ONE

INTRODUCING POLICY MESSES, MANAGEMENT, AND THEIR MANAGERS

My first and most important point: Policymakers in government and policy analysts in the public and private sectors have a great deal to learn about management from a special class of professionals little discussed in the literature or media: namely, those control room operators who manage large technical systems for water supplies, electricity, telecommunications, and other critical infrastructures that societies have come to depend on for reliable health, safety, and energy services.

This book is about applying what has been learned from managing more reliably in one domain (critical infrastructures) to the broader domains of policy and management that have their own political or legal mandates to be reliable, yet increasingly fall short of meeting those mandates.

When we think of policymakers, as we often must these days, we may have in mind leaders, legislators, and officials who govern our political institutions. When many of us think of control rooms and the operators in large-scale energy or telecommunications systems—if we think of them at all—it is during major emergencies. Among the better-known examples are the frantic actions of control room operators at the Fukushima nuclear power plant, on the Deepwater Horizon drilling rig, or in the lower Manhattan telecommunications hub as the World Trade Center fell around it on 9/11.

Why should we expect that policymakers, analysts, and political elites have anything to learn from real-time infrastructure managers? Because these operators manage every day to prevent all manner of major accidents and failures from happening, which would occur if the operators had not managed the way they do. We see politicians, policymakers, and their support staff operating at their performance edges; what we don't see is that critical infrastructure managers have to do the same every day, but more successfully, by managing the way they do.

My second line of argument: What exactly is this "managing the way they do"? To answer succinctly, control room operators are often brilliant mess managers, and what is blazingly obvious is we need better

mess managers when it comes to what seem to be intractable problems in policies and politics.

When asked why I call these apparent intractabilities "messes," my answer is that this is precisely what they are called by those responsible for managing them. There is no metaphor or argument by analogy here. The healthcare mess, Social Security mess, financial mess, eurozone mess—those are the terms used by the public, analysts, and elites to sum up the issues and tasks before them. What is less recognized—and the book's aim is to fill this gap—is that the same messes can be managed more reliably and professionally than the public or the policy establishment acknowledge.

The image that the public may have of control rooms—men and women undertaking command and control in darkened venues, sitting in front of computer screens and with grid maps on the walls—captures none of the daily, if not minute-by-minute, adaptations required of operators to meet all kinds of contingencies that arise unexpectedly or uncontrollably and that have to be dealt with if the critical service is to be provided reliably. I argue that these skills and this perspective offer a more realistic template for success than do current policy analytical and decisionmaking approaches, many of which I show are faith-based in the extreme.

My third line of argument: Just look at the sheer number of different policy messes for which we need more realistic managers! After I describe what control room operators do in managing the variety of bad and good messes that come their way, I spend most of the book showing how those in and around the policy establishment can be their own networks of mess and reliability managers. As networks of professionals, I argue, they are better able to avoid bad or worse messes, take more advantage of the good messes there are, and more effectively address the societal and professional challenges ahead in managing policy messes more reliably.

For some readers these arguments are crystal-clear and in no need of elaboration before moving directly to the next chapters. Most readers will require a fuller description of why and how the points matter, as I intend the readership to be drawn from many fields and concerns. My examples are drawn from the United States and internationally; they include policy messes in the arenas of the environment, education, climate change, social welfare, health, and international development. I focus in all chapters on one connecting policy mess that enables me to illustrate the major points in my argument as I develop them. This is the global financial mess that came to the fore in 2008 and afterward. I

describe and follow that mess as it has morphed into the multiple muddles over unfunded pensions, underfunded Social Security and medical obligations, sovereign debt, banking reform, and currency stability in the eurozone and elsewhere. I turn now to an expanded discussion of my three lines of argument.

This Argument in More Detail

Now step back and consider the world around you. It's a mess, and we know it. But if almost everything is a mess, is each mess being managed for the mess that it is? It is one thing to say that messes start out bad; it is something else to say that they are bad because we manage them poorly. A little bit of both is happening, you say. But that "little" matters considerably when capitalizing on the role of mess in policy, management, and politics. Good messes are to be had, and we can manage a major mess well rather than poorly.

For the moment, think of a policy mess as a public issue so uncertain, complex, interrupted, and disputed that it can't be avoided. It has to be managed; the problem is how. The ideal aim would be to prevent the mess, or clear it up once and for all, but that is easier to say than do. Yet every day, professionals reliably manage to produce critical services, including water, electricity, and even financial services. They do this not by getting rid of messes as much as by continuously sorting them out, especially when those services are needed most. How do these professionals do that, and what can they tell us about how to better manage messes or avoid the truly bad ones in our society? This book illustrates important lessons for those who need to be mess managers in policy, management, and the political economy we find ourselves in. My argument is that those in health, social welfare, development, business, and the environment, among other arenas, should become much more like those professionals.

The approach in this book builds on my work with Paul Schulman on reliability professionals. In *High Reliability Management: Operating on the Edge* (2008), we undertook a case study and detailed key concepts in the way control room operators and managers keep large technical systems reliable under highly volatile situations, when options are sometimes few, and success is never guaranteed. This book recasts those professionals and their networks as exemplary mess managers and extends the original framework into the wider reconsideration of political economies not just in the United States but abroad as well. My

earlier book, *Narrative Policy Analysis* (Roe 1994; see also Roe 2007), showed how the disputed stories that drive much of public policy and management could be better analyzed. But stories have their beginning, middle, and end, and the nub of a policy mess is that those in the midst of it do not know how their policy and management efforts will or could end.[1] After a point, decisionmakers may even wonder how the mess began or evolved. In contrast, mess managers are very good at answering the question "What happens next?" We will see how the unique narratives of mess managers play a major role in management and policy.

Much of this should not be new. It is a truth universally acknowledged that each generation discovers on its own just how complex and uncertain their surroundings are. As the nineteenth-century essayist Thomas De Quincey put it in his *Logic of Political Economy*, "upon what is known in Economy there is perpetual uncertainty, and for any inroads into what is yet unknown; perpetual insecurity" (1849, 35). For a contemporary example, the debt levels of U.S. states are so substantial, according to Felix Rohatyn, an expert in this area, that he can't "see where the end of this is" (quoted in M. Cooper and Walsh 2010). Professionals who find themselves in such a tide race of affairs and are searching for what happens next should read this book.

Specifically, policy analysts, managers, businesspeople, and public administrators will find the approach helpful in understanding what makes for the successful managing of policy messes in the sectors in which they operate. Business schools and programs as well as providers of health and social services should find much of use here. The approach also offers insights and instruction to a wider audience, including economists interested in the institutional design of governance structures; engineers committed to better design and risk analysis of large technical systems; organization theorists analyzing technological accidents and organizational reliability; social scientists studying major technology transformations; and planners for the long term who confront demands for better management in their arenas.

Some messes, to repeat, start out and stay bad; they may be beyond the grasp of management. Others are managed poorly or effectively, and it is essential to determine which is the case and what the results are. The following pages parse and explain good and bad messes; more important, they describe good and bad mess management. Many examples are discussed along the way, not just the 2008 financial meltdown and its repercussions. For the latter, I rely to a considerable extent on contemporaneous reports from the press and elsewhere to

give a flavor of the immediacy of grappling with events in real time. We have been told that "the public finances of most advanced countries are in a greater mess than at any point in peacetime history" (Plender 2010b). If so, how do those managing it measure up against professionals who see to it that the messes they face are managed, not cleared away?

Were messes no different than problems, we could rely on conventional policy analysis and management to get out of them. No such luck. As I show in the first chapters, a policy mess involves changeable individual actions and local contexts confronting unstable principles and policies. Principles and policies, moreover, diverge significantly from the fast-moving trends and patterns they are meant to address. Yet all this slipping and sliding takes place under mandates to manage a critical good or service reliably—that is, safely and continuously—through time, no matter what rude surprise crops up. All this occurs in systems that are not just technical or organizational, but in the same instant rooted deep in political economy and culture. You can see why some call this constellation a potent source of "wicked" policy problems, in which cause and effect are tangled together and next to impossible to sort out.[2]

Mess has never been far away in my own profession of policy analysis and public management, which is full of wicked policy problems, muddling through, incrementalism, groping along, suboptimization, bounded rationality, garbage can processes, second-best solutions, mixed scanning, policy fiascos, relentless paradoxes, fatal remedies, rotten compromises, managing the unexpected, coping agencies, normal accidents, crisis management, groupthink, adhocracy, and that deep wellspring of miserabilism, implementation. As these notions circle around the same prey, this book takes a closer look at the animal itself: the policy and management messes we find ourselves in, especially when it comes to important services like water, energy, transportation, telecommunications, health, finance, development, and the environment. In focusing on policy messes and their management, I do not critique conventional analysis and management as much as rethink my profession from a different direction. As I go along, I signal my debt to those who have thought through these issues ahead of me.

It's easier to belittle messes than avoid them, and the first thing good mess managers show us is that *we manage messes we can't avoid, we don't "clean them up."* Many people believe or insist that the way to clear up policy messes is by reducing uncertainty, simplifying complexity, resolving conflict, and completing unfinished business. A fair num-

ber of decisionmakers seem to think: This mess needs cleaning up, and since God isn't doing it—nor, for that matter, is anyone else—it's up to me to do the job. Such assumptions are why there are so many intractable muddles in policy and management.

What should they do instead? *We can learn from those professionals whose job it is to manage mess all the time*. There is nothing novel about the need for learning. What is new is shifting the focus to identifying, studying, and learning from a unique group of mess managers who are reliable in terms of the outputs and outcomes of their management. For them, managing well rather than managing poorly means they manage messes reliably or reliability messily: They manage the needful under always-dynamic circumstances. From them we learn that *mess management requires three skills: pattern recognition, scenario formulation, and the ability to translate pattern and scenario into a reliable service, now when it matters*. These professional managers do not achieve reliability directly by designing broad systems to govern all discrete operations. To be reliable, they and the networks in which they operate interpret what system patterns mean for the locally specific scenarios they face now and in the next step ahead. Why the need for translation? Because designs—be they policies, principles, or laws—have to be modified both in light of local features and in light of the broader patterns that emerge across a run of individual operations. Both have to be accounted for in order to achieve reliable services. This sorting-out process of recognizing systemwide patterns, formulating local scenarios, and modifying scenarios in light of those patterns is complicated, but it is the core of good mess management and what this book is dedicated to detailing. Put directly, this book aims to renovate the good name of mess.

To start with, it is important to understand the respective concepts of mess and reliability, which I introduce in the remainder of this chapter and discuss more fully in chapter 2. Chapter 3 identifies and describes those professionals who are officially charged with providing services reliably, but who unofficially have to do so by continually managing the messes that arise in that provision. By the end of chapter 3, the reader will have the framework to determine and evaluate what makes a mess and its management good or bad when it comes to the reliable provision of a service. The first step in making the most of policy and management messes is to minimize bad ones, and chapter 4 presents examples of bad messes and poor mess management in policy. Chapter 5, the longest in the book, devotes considerable attention to what makes for good and even better mess management. These chapters illustrate how to be good mess managers, protect such man-

agers, avoid bad messes, and manage more reliably all those other messes in policy, management, and politics that have yet to go bad or are otherwise primed to go from bad to worse.

Chapters 6 and 7 focus on the challenges—first societal and then professional—that we face in managing policy messes. At the societal level, complexity, conflict, uncertainty, and unfinished business can make for a clumsy minuet: The more mess there is, the more reliability decisionmakers want; but the more reliable we try to be, the more mess is produced. The more decisionmakers try to design their way out of a policy mess, the messier actual policy implementation gets; but the messier the operations are at the micro level, the more decisionmakers feel solutions are needed at the macro level. This does not augur well for the future, and indeed that future is the source of much of the mess we are now in. What we end up with is politics of fewer options and much turbulence within which mess managers must be reliable. In this way, the societal challenges in chapter 6 become the professional challenges in chapter 7. Professionals have to learn to better manage those politics by building up their analytic and management capacity via networks of like professionals, by capitalizing on better practices that have been developed across diverse communities and situations for like issues, by managing complexity much better than they have hitherto, and by operating more effectively in real time. Chapter 8 brings us full circle by addressing what the preceding chapters mean for managing the morphing financial mess we continue to be in as well as other major policy messes.

At no point in this book do I argue that the only way to get out of our policy messes is to create far better human beings, incentives, policies, laws, or politics than we currently have. All this may be required, but if that is true, so is the fact that such insistence frequently makes for more messes. This book focuses instead on what professionals and their existing better practices imply for policy messes, financial or otherwise.

To get to chapter 8's conclusion, we must begin the journey by understanding just what mess is and what makes for all this talk about "good" and "bad" messes. As we will see, these distinctions come back to those who are managing the policy messes and how are they doing it.

Mess: Good and Bad

"Mess" and "bad" almost always go together when it comes to policy, management, and politics. For that matter, mess is mentioned every-

where—except in the indexes of our textbooks on public policy, economics, and management.[3] Messes are considered bad, if only because they are difficult to sort out—or, more subtly, if they require a different sort of management, one that many decisionmakers find less than straightforward.

Almost everyone who experienced the financial meltdown in 2008 thought of it as bad. It evolved out of a "mortgage mess," morphed into a "credit mess," and became a comprehensive "economic–employment–government debt–current account deficit mess," also unprecedented in recent history (see, for example, Blinder 2007; Calomiris and Wallison 2008; *Economist* 2009b). For those in its midst, it has proved difficult to see any good coming from it, apart from the usual attempts to make the best of a bad situation.

Bad messes are taken to be many, frequent, and long-lived, while good messes—if they are recognized—are considered ephemeral, sporadic, and certainly not to be relied on. Moreover, when it comes to messes, it's reliability that counts. Policy analysts, public managers, and businesspeople are expected to clear major messes up by making affairs more reliable. Reliability is controllability, or at least predictability and stability. More mess is a sign of more unreliability, so more reliability should mean less mess. What saves this from being a thoroughgoing tautology is the fact that there are conditions under which mess can be managed so as to increase the options for reliability, even if it leaves things messy—though more manageable.

Just what is a mess in policy and management? For starters, issues are a mess not only when they are complex, but also when they are uncertain, incomplete, and disputed. They are uncertain when causal processes are unclear or not easily comprehended. They are complex when more numerous, varied, and interdependent than before. Issues are incomplete when efforts to address them are left interrupted, unfinished, or partially fulfilled. Issues are disputed when individuals take different positions on them because of their uncertainty, complexity, and incompleteness. A policy mess is an amalgam of these contingencies that has become so accident-prone along its multiple dimensions that it has to be managed.[4] In less formal terms, a mess is what can happen when "different parts of the system contribute to different decisions in different ways at different times" (March 1966, 66–67)—which, not unimportantly, also describes the exercise of power. For me, mess and its management go together very differently than problems and their solutions do, as the rest of the book demonstrates.

Several features follow from this definition of a policy mess when it

comes to the challenge of managing for reliable services. First, it is next to impossible to measure mess. In particular, we still have no good empirical measure of interdependence (see LaPorte 1975). Reliability, however, is measurable (for example, your ATM is highly reliable because it has never been out of order when you needed to use it). Second, those who are mandated by law, regulation, or their mission to provide what society considers critical services want complete knowledge of cause and effect in their systems, especially when it comes to identifying the factors that are essential for reliability. These people avoid, wherever possible, working in what engineers call "unstudied conditions." Lack of complete causal knowledge, however, is at the core of messy policy when societal conditions are changing all the time. Third, when has the human condition ever been "completely studied" in terms of its mess and reliability? Consider these long-standing caveats: "Things of this World are in so constant a Flux, that nothing remains long in the same State" (John Locke, philosopher); "All human institutions and none more than government, are in continual fluctuation" (David Hume, essayist, economist, and historian); "All countries are and always have been in a state of transition, and it is the character and purpose of human nature that all societies should be constantly altering" (Lord Palmerston, nineteenth-century prime minister of Great Britain). Fourth, and not surprisingly in the midst of all the flux, most people end up having to tolerate messes (in this book, mess means specific messes). Rather than putting up with what they dislike, they would much rather have their messes prevented, and reliably so, especially when circumstances are so mutable.

So where does that leave those who take mess and reliability seriously? Difficult-to-measure interdependence but with measurable declines in reliability; working in unstudied conditions but mandated to have reliable services; constantly having to tolerate change but always insisting on more stability along the way—no wonder many see risk on all fronts. All these and more were found in the financial mess of 2008 and its ongoing incarnations. How so?

"Risk is now driven by the increasingly tight coupling of markets and the resulting complexity and interdependence," a financial derivatives specialist told us early on (Das 2007). Starting with risk as the likelihood and consequence of failure, then spreading that risk in a financially interconnected world had four disastrous consequences for finance and beyond, as we shall see in greater detail. First, it concealed risk; second, it increased risk; third, it concentrated risk; and fourth, it had people talking about "risk" in situations where they could not even calculate

the probability or consequences of failure. While derivatives have been long used in other sectors, such as commodities (Raeburn 2009; see also, for example, Grant, Milne, and van Duyn 2009), financial derivatives and other innovative instruments hid risk while spreading it, thereby increasing uncertainty and unpredictability. Here is how one new financial instrument, the collateralized debt obligation (CDO), is described as playing its part in the financial mess:

> The system works only if the securities in the CDO are uncorrelated—that is, if they are unlikely to go bad all at once. Corporate bonds, for example, tend to have low correlation because the companies that issue them operate in different industries, which typically don't get into trouble simultaneously. . . . Mortgage securities, by contrast, have turned out to be very similar to one another. They're all linked to thousands of loans across the U.S. Anything big enough to trigger defaults on a large portion of those loans—like falling prices across the country—is likely to affect the bonds in a CDO as well. (Mollenkamp and Ng 2007; see also Davies and Ishmael 2008)

Instead of diversifying risk, major investment houses, banks, and others ended up acting in convergent ways. Either "too many funds bought the same assets" (Zuckerman and Strasburg 2009) or the "problem was that, while these assets are heterogeneous, the owners were not. In tough times they behaved the same way. . . . Diversification was therefore fake" (Lex Column 2008a).[5] Perhaps more troubling, efficient market mechanisms like auctions could not work because of the sheer complexity of the financial instruments to be auctioned.[6] Secretary of the U.S. Treasury Timothy Geithner summed the situation up succinctly: "As the [financial] system grew in size and complexity, it became more interconnected and vulnerable to contagion when trouble occurred" (2009).

For John Kay, a *Financial Times* columnist, the "financial innovation that was once the means of spreading risk is now an unmanageable source of instability" (2008). What were often intended to be tax- or regulation-avoiding financial instruments (see, for example, Houlder 2009) ended up as innovations—such as credit default swaps—that "turned into a monster . . . [and] came close to destroying the entire financial system," thereby playing a principal role in that "financial mess," according to Burton Malkiel, a professor of economics at Princeton University (2008). Writing about himself in the third person, a Goldman Sachs vice president who was the subject of a lawsuit said he was "standing in the middle of all these complex, highly leveraged, exotic trades he created without necessarily understanding all the im-

plications of those monstruosities [*sic*]!!!" (quoted in Rappeport 2010). While alarms were raised about these weapons of mass destruction (as Warren Buffett famously called them), many mainstream economists thought otherwise, thereby adding to the uncertainty. "I am surprised Warren Buffet [*sic*] is so unenlightened," said Robert Shiller, a professor of economics at Yale University, adding, "he is such a smart guy. Derivatives are just another form of risk management" (2003, 124).[7]

If a mess such as this has to be taken as bad, are there good messes to be managed out of any of it? By the time you read this, the financial upheaval of 2008 and onward will have joined with and transformed itself into all manner of other policy messes to be managed. We may well have returned to the novel financial instruments that got us into trouble in 2008 (Bullock, Demos, and Nasiripour 2012; Plender 2011a) and, before that, with Enron. We will be muddling through to some new "normal" in the midst of a sovereign credit crisis here, the pension overhang there, or debt and defaults wherever. Whether or not we will be managing the messes that ensue for countries, counties, cities, or corporations is altogether a different issue.

The irony in all this is that "mess" started out good. The first "policymaker's" mess was the officers' mess. The term "mess" initially meant a portion of food, "a mess of pottage." Later on the term came to denote partaking of meals together and, when at sea, the actual location where these meals took place—the mess decks (Dickinson 1973). Even today, good messes are to be found by those in search of them. When told that Britain's renegotiation of European Union membership would end in a muddle, Harold Wilson, then prime minister, responded: "I am at my best in a messy middle-of-the-road muddle" (quoted in Harding 2006).[8] The *Harvard Business Review* assures businesspeople that "messiness isn't all bad" (2003, 96), and an article in the same publication is titled "When Organization Messiness Works" (R. Freeland 2002). Eric Abrahamson and David Freedman's *A Perfect Mess* (2006) serves up the same idea in its subtitle: *The Hidden Benefits of Disorder—How Crammed Closets, Cluttered Offices, and On-the-Fly Planning Make the World a Better Place*.[9] Current research methods in the social sciences are, in turn, criticized for not taking mess seriously (Law 2004). As we will see later, mess takes center stage in the work of Russell Ackoff, the late professor emeritus in the Wharton School and a popular management and business expert.[10]

While good messes have been little studied in the policy analysis and public management literature, other disciplines have been more forthcoming. "All psychoanalyses are about mess and meaning, and the

links between them," according to Adam Phillips (2001, 59), a psychoanalyst and essayist:

> What is a good mess? Which might mean from whose point of view is it good (or bad) and what are the unconscious criteria for deciding? In one mood I might think despairingly, "This room is too cluttered"; in a different mood I might take it for granted, find it rather cozy, be impressed by being the kind of person who lives in creative chaos, and so on. In other words, what makes clutter work for us, and how does it work when it does? A good life, one might say, involves making the messes you need. (67–68)

The good mess, Phillips argues, is the mess that can be used (71). A rise in the ruble or fall in the price of oil creates messes that are good for some but not for others. "One investor's disclosure clutter is another investor's golden nugget," argues an informed observer about the debate on regulatory requirements (Jones 2012). Less overtly, the good mess can benefit only after being "stumbled upon" or found by asking: What is hidden, as it were, *by* plain sight that could be used? So too in "clutter you may not be able to find what you are looking for, but you may find something else instead while you are looking for it. Clutter may not be about the way we hide things from ourselves but the way we make ourselves look for things" (Phillips 2001, 64). How we use clutter depends on how we sort it out. When it is a rainforest, it is a mess we can use (for example, it could hold the cure for cancer); when it is a jungle, it is a bad mess of no good use (according to Kurtz's "the horror, the horror," in Joseph Conrad's *Heart of Darkness*). Abrahamson and Freedman's *A Perfect Mess* provides examples of when disorder leads to innovation or discovery.

If a good mess is a mess that can be used, then how can we use it? It depends on that word "use," doesn't it? Some of this is making the best of a bad situation. Researchers took advantage of the August 2003 North American power-grid blackout to evaluate and recalibrate models of the effects of power-plant emissions on smog and haze in the region and beyond (Marufu et al. 2004). Threats of network hacking sometimes bring forward upgrades that had been planned anyway (Sengupta 2012). Some of this is managing to look on the bright side: Atmospheric cooling was noticeable after all planes were grounded on 9/11 (Robbins 2007), while air pollution diminished significantly in Russia during the 1990s because of that nation's economic decline (Cherp, Kopteva, and Mnatsakanian 2003; Revkin 2006). Chinese air pollution, one headline tells us, led to more snowfall in California's Sierra Nevada mountain range (Upton 2012). The financial mess and

economic recession after 2008 led to an unprecedented fall in greenhouse gas emissions, according to a study by the International Energy Agency (Harvey 2009b). It may be that one environmental mess, the ozone hole, has protected Antarctica from an even worse mess, that being further melting induced by global climate change (Harvey 2009a).

Sometimes, however, the issue is one of pulling a good mess out from one that could go bad. One salutary, albeit unintended, effect of the Y2K retrofitting was the advanced contingency planning for information-technology management developed in response to the feared millennium bug (Valentine 2005). In the follow-up to legislation mandating "living wills" for major financial institutions that outlined how they would sell off major divisions should the need arise, one bank fortunately "discovered that it had only one global Microsoft Office licence, so its various divisions would be unable to communicate if the parent entity went down" (Masters 2011). When credit froze at the start of the financial mess, institutions such as the European Investment Bank and the World Bank were able to borrow money by issuing bonds at record-low interest rates; as one article noted, "the public sector has become one of the few beneficiaries of the financial crunch as a flight to quality has enabled these top-grade triple-A rated issuers to carry on regardless in the business of raising capital" (Oakley 2008). As the last example illustrates, good messes can as well go bad later on, unless they are managed reliably. I return later to this notion of "pulling out a good mess," but here I only note that a good mess is not just "a matter of perception." It is a matter of the actual behavior of professionals as mess managers, even if they realize the existence of the mess at the last minute or for a short time only.

Mess Managers, Not Crisis Management

Studies underscore the role of a unique cadre of professionals in managing critical services reliably (Roe and Schulman 2008). Staying with finance and banking for the moment, these professionals are the managers, operators, and support staff whose supervision, networks (formal and informal), and skills (measurable or not) ensure that financial services do not fail as often as they otherwise would in an interconnected financial sector. These are the people preventing the technical and system accidents or failures waiting to happen, albeit sometimes just under the wire, with close calls and near misses. The net present value of averting these failures is in the billions of dollars. These networks in-

clude engineers, IT specialists, front-line operators, and middle-level managers of control rooms, operation centers, and trading floors—and not just in the banking and finance sector, but in those electricity and telecommunications infrastructures without which financial services would not be reliable in real time. The professionals may include the chief financial officer, regulatory staffer, legislative analyst, supervisor or inspector, auditor, and others who ensure the safe and continuous provision of the critical service under severe time pressures. I describe these professionals in the subsequent chapters and identify the limitations of such professionalism when I focus on professional challenges in chapter 7.

There are no guarantees of persistent or universal success when it comes to this cadre of professionals. As the financial crisis demonstrates, mess can morph into crisis, and even the best mess managers can and do fail. "Could you just imagine the mess we would have had?" pressed Secretary of the U.S. Treasury Henry Paulson in defending the March 2008 bailout of the major investment firm Bear Stearns before the 2010 Financial Crisis Inquiry Commission (FCIC). "If Bear had gone there were hundreds, maybe thousands of counterparties that all would have grabbed their collateral, would have started trying to sell their collateral, drove down prices, create even bigger losses. There was huge fear about the investment banking model at that time" (FCIC 2011, 291).

For our purposes, a crisis is having to cope in the manager's no-go area beyond known patterns and scenarios. Let's call that area "unstudied conditions." "The truth is that no one in business has lived through a financial crisis such as this," the *Financial Times* reported in 2008, "so top executives and their advisers have no experience to draw on in evaluating the prospects" (Willman 2008). That said, this book is not about coping better with policy crises (for those interested in crisis management, see Boin et al. 2005). It is about how to manage so that a mess doesn't become a crisis. As the chairwoman of the Federal Deposit Insurance Corporation said, "We don't want to be glamorous; we want to be safe and reliable" (Bair 2009). While I have a great deal to say about how to manage the policy messes leading up to and following from a crisis, I hope to convince you that many messes, even some bad ones, can be managed differently than full-blown crises. In the same way that climate change, healthcare, and overpopulation are said to be crises, significant features of these issues continue to be policy messes that can be managed better for increased reliability.

If there is one major "crisis" examined in this book, it is that mess

management is being eroded by societal challenges when it need not and should not be. Let's now turn to a fuller explanation and description of the key terms "mess" and "reliability" and the ways in which they have become so knotted together that they can no longer be untied.