When applied to policymaking, economic efficiency becomes an elusive touchstone. Its value lies in allowing us to use the Welfare-Economics distinction between improvements in allocating and distributing resources to analyze the quality of political or bureaucratic decisionmaking. Mishan (1969) stipulates that good policy decisions produce outcomes that are simultaneously Pareto-efficient and “distributionally preferred” (i.e., promote egalitarianism).

Policy decisions that maximize social welfare balance marginal benefits and marginal costs across relevant opportunities, individuals, and time horizons in an economically consistent fashion. However, in practice, short-run political, bureaucratic, and careerist pressures can operationally narrow the term “relevant” in nonegalitarian ways that foster strategies that prove Pareto-inefficient when evaluated over longer periods and, even in the short run, are welfare-reducing in the Mishan sense.

In most nations, incentives for authorities to appropriately balance social benefits and costs rely on the alleged independence, professional ethics, personal honor, and reputational risk aversion of high officials, ordinary bureaucrats, and private watchdogs. Unfortunately, when policymakers face either a systemic banking crisis or the insolvency of a major bank, the first and last two controls create incentive conflicts that dispose authorities to concentrate on avoiding blame for either causing, spreading, or prolonging bank insolvencies. Few policymakers train themselves or their staffs to confront the incentive conflicts posed by multiple or large-bank insolvencies. The result is that such events throws them into an ad hoc framework of loss distribution that, to generate quick action, overly constricts the opportunities, individuals, and horizons that their decisions take into consideration.

A systemic banking crisis occurs when a number of individual economic insolvencies surface at the same time. A crisis is marked by open deposit runs and urgent bank (and borrower) pleas for debt relief. It may be envisioned as a political and economic struggle over how to design a tax-transfer program that serves to unwind the losses troubled banks have
accumulated and to distribute these losses and returns from continuing loss exposures between taxpayers and other bank stakeholders.

Every struggle may be likened strategically to a game. When insolvency resolution is played as a crisis game, it becomes an antiegalitarian contest, in which money and political power dictate the outcome. Especially in the short run, regulators and the average taxpayer lack the information, the expertise, and the political and economic weapons needed to defend taxpayer interests effectively against the strategic pressure that can be exerted by savvy large depositors and politically well-connected bankers and borrowers.

Section I introduces the concept of Safety-Net Capital and explains briefly why and how banks accrue this capital. Section II describes the conditions an ideal crisis-resolution strategy must meet and indicates that authorities could combine standstill agreements, relicensing arrangements, and prompt creditor haircuts to promote these conditions. Section III identifies impediments to adopting fair and efficient insolvency resolution policies and attributes the persistence of these impediments to difficulties of adapting a country’s regulatory culture to evolving weaknesses in its private contracting environment. Section IV reviews the four major policy lessons this paper seeks to communicate.

I. **Bank Insolvency, Contracting Theory, and Safety-Net Capital**

Banking is a risky business. Risk-taking can lead to insolvency and insolvency reduces a bank’s capacity to redeem its deposits and other debt. In a risky enterprise, contracting theory emphasizes that outside stakeholders must control incentives for opportunistic risk-taking by managers and owners (Jensen and Meckling, 1976; Diamond, 1984).

Given the speed with which a bank’s condition may sour, regulators and depositors have good reason to police bank risk-taking and capital positions. Economic analysis presumes that the desire to preserve their wealth would lead a bank’s counterparties to negotiate an efficient set of pledges and deterrent rights that protect their stake in any bank. In these negotiations, the bank has an incentive to reject a proposed restriction on its behavior if the marginal cost of the safeguard to the bank promises to exceed whatever reduction in financing costs the safeguard can generate.
Because contractual controls are never perfect, one’s first defense against being victimized is to screen potential counterparties’ past behavior for evidence of good character. Even where information flows are spotty and unreliable, a banker or borrower can lower its marginal cost of bonding its contract performance by investing in a strong reputation. The marginal benefits of these investments are larger the weaker is the regulatory and legal environment and the more strongly that cultural norms imbedded in the economic environment reward truth-telling and honest dealing. A counterparty’s word can be an effective bond only in circumstances where the value of preserving one’s honor is extremely high or where counterparties can punish noncompliance in timely and possibly brutal ways.

For depositors, individually negotiating and enforcing safeguards may be inefficient. In principle, a properly incentivized third-party regulator can lower the costs of monitoring and policing bank behavior in two ways: (1) by centralizing the task of extracting and analyzing relevant bank and borrower data, and (2) by better and more promptly co-ordinating actions designed to curtail bank risk-shifting. Recognizing the threat posed by residual weaknesses in private and regulatory contracting, taxpayers expect governments and institutions in every country to bond their performance by contributing to a formal or ad hoc safety net.

From an economic perspective, an enterprise becomes insolvent when its ability to issue and service debt can no longer be sustained from its own prospective earnings. Economic insolvency is very different from accounting insolvency, which occurs when the book value of an institution’s assets falls below the book value of its liabilities. Economic insolvency is a more fundamental problem whose visibility is obscured by discretionary leeway in whether and when losses and loss exposures must be recognized. In practice, accounting insolvency seldom occurs until long after enterprise-contributed net worth is exhausted. This is because an insolvent bank can stay in business as long as it can maintain the capacity to transfer potential depositor losses to implicit and explicit elements of the country’s safety net.

Financial safety nets stitch together three policy strategies designed to help troubled banks to withstand (at least temporarily) customer pressure for immediate closure: (1) procedures for sustaining a troubled bank’s liquidity; (2) procedures for delaying the recognition and resolution of economic insolvencies; and (3) procedures for drawing other
parties (especially taxpayers) into the process of absorbing bank losses. Whenever market and regulatory discipline are suboptimal, each of these procedures expands opportunities for banks to shift risk. An inadequately constrained bank can profit by increasing its insolvency risk: expanding its leverage and/or fattening simultaneously the positive and negative tails of its return distribution. When it is successful, risk-shifting conveys to bank stockholders an intangible claim that Kane and Wilson (2002) call “safety-net capital,” $S_N$.

$S_N$ capitalizes safety-net subsidies. The crisis game promises to generate contingent subsidies even if a country’s procedures for helping troubled banks are entirely implicit (i.e., merely conjectured) rather than being spelled out explicitly in policy guidelines or formal statutes. Although not recorded on a bank’s conventional balance sheets, the value of $S_N$ is impounded in its market capitalization.

II. Benchmarking the Costs and Benefits of Egalitarian Crisis Resolution

Kane and Klingebiel (2004) portray the resolution of an insolvency crisis as a multiperiod optimization problem that unfolds over three phases: immediate damage containment, medium-term industry restructuring, and a long aftermath. For implicit and explicit expenditures on containment strategies ($C_S$) to be optimal across the three phases, authorities must consider not only the net benefits that containment expenditures yield during phase one ($B_1$); they must also take account of whether and how the resources expended could have been used instead to increase the discounted value of the maximal restructuring benefits ($R_1$) achievable during the next two phases. Restructuring benefits may be modelled as a portfolio of second-phase and third-phase policy options that are either preserved, opened, or closed by the containment policies employed. The value of restructuring options depends to a first approximation on the value of the resources that are put aside to spend on them ($R_S$) and on the volatility ($V$) of the subsequent banking environment.

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1 This section draws heavily on Kane and Klingebiel (2004), a paper that seeks to convert case-study information on crisis management in 12 countries into rudimentary frequency distributions of crisis-resolution actions and their consequences. In this sample, crisis-management strategies followed in the philosophically more-egalitarian countries of Scandinavia proved superior to those pursued in other regions.
Assuming that authorities’ decisionmaking horizon extends across all three phases, a time-consistent and egalitarian containment strategy would maximize a two-piece social welfare function:

\[ W = B_1(C_S) + R_1(R_S, V), \]  

subject to budget restraint \( T \) given by the explicit and implicit fiscal resources that can be assigned to implicit and explicit crisis-management expense:

\[ C_S + R_S = T. \]

A major impediment to adopting this ideal strategy is the overly optimistic presumption that fair and efficient crisis-containment strategies can be devised in the turmoil and conflict experienced during an actual crisis. In fact, because the occurrence of a crisis strongly threatens the survivability of the incumbent government and the professional reputations of high officials, it tends to dramatically shorten authorities’ policymaking horizon. Officials are tempted to adopt containment policies that favor the government’s political supporters and to assign insufficient weight to how these policies harm the restructuring options available to decisionmakers in the second and third phase of the crisis.

A banking crisis resembles a spreading fire. Banks suffering open deposit runs may be deemed to be on fire. Supervisory personnel resemble firefighters seeking to control the fire. Containment strategy, like firefighting, seeks to locate individual fires and to stabilize the situation.

Efficient crisis management begins with an admission that, like a multialarm fire, a systemic financial crisis can hit anywhere and with little advance warning. Again, like a major fire, the damage a crisis ultimately works on the financial sector, on the real economy, and on the average taxpayer can be contained by timely and skillful treatment. To be able to efficiently stop an emerging crisis from escalating, emergency response teams must be assembled in advance and trained on a standby basis (Kane, 2001b). It is unreasonable to ask emergency response teams to learn to use the financial equivalent of gas masks, multistorey ladders, and high-pressure hoses on the fly.

During the containment phase, authorities seek to assess and arrest the damage the system is experiencing. Like firefighters, their duties are to sort out which of the institutions that are on fire can and cannot be saved and to minimize the damage to other structures by spraying on enough liquidity to restore public confidence in salvagable banks’ ability to meet
legitimate customer demands. Alternative containment policies differ in the time and resources devoted to the sorting activity and in how interim liquidity is generated and disbursed.

How well and how cheaply the many damaged institutions can be rehabilitated depends very much on how the firefighters approach their jobs. The sooner and more accurately they can identify hopelessly burnt-out banks, the better.

Financial-sector restructuring resembles the follow-up task of rebuilding a fire-damaged neighborhood. Restructurers use sophisticated methods to estimate asset values and to shore up salvageable institutions’ profitability and reputation. Their task is to identify, clean up, and consolidate the portfolios of insolvent banks and to see that the capital position of the reconstituted firms is adequately restored by financial engineering.

Mechanisms for Decreasing Public Loss Exposure: Standstills, Relicensing, and Haircuts

Containment treatments consist of haircuts, standstill requirements, loans, credit lines, and guarantees. Haircuts reduce the value of creditor claims to realistically collectable values that lie below contractually specified amounts. Standstills put the claims of various private parties on hold for a specified period of time. Other treatments create a series of immediate or deferred government obligations. The credibility of these obligations depends on the government’s ability to service them. This fiscal capacity depends in turn on officials’ ability to scale back other planned expenditures and to collect new taxes.

Emergency loans to troubled banks help the macroeconomy by providing funds with which to service customer demands for immediate liquidity. Credit lines are meant to relieve customers’ anxiety and to curtail their immediate demands by committing the government to provide future liquidity support as needed. Long-lasting commitments make it reasonable for customers to believe that they can successfully extract funds from troubled institutions whenever in the future they might need them.

Guarantees are credit enhancements. They allow damaged banks to borrow from other parties on the credit of their governments. The amount by which the guarantee lowers a bank’s cost of funds measures the gross value of the “bailout” the guarantee delivers to the bank.
To the extent that government loans and credit lines are written at a below-market interest rate, rescuers implicitly pump free equity into the recipient is capital structure. When the government does not plan to ask banks to fully compensate it for the costs of supporting the credit enhancement, some of this free equity capital is transferred from taxpayers to stockholders and creditors of recipient banks. Honohan and Klingebiel (2003) define the capital that emergency treatments assign to troubled banks as the bailout cost of the containment strategy ($C_S$).

At the margin, increased expenditures on containment entail two tradeoffs. They reduce the restructuring budget. They also promise to reduce volatility $V$ during the second phase, but this benefit comes at the expense of raising industry volatility and safety-net subsidies during the aftermath. Assuming $\frac{d^2W}{dC_S^2} < 0$, optimal containment policy would balance the opportunity costs and benefits of shifting the last dollar of available fiscal resources between containment and restructuring, so that:

$$\frac{dB_i}{dC_S} = -\frac{dR_i}{dC_S}.$$  

Blanket guarantees cover all liabilities and all banks regardless of their economic viability. Issuing blanket guarantees violates the intertemporal optimization condition (3) and ultimately explodes the intertemporal budget restraint $T$ by relieving firefighters of their target-selection responsibilities and deferring all triage activity to the restructuring phase. By issuing blanket guarantees, a government can avoid having to designate the liabilities of burnt-out institutions as unworthy of government support. However, no matter what political and administrative benefits blanket guarantees generate, keeping moribund institutions fully licensed generates excess costs to taxpayers over the crisis as a whole. Moreover, because it cedes control over future restructuring costs in part to the machinations of the country’s weakest institutions, the loss tends to increase the longer the guarantees are kept in place.

Governments that try to contain a spreading financial crisis by guaranteeing the liabilities of hopelessly insolvent banks paint themselves into a corner. Their first challenge is to convince skeptical depositors that authorities possess the political will and fiscal capacity to make good on the full range of their guarantees. Otherwise, emergency guarantees will appear inadequate and feed new and hotter fires. The problem with indiscriminate guarantees
is that, as long as a deeply insolvent bank remains fully licensed, clever depositors can cut their losses by removing or collateralizing their deposits. These actions decrease the “haircut” that the government can impose on them when the bank’s insolvency is finally resolved.

Assuming its guarantees are credible, the government faces three follow-on challenges: to control the amount of new debt that wounded institutions load onto the balance sheet of the government, to control how prudently guaranteed institutions invest the funds they receive, and to cut back or eliminate the guarantees once the restructuring process goes forward. Licensed banks whose credit is fully guaranteed can issue the functional equivalent of new government debt as long as they remain open. This tempts managers of insolvent banks to abuse their access to government assistance by taking on extremely high-risk projects. Although abusive “gambles for resurrection” reduce the nation’s capital stock, they make sense to owners and managers of insolvent banks. The government guarantor accepts the full downside of these banks’ future losses, and at least in the short run the guarantor is very likely to capture all but the most outsized positive returns.

Standstill Requirements. The simplest standstill requirement is a brief timeout taken to allow government forensic analysts and private auditors to assess the depth and character of troubled banks’ structural problems. The purpose of a several-day “banking holiday” is to allow specialists time to diagnose individual-bank insolvencies and to recommend and impose preliminary haircuts on formally uninsured depositors and nondeposit creditors before these parties can liquidate or collateralize their exposure in the bank. To assure prompt markdowns, authorities in all countries would be well-advised to follow New Zealand’s lead. New Zealand is establishing a computer-actuated capability at individual banks that could pass changes in the accounting value of creditor claims through their balance sheets virtually in real time (Harrison, 2004). (Governments might even specify in advance that deposits withdrawn during the last few days of a holiday-causing run would be reversed and subjected to haircuts as well.) In any case, haircuts reduce the depth of each bank’s insolvency by cramming down the enforceable size of its debts. Haircuts protect taxpayers by lessening the extent to which restructuring has to depend on taxpayer-financed loans, credit lines, and guarantees.

Using the holiday to prepare a program of limited guarantees and to write down insolvent banks’ uninsured deposits to values that their earning assets can genuinely service
promises to simultaneously restore public confidence both in the government and in the banking system. Examining the aftermaths of pre-1992 systemic crises in which governments assigned losses to depositors of insolvent banks, Baer and Klingebiel (1995) find that the positive benefits of reducing depositor uncertainty relatively quickly overcame the negative effects that surviving banks experienced from the deposit writedown.

The social goals of fairness and avoiding civil unrest are best served by minimizing the haircuts imposed on very small depositors. Small depositors are unlikely to be sophisticated enough to have discerned in timely fashion that their bank was not well run and, in any case, maintaining low-income households’ ability to feed and house their families over the near future deserves high priority.

The same two goals dictate that, at the end of the holiday, larger uninsured depositors be promised a just degree of immediate fractional access to their transactable deposit balances (Kaufman and Selig, 2000). Of course, when a bank’s portfolio proves particularly difficult to value, term depositors and nondeposit creditors (particularly foreign ones) might be forced to wait longer.

Far-broader timeout strategies are possible, and might prove useful in countries that lack U.S.-type bankruptcy protections for sustaining the circular flow of income and production. In an economy undergoing widespread corporate distress, a government might mimic U.S. Chapter 11 protections and conserve productive assets by instituting a grace period during which major creditors of any important nonbank corporation would be required to let the debtor delay payments of principal and interest due on existing bond or loan contracts. These delays would grant important borrowers and their creditors time to work out—aided perhaps by administrative courts or qualified mediators or arbitrators—a replacement contract structure. The new contracts would cram down the obligations of damaged debtors to levels that they or their successor corporations or receivers can fairly and realistically be expected to service in the wake of the crisis.

Forcing private parties to renegotiate unenforceable contracts is sometimes termed a “bail-in strategy.” As with the haircuts imposed on bank creditors, reducing the formal obligations of bank borrowers or converting their debts into equity positions before issuing government bailout loans or guarantees would trap creditors that financed weak institutions into participating more fully in the intersectoral loss-absorption process. The strategy seeks to
prevent better-informed private stakeholders in insolvent banks and businesses from using covenant and other contractual rights to seize collateral or accelerate their particular claims on banks and bank customers at the expense of other claimants and of the level of current production.

The speed and accuracy with which containment haircuts can be sized and banks relicensed depends on the extent to which appropriately trained valuation professionals exist and can be deployed in emergency teams by the supervisory agency (Pomerleano, 2002; Kane, 2001a & b). Especially in countries that combine weak accounting standards with feeble contract enforcement, a margin for error must be built into haircut and relicensing decisions. To protect the average taxpayer, the margin should increase with whatever gap exists between the complexity of the insolvent bank’s positions and the skills of the appraisal team.

Explicit netting agreements and rights of set-off that foreign creditors enjoy in offshore jurisdictions tend to reduce the size of the haircut they can be made to absorb. Foreign creditors pose additional problems in that they may be better informed than domestic creditors and be able to move funds out of the country just before the crisis breaks. Even in the midst of a banking holiday, they may be able to undertake trades on multinational networks that further reduce their haircut exposure. The need to confront these problems explains why controls on capital movements are often included in crisis-containment strategies.

A depositor timeout that lasts for weeks or months is called a “deposit freeze.” As long as even a partial deposit freeze lasts, it curtails the liquidity of affected customers and reduces the nation’s aggregate money supply. To minimize customer inconvenience and macroeconomic fallout, salvageable banks should be relicensed and even at banks that are delicensed and placed in the restructuring program, insured depositors should be granted access to their funds as soon as this becomes administratively feasible. It must be emphasized that crisis managers are bound to mishandle holidays, freezes, and relicensing if they have not engaged previously in disaster-planning exercises and crisis-management simulations.

Relicensing and Liquidity Support. Walter Bagehot’s (1894) time-tested policy advice for managing aggregate liquidity during a systemic crisis is for the central bank to lend freely to solvent banks—albeit at a penalty interest rate and only on good collateral. This policy limits
the taxpayer burdens that emergency lending can generate and creates an incentive for
borrowing banks to repay their loans promptly when the crisis eases.

The obverse of this advice is for governments to avoid lending to insolvent banks *at all*, even on good collateral and certainly *not* at below-market interest rates. Such banks’ ability to raise and invest new funds must be curtailed by delicensing. Collateralized loans to insolvent banks unfairly undermine the positions of depositors and the deposit insurer by stripping away some of the bank’s best loans and investments from the already undersized pool of assets on which other claimants must rely for repayment. Collateralized government loans to insolvent banks harm holders of these banks’ pre-existing liabilities in two ways: *directly* by increasingly limiting their chances for repayment to recoveries from poorly performing assets and *indirectly* by generating incentives for borrowing banks to invest any new funds these deals raise in excessively risky ways.

The time frame over which insolvent institutions extract liquidity support typically begins several months before the onset of systemwide depositor runs. The very noisy and unserviceable runs that bring a systemic crisis to a head are preceded by less-disruptive “silent runs” on individual institutions. The trigger for a silent run is that the aggregate size of capital shortfalls at insolvent banks becomes so large that savvy large-denomination depositors begin to doubt that the government has the fiscal capacity to honor its implicit and explicit guarantees of troubled institutions’ outstanding liabilities.

Once individual depositors of an insolvent institution doubt the government’s ability to underwrite bank losses, they have an incentive to quickly collateralize their deposits or redeem them at par before an open run can close this option to them. The deeper they suspect a bank’s insolvency to be, the stronger this incentive becomes. Even in countries with well-developed capital markets, troubled institutions cannot easily sell customer loans for fair value prior to maturity. This means that an insolvent institution’s first line of defense against a silent run is to take out collateralized loans secured by its best assets from various counterparties, including especially the central bank and stronger institutions (often foreign ones).

As the fraction of depositors seeking redemption and collateralization grows, an insolvent bank’s use of liquidity enhancements becomes larger and larger as well. For this reason, supervisory authorities should require banks to file daily or weekly reports on
positions whose growth can signal the existence of a silent run: collateralized deposits, repurchase agreements, and central-bank and foreign borrowings. When their early warning signals flash authorities should send valuation experts to investigate the quality of the ailing banks’ loan portfolios and reporting systems. Even though this fact-driven examination strategy might advance the onset of systemic pressure, it would constrain the ultimate size of aggregate insolvencies by blocking last-ditch gambles for resurrection. It would also reduce the government’s overall loss exposure by making it harder for sophisticated depositors to escape their fair share of bank losses.

To embrace Bagehot’s advice, a crisis government must have planned for crisis by assembling an administrative staff that can distinguish quickly between deeply insolvent banks and those that are solvent enough to be salvageable. (It might also prepare itself to enlist a multinational team of experts to supplement in-house skills.) To access the budgetary resources necessary to cull insolvent banks promptly, officials’ commitment to the norms of egalitarianism and honest dealing must be strong enough to resist the strong political pressures a crisis unleashes to rescue powerful special interests at taxpayer expense.

III. Determinants of Safety-Net Capital

The magnitude and frequency of safety-net support varies both across countries and over time. The marginal costs and benefits an individual bank experiences in expanding or narrowing the risk-shifting options imbedded in $S_N$ are affected by the ways in which over time a country marries its bank-customer contracting environment with the limitations on government monitoring and enforcement activity inherent in its regulatory culture.

a. Dimensions of a Country’s Contracting Environment. A major feature of any country’s contracting environment is the mechanisms that firms and governments use to strengthen the enforceability of nominal stockholder and creditor claims to corporate cash flows. These mechanisms include contractual credit enhancements (such as collateral and third-party guarantees) and less-specific guarantees implicit in the quality of a firm’s management and corporate governance.
A country’s narrower bank-customer contracting environment has three principal dimensions: (1) the quality of the information that banks and counterparties exchange (informational transparency, $T$); (2) the strength of the performance bonds and deterrent rights counterparties can negotiate to protect their stake in individual banking deals (deterrency, $D$); and (3) the extent to which regulatory arrangements do or do not effectively compensate for weaknesses in $T$ and $D$.

Information may be defined as knowledge or news about broad market forces and individual-borrower prospects that a competent economist could use to produce an unbiased estimate of the opportunity-cost value of a bank’s tangible and intangible net worth. Governments regulate transparency by requiring banks to submit to outside examinations and to publish regular financial statements under penalties for fraud and negligent misrepresentation. Despite these safeguards, banks routinely engage in “window-dressing” and government examiners are expected to treat adverse examination data as confidential. When the industry is weak, authorities typically go even further, helping banks to put a favorable “spin” on whatever unpleasant facts are leaking out.

The risk-shifting opportunities a bank enjoys depend on the vision and deterrent rights that its counterparties and supervisors possess and on these parties’ incentives and ability to exercise their risk-control options *promptly*. Because regulatory discipline tends to displace at least some private discipline, the net social benefits that society derives from enhancements in government supervision are easy to exaggerate. The extent ($R$) to which regulation actually compensates for weaknesses in the bank-customer contracting environment tends to be greater in ordinary times than when a crisis threatens or ensues. The implicit elements in a country’s safety net become directly observable only in crisis circumstances. During crises, government enforcement of risk-control measures typically deteriorates as political pressure for government-sponsored bailouts of powerful parties becomes intense.

In turn, the safety-net capital that surfaces in a crisis establishes precedents that promise to worsen future bank behavior. To weaken this effect, taxpayer pressure for improved disclosure and supervision encourages authorities to strengthen chartering criteria, disclosure requirements, and capital regulation to some degree when a crisis is past. Still, the precedent established by rescue operations reinforces the perception that governments and multilateral institutions will do what it takes to protect major banks during future crises.
Patterns of regulation that decrease the probability that a bank will ever be liquidated simultaneously lessen private counterparties’ incentives to invest time and energy in monitoring their banks or to respond promptly to evidence of bank weakness. Regulators’ reluctance to fail and unwind large domestic banks inefficiently encourages managers of these banks to grow by absorbing smaller competitors and delivers benefits to foreign banks that deal with these banks and their customers.


It is reasonable to suppose that how well the incentives of top regulatory officials align themselves with societal interests during the crisis game depends on officials’ accountability (A) for policy mistakes and ethical lapses. Accountability expresses the extent to which officials can be made to answer after the fact both for losses and loss exposures that regulators failed to recognize or deter in at timely manner during the precrisis period and for having accepted corrupting benefits from banking interests for resolving insolvencies in industry-subsidizing ways.

Opportunities for a bank to engage in precrisis risk-shifting may be said to vary inversely with the quality of its contracting environment (E) and the quality of regulatory oversight (R). This means that, at any time, SN should be a decreasing function of E and E itself should be an increasing function of transparency, deterrence, and regulatory accountability.

\[ E = E[T, D; R(A)] \]  

(4)

The semicolon in Eq. (1) expresses the hypothesis that other equations exist in which variation in A and R both influence and respond to the level of T and D.

Bank regulation and supervision may constitute a complex game of “Cat and Mouse.” Bankers routinely conceal from external auditors and government examiners at least some adverse elements of their firm’s economic condition and performance and at least a few of the unhedged elements in their risk-management program (e.g., the extent to which recourse is implicitly conveyed to investors in credit-card securitizations). Troubled banks are usually
masters of concealment, persuasively mischaracterizing lasting problems as temporary
difficulties that are going to be cured by (projected) future profits.

Insolvency resolution cannot be fully efficient unless banking regulators faithfully
perform four duties of “public stewardship” that I believe common law imposes on all public
servants:

1. **Vision** (maintaining a capacity to recognize risk-taking and capital shortages in timely
   fashion);
2. **Prompt corrective action** (being committed to control the value of implicit and explicit
guarantees);
3. **Least-cost resolution** (efficiently curing insolvencies that corrective action fails to
   avert); and
4. **Truth-telling** (keeping taxpayers informed about the opportunity costs of regulatory
   strategies).

Before insolvency resolution can begin, regulatory personnel must unearth and competently
analyze enough hidden information to declare the bank legally insolvent. This search for
hidden evidence as well as the ways in which regulators respond to this evidence are limited
by a country’s particular regulatory culture. In the U.S., the FDIC Improvement Act of 1991
establishes accountability only for the middle two duties. Not enforcing the duty of vision
makes it easier for regulatees to keep an informational edge on regulators. Not enforcing the
duty of truth-telling enables regulators to keep taxpayers and politicians poorly informed
about defects in regulatory structure and performance.

Anthropologists define a culture as ways of living that are built up by a group of
humans dwelling in a perceived community and transmitted across generations. By analogy,
a country’s regulatory culture is a set of traditions, values, and beliefs that dictate how
members of a country’s regulatory community are supposed to act. The norms of this culture
must be consistent with national standards of fair play and with limits on the use of
government power embodied in a country’s larger political and legal environment.

Regulatory cultures differ in the regulatory rights they convey, in how they convey
these rights, and in how they constrain the exercise of these rights. Important differences
affect six component processes of rule-making and enforcement:

- **Statutory Authority and Reporting Obligations**
• Formulation and promulgation of specific rules
• Technology of monitoring for violations and compliance
• Penalties for material violations
• *Ex Ante* Accountability: Due process with assigned burdens of proof (to guarantee fairness)
• *Ex Post* Accountability: Rights of appeal (to bond the fairness guarantee).

Cultures do not remain static. Over time, the effectiveness of a given regulatory culture may be undermined by innovations in regulatees’ concealment capacities and increases in regulatees’ political clout. To function efficiently in a world of rapid technological and political change, each component process must be able to adapt promptly and appropriately to changing circumstances. However, regulatory norms are designed to accommodate industry political interference and to limit the speed and extent of regulatory response to emerging problems or new ways of doing things.

In modern nation states, norms that restrict regulatory authority and its exercise are rooted in a distrust of governmental power that traces back to cruelties unleashed on the populace in the near or distant past when the country was occupied, colonized, or run by ruthless monarchs or one-party governments. Four such regulatory norms are nearly universal. Together, they allow an economically insolvent bank to extend its life beyond (usually far beyond) the point of economic insolvency:

1. *Industry-Support Norm*: This norm allows innovations in concealment capacity or risk-taking to expand until their adverse effects can be proven.
2. *Mercy Norm*: This norm grants supervisory and regulatory favors to bankers whose losses appear to trace to “bad luck” that are denied to bankers who aggressively or fraudulently flout the rules.
3. *Presumption-of-Innocence Norm*: In applying the mercy norm, this presumption gives individual banks the benefit of any doubt. It demands that bank examiners and higher government officials treat accounting and control weaknesses as evidence of bumbling rather than bad faith until their trust in a bank’s management team has completely and convincingly evaporated.
4. **Job-Simplification Norm**: This norm generates a particular aversion to failing and unwinding large or complex banking organizations or to engaging in detailed crisis planning that fair and efficient insolvency resolution demands.

**IV. Summary Implications**

This paper sounds four themes. First, delays in confronting and resolving financial distress increases the depth and duration of banking crises. Second, norms that prolong these delays are to varying degrees built into the regulatory structure of individual countries by endogenous political and bureaucratic forces. Third, these same norms support unfair and inefficient patterns of initial crisis containment that increase the overall cost of crisis management (Honohan and Klingebiel, 2003) and the extent to which the average taxpayer is made to shoulder this cost (Halac and Schmukler, 2004). Fourth, regulators and supervisors could lessen these costs by planning explicitly for crises and debugging these plans by conducting simulated exercises in crisis containment and resolution at regular intervals.²

Requiring supervisory personnel to manage a simulated crisis has several advantages. The process would force top officials both to plan in detail and to staff for actual crises. In setting up a crisis-containment fire drill, planners would be able to design their agencies’ response protocols in full recognition of the limitations on actions imposed by their regulatory culture, but in the absence of the disruptive distributional politics they would face in an actual crisis. They would also be able to test and coordinate the protocols they formulate without risking irreversible damage to either the national economy, their agency’s budget, or their individual careers. At the same time, these exercises would provide a way to drill into institutional memory the lessons learned in temporally and geographically distant crises. Finally, publicizing the protocols in advance of any actual crisis can impart to agency personnel the confidence to apply these lessons aggressively.

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² At the FDIC, the Dallas office conducted such an exercise for the first time in 2003.
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