the subject of natural disaster risk, maintains that the available evidence actually cuts against the moral hazard argument. He observes, for example, that residents in hazard-prone areas apparently do not expect to receive federal assistance. Howard R. Kunreuther, *Has the Time Come for Comprehensive Natural Disaster Insurance*, *in* ON RISK AND DISASTER 175, 183 (Ronald J. Daniels et al. eds., 2006).

Consider, for example, what life was like for a great many Americans before the advent of workers' compensation, which was introduced in numerous states beginning in the 1910s.[29] Before that time, large numbers of families across the country regularly fell into poverty after the breadwinner was injured or killed on the job. Although this problem did not disappear completely with the introduction of workers' compensation, it was very greatly diminished.

Before the advent of federal deposit insurance in 1933, bank runs were a regular and recurring feature of American life. The banking system was dramatically less stable than it is today, and this was a serious source of worry and, at times, loss for a great many Americans. While it would be an exaggeration to say that federal deposit insurance eliminated the problem of bank runs altogether, it has come remarkably close to achieving this objective. Most Americans no longer worry about the funds they deposit in their checking and savings accounts. And few have ever experienced a suspension of payments—a phenomenon familiar to many nineteenth century Americans and to nearly everyone in 1933—in which bank accounts were simply frozen (sometimes across an entire city or state) until confidence resumed.

Before the enactment of Social Security in 1935, elderly Americans regularly fell into poverty. Hundreds of thousands, if not millions, of Americans—particularly as they reached their fifties and sixties—feared the prospect of growing old and retiring. For many, aging and involuntary retirement were synonymous with financial collapse, dependency, and even, in some cases, destitution. Although that fear has not been entirely erased, it has been greatly reduced—as has the problem of poverty among the aged—as a result of Social Security. In this way, Social Security literally transformed the meaning of aging and retirement in the United States, and did so in such a definitive way that it is now almost impossible to remember or imagine what life was like before it.

Finally, it is worth considering one more example—this one being a bit more controversial. Before the rise of modern product liability law, dangerous products appeared to have been far more common than they are today. And those individuals who were injured as a result typically had little if any recourse.

Recall the case of *Escola v. Coca Cola Bottling Company of Fresno*,

29. *E.g.*, DAVID A. MOSS, SOCIALIZING SECURITY: PROGRESSIVE-ERA ECONOMISTS AND THE ORIGINS OF AMERICAN SOCIAL POLICY 129 (1996).

in which Justice Roger Traynor of the California Supreme Court delivered his now-famous concurring opinion favoring the adoption of strict liability in product injury cases.[30] Although the Traynor opinion is well-known (and widely read by first-year law students), the underlying injury in the case may be less familiar.

The "Escola" in the case was Gladys Escola, a waitress and manager at Tiny's Waffle Shop in Merced, California.[31] On August 21, 1942, Gladys was moving bottles of Coca Cola from a wooden case to a refrigerator when suddenly one of the bottles exploded in her right hand.[32] Broken glass sliced into her hand, mostly in the web of skin between the thumb and forefinger and lodged there more than one inch deep.[33] Even after surgery, her hand appeared deformed, and for a long time she was not able to do even the most basic tasks with it, such as shake hands or comb her hair. It was a serious, debilitating injury.[34]

The story probably would have ended there, except for the fact that C. Ray Robinson, a prominent lawyer in town, was a regular customer at Tiny's Waffle Shop and convinced Gladys to sue Coca Cola.[35] When Robinson was called into the Navy in 1943, he turned the case over to his colleague Melvin Belli, a young trial lawyer who would later become famous for his effectiveness (and his antics) in the courtroom.[36]

Remarkably, exploding soda bottles represented a very serious problem at the time. The hazard had been known for many years, and remained a threat for several more decades. The National Commission on Product Safety observed as late as 1970 that:

> [i]nsurance companies reported more claims related to glass bottles than to any other consumer product. . . . Hospital records confirm that glass bottles consistently rank high among products connected with injuries treated in emergency clinics.

30. Escola v. Coca Cola Bottling Co. of Fresno, 150 P.2d 436, 440–44 (Cal. 1944) (Traynor, J., concurring).

31. This section on Gladys Escola draws heavily from David Moss & Jonathan Lackow, The Risk Revolution Was Right (2007) (unpublished draft, on file with author).

32. *Escola*, 150 P.2d at 437–38.

33. *Id.* at 438.

34. Moss & Lackow, *supra* note 31.

35. *Id.*

36. *Id.*

> . . . .
>
> In 1968 the soft drink industry filled about 30 billion glass containers. Of these, more than half were returnables, but thin-walled disposables have gained rapidly in recent years. . . . Even if only a small proportion is defective, the number of incidents is large.[37]

A few years later, the Consumer Product Safety Commission estimated that 32,000 people "were treated in hospital emergency rooms for injuries related to carbonated soft drink bottles" in 1974.[38] In the sample from which the Commission extrapolated, twenty-eight percent of the injuries stemmed from spontaneously exploding bottles and fifteen percent more from bottles that exploded on impact (as a result of "jostling" or "dropping").[39]

Today, in the aftermath of the product liability revolution—and likely in part because of it—the problem of exploding soda bottles is miniscule by comparison. As *Chemical Week* reported in 1976, "[s]oda bottlers, spearheaded by Coca-Cola and PepsiCo, are committed to convert to safer packaging, a move that will cut their product liability costs."[40] In fact, the shift to plastic bottles and the use of sleeves on glass bottles, among other modifications, appear to have dramatically reduced the risk of injury. A 2004 article in the *British Journal of Ophthalmology* reported that the Consumer Product Safety Commission database identified only twelve injuries of this sort in 1990 and just five in 2000.[41] Comparable work on the database of the National Electronic Injury Surveillance System showed twenty-two injuries in 1990 and seven in 2000.[42]

As for Gladys Escola, she ultimately won her case against Coca Cola—after securing a favorable verdict at the trial court level, suffering a

37. NAT'L COMM'N ON PROD. SAFETY, FINAL REPORT PRESENTED TO THE PRESIDENT AND CONGRESS, 17 (1970).

38. F. Kuhn et al., *Serious Eye Injuries Caused by Bottles Containing Carbonated Drinks*, 88 BRITISH J. OPHTHALMOLOGY 69, 69 (2004).

39. *See* U.S. CONSUMER PROD. SAFETY COMM'N, BUREAU OF EPIDEMIOLOGY, HAZARD ANALYSIS: BOTTLES FOR CARBONATED SOFT DRINKS 9 (1975) (stating that twenty-four of the eighty-six cases investigated involved injuries caused by exploding bottles, while another fifteen injuries were a result of impact induced explosions).

40. *Beverages Pace Boom in Plastic Bottles*, CHEMICAL WEEK, Aug. 25, 1976, at 41.

41. F. Kuhn et al., *supra* note 38, at 69.

42. *Id.*

reversal on appeal, and then finally prevailing before the California Supreme Court.[43] She received an award of $2,900.[44] As Mrs. Escola herself explained, for someone who earned $18 per week, "that's a lot of money."[45]

Today, in the aftermath of the revolution to which Gladys Escola contributed, it is easy to forget what the world was like before many of these risk management policies were put in place. Daily life, it seems, was a good deal more hazardous than it is now. I doubt that many of us would want to go back to the days of bank runs, exploding soda bottles, and impoverished senior citizens. Thus, when we think about the costs of these risk management policies (and there are costs), it is important not only to avoid exaggerating the costs, but also try to take account of the considerable benefits as well.

VI. UNDERSTANDING THE GOVERNMENT'S ROLE AS A RISK MANAGER

What then does all this tell us about the government's role as a risk manager? First, it should be clear that government does have an important and, in fact, essential role to play in managing risk. Private markets apparently cannot do it all on their own. This is clearly visible in the historical record—for example, in the form of an extremely thin market for workplace accident insurance before the adoption of workers' compensation laws in the 1910s. It is also apparent at a conceptual level—in terms of the market failures and cognitive biases that we know can disrupt or in some cases even destroy private markets for risk. At the same time, there has now emerged a very strong public expectation that the federal government will serve as an insurer of last resort in the aftermath of major crises, such as 9/11 or Hurricane Katrina.[46] Indeed, this expectation

43. Escola v. Coca Cola Bottling Co. of Fresno, 150 P.2d 436, 437, 439 (Cal. 1944).

44. Moss & Lackow, *supra* note 31.

45. *Id.*

46. As an indication of the change in public expectations about the government's role in dealing with disasters, consider two statements by American Presidents. One was made in the nineteenth century and the other at the beginning of the twenty-first. Following an 1887 drought in Texas, President Grover Cleveland vetoed a relief bill passed by Congress and declared in his veto message,

> I do not believe that the power and duty of the General Government ought to be extended to the relief of individual suffering . . . . [T]hough the people support the Government, the Government should not support the people. . . . Federal aid in [cases of misfortune] encourages the expectation of paternal

only reinforces the point that government has a vital role to play in managing a wide array of risks in our society, from workplace accidents to terrorist attacks.

A second and closely related point is that, at its best, government is a remarkably effective risk manager. The most striking example may be Social Security, a program that helps Americans manage numerous risks associated with retirement—most of which are difficult, if not impossible, to manage privately—and does so with surprisingly low administrative costs. As is well known, Social Security also enjoys immense public support.

The historical record thus suggests that risk management is not only a powerful public policy tool—one of the most powerful we have—but also (when used judiciously) one that can generate a very substantial degree of political support and enthusiasm on the part of the American people. This is no small point. Around the world, Americans are known for their distaste of government—especially big government bureaucracies, government ownership, and invasive police power. Yet historical experience shows that Americans have been willing to tolerate and even support public policies that effectively manage risk. They apparently view risk management as a fundamental public responsibility in quite a number of contexts. As I have argued elsewhere, Americans seem to appreciate the fact that it is possible to address pressing economic and social challenges by shifting and spreading risk (e.g., capital mobilization through limited liability law, economic security through social insurance, and so on), and to do this with little or no bureaucratic footprint. As a public policy tool, risk management appears to be especially well suited to the

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> care on the part of the Government and weakens the sturdiness of our national character.

18 CONG. REC. 1009, 1875 (1887).

In 2005, by contrast, President George W. Bush announced in the aftermath of Hurricane Katrina:

> Yesterday I . . . signed a $10.5 billion emergency aid package to fund our ongoing relief efforts. This is a down payment on what will be a sustained federal commitment to our fellow citizens along the Gulf Coast. . . . In America, we do not abandon our fellow citizens in their hour of need. And the federal government will do its part.

The President's Radio Address, 41 WEEKLY COMP. PRES. DOC. 1350, 1351 (Sept. 3, 2005).

special tastes and proclivities of Americans, because it involves government action that is powerful and effective and yet often almost invisible.[47]

This leads to a third and final point, relating to the problem of moral hazard. Although government risk management has the capacity to produce very positive results, it also has the potential to do grave harm. As the critics consistently point out, the biggest threat is that of moral hazard.[48] I have already mentioned the potential for federal disaster policy to encourage building in hazard-prone areas and for guaranteed student loans to encourage inappropriate—and possibly even illegal—efforts on the part of lenders to increase market share.[49] Another example of a public policy overwhelmed by moral hazard stems from the infamous savings and loan crisis. When the federal government simultaneously deregulated the thrifts and increased their insurance cover in the 1980s, this was clearly a recipe for disaster—encouraging just the sort of wild risk taking that some critics had predicted back in the 1930s when federal deposit insurance was first introduced.[50] Clearly, it would be a mistake to take the problem of moral hazard lightly.

One point I have tried to emphasize, however, is that although moral hazard is a serious problem, it is not a completely intractable one. In fact, as we have seen, many risk management policies have largely overcome this problem, especially when they have built-in mechanisms for monitoring and controlling moral hazard. Recall, for example, that limited liability law relies on creditors to act as monitors of excessive risk taking, and federal deposit insurance relies on federal bank regulators to serve a similar function. Looking ahead, the key challenge for policymakers is to construct risk management policies with this in mind—that is, with well-conceived mechanisms for monitoring and controlling moral hazard.

VII. CONCLUSION

A deeper understanding of the government's role as a risk manager—including both its strengths and its weaknesses—should allow for the formulation of better public policy. Although many of our risk management policies work well, others do not. Two problem areas that I have addressed elsewhere include our system of financing higher education

47. MOSS, *supra* note 1, at 316–24.
48. *See* discussion *supra* Part III.
49. *See* discussion *supra* Part III.
50. MOSS, *supra* note 1, at 313.

and our system of federal disaster relief. In both cases, we have the potential to manage major risks affecting our economy and our society far more effectively than we do now.

The current guaranteed student loan program generates adverse incentives (which may well have given rise to the recent scandal in the student lending industry) by creating a no-lose situation for lenders, while leaving students themselves largely unprotected. A better option would be to insure the students, rather than the lenders, by introducing a broad income-contingent lending program for students.[51] Such a program would extend loans for college and graduate school, but would also defer or forgive interest payments in years in which the borrower's income fell below a pre-specified trigger. In this way, students could finance their own educations and would enjoy protection against the risk of low income (i.e., a low return on their educational investment). There would also be built-in controls on moral hazard, because presumably few students would want to accept very low incomes (or literally push themselves into poverty) simply to reduce their student loan payments.

Similarly, with respect to disaster policy, the current approach effectively offers federal coverage against disaster losses with no premiums (risk-based or otherwise), nor any other significant mechanism for discouraging building in hazard-prone areas. Instead, why not require private insurers to provide disaster coverage (associated with any policy written on a piece of property), and offer federal *reinsurance* to absorb the risks private carriers do not wish to underwrite themselves?

Under such a scheme, which could be applied to terror risk as well, private insurers might be permitted to pass up to eighty percent of their disaster (or terror) risk to the new federal reinsurer, so long as they also passed an equal percentage of the premiums they collected on these policies. In this way, federal coverage would require a premium—but one set in the private sector, not by the government itself. Insurers would retain an incentive to demand high premiums (or, in extreme cases, not to provide coverage at all) on properties that were deemed particularly vulnerable to disaster (or terror) losses. Coverage would be expanded, and moral hazard reduced. Further, by encouraging risk-based premiums, this reinsurance approach could actually help make us safer against the threat of natural disasters and terrorist attacks by creating financial incentives for buildings and business activities that are safer and more secure.[52]

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51. *See* David Moss, *Leave No Risk Behind*, FORBES, July 23, 2007, at 36.

52. *See* Moss, *Courting Disaster*, *supra* note 28, at 345–51; *see also Future of*

In fact, in just these areas alone (higher education financing and disaster/terror coverage), careful restructuring of our risk management policies could make a very big difference. There are clearly other vital areas as well in which we should be thinking about introducing new risk management policies or reforming old ones.

Since the days of limited liability law and even before, American policymakers have implicitly recognized the power—and the special appeal—of risk management as a public policy tool. As we look to the future, the goal should not be to try to get the government out of the business of managing risk (which would be a foolish and impossible quest), but rather to make the best and most responsible use of this policy tool, guided by both theory and historical experience.

Insuring Terrorism Risks: Hearing Before the Comm. on Commerce, Science, and Transportation, 107th Cong. 53–54 (2001) (statement of David A. Moss).