RELEVANCE AND NEED FOR INTERNATIONAL REGULATORY STANDARDS

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In producing financial services, reliance on transactional and informational networks makes strategic complementarities commonplace. These complementarities mean that coordinating the actions of competing institutions can manifestly increase their aggregate marginal return. However, increased coordination may or may not increase social welfare. Cooperative behavior can improve the industry’s marginal return in two very different ways: (1) by increasing the perceived quality of regulatee products by enhancing at low cost the confidence and convenience these products offer to consumers, or (2) by fostering cartel or subsidy arrangements that increase industry revenues at the expense of the welfare of parties in other sectors of the economy.

As Figure One illustrates, regulators cut through and reorient individual-producer preferences by adopting tandem strategies of rule-making and enforcement. Their *modus operandi* is not to brutally force each regulatee to obey their dictates, but to restructure regulatees' incentives in hopes of making compliance in regulatees' best interests.

Cutting away pieces of others' incentives is a delicate art, one which inevitably produces both predicted and unpredicted effects. Whether one is prepared to view all allegedly unpredicted effects as truly unintended depends on one's theory of the regulation process. Public-interest theory views a nation's regulators as faithful agents for society that singlemindedly pursue the common good. In this theory's ideal world, financial regulators seek to solve the coordination and cooperation failures associated with the decentralized joint production of "real" financial services in a socially optimal way.¹ Public-choice theory views regulation more realistically as the outcome of efforts

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¹ Instructive game-theory definitions of coordination failures and their resolution may be found in Bryant (1997) and Cooper and John (1988).
of interest groups, politicians, and bureaucrats to direct the coercive powers of government to generating personal benefits as well. In the public-choice paradigm adopted here, the incentive adjustments regulators actually choose to establish depend on how the relative lobbying power of different sectors affects the incentives under which regulators themselves labor.

The globalization of financial markets extends the strategic complementarities with which financial institutions and individual-country regulators must contend. By enlisting as coach-like members of a country's financial-service production team, individual-country regulators introduce new strains of spillovers and strategic complementarities into producer and consumer return functions around the world.

Government spokespersons presume that we can measure the success of any round of multicountry negotiations by the breadth of agreement it achieved in benchmarking future regulatory performance. However, the touchstone by which economic theorists seek to judge the success of any agreement is how fairly and efficiently its benchmark standards \( S \) redistribute the effects of intercountry spillovers and complementarities on individual-country welfare.

Public-interest theory holds that it is reasonable to expect externalities to be efficiently internalized within a single country. However, it acknowledges that individual-country regulators will not sign an international agreement on regulatory standards and procedures unless the agreement yields a net benefit for their particular country (Guzman, 2000). Public-choice theory is even more skeptical. It warns that extraterritorial agreements will be seriously flawed unless the regulators that negotiate them can be made accountable not only to regulated institutions, consumers, and taxpayers in other countries, but also to regulatees, consumers, and taxpayers in their home countries (Kane, 1999; Herring, 1999). This is because the interest of individual-country regulators in cooperating with one another is attenuated by their contrary private interest in serving politically powerful local constituencies and maintaining a capacity to compete with one another for jurisdiction over the affairs of multinational financial institutions.

To clarify the issue, we may denote the global welfare associated with a particular international standard \( S_k \) in time period \( t \) as \( W_t(S_k) \). If we treat the social rate of discount
as stationary over time at $r$, the optimal timepath for international standards $S^*_r$ would be the trajectory that maximized over time and feasible trajectories $S_{kt}$ the present discounted value of the net social benefits of regulation $R$, where $R = \int_0^{\infty} e^{-\sigma t} W_t(S_{kt}) dt$. We take it as axiomatic that the faster financial and regulatory technology change, the more frequently loopholes and new problems would emerge and as a result the more substantially optimal standards would change over time.

Rather than maximize $R$, public-choice theory presumes that, if negotiations were instantaneous, the standards negotiators could actually agree upon would maximize $R_C$ the present discounted value of an objective function $U$ in which the negotiators balance potential global welfare benefits $W$ against narrow sectoral benefits $P(S_{kt})$ that accrue specifically to themselves and their principals:

$$U_t = U[W(S_{kt}), P(S_{kt})]$$

$$R_C = \int_0^{\infty} U_t(S_{kt}) dt$$

Recognizing that negotiations are usually difficult and time-consuming clarifies that negotiated standards are likely in most periods to deviate greatly from optimal standards and that the average size of these deviations would increase with the age of the standards, the diversity of individual-country interests, and the rate of technological change.

Realistically, occasional and protracted negotiations are unlikely to produce a near-optimal solution to a contracting problem that requires carefully tailored adjustments in time, space, and regulatory protocols. It is not enough to align regulatory incentives statically across culturally variegated sets of high-income and low-income countries. An ideal program must adjust these incentives over time to keep them mutually aligned, especially during intervals when a local financial crisis begins to emerge in one or more particular countries. At any time, some countries will see a global standard as asking them to export regulatory benefits and to import regulatory costs. Not only must benefit-importing countries pay exporting governments compensation, the amount of this compensation must vary period by period with changes in the social value that individual countries attach to their export balance.
The analysis offered in this paper begins by distinguishing between low-income governments that see themselves as exporting—and high-income governments that see themselves as importing—net benefits from mutual commitments to guard against and resolve a domestic crisis in a globally optimal way. The relevance of this distinction is suggested by one-way flows of IMF and bilateral crisis aid to low-income countries on the periphery and by the failure of any developing country to participate at the Bank for International Settlements (BIS) in writing the 1988 Capital Accord which established risk-based capital standards (Fratianni and Pattison, 2000; Wagster, 1996). The impetus for the BIS standards is consistent with the hypothesis that the bigger a country's financial sector, the more its government is apt to worry about experiencing losses from imported crisis pressure. However, the failure of existing and proposed standards to specify domestic crisis-management strategies suggests that, in financial-center and developing countries alike, regulators are less than equally concerned about inefficiencies their citizens might experience from allowing authorities to resolve domestic crises in ad hoc ways.

The paper sounds two themes. First, to be economically efficient, regulatory standards must embody market-mimicking concepts of insolvency, insolvency prevention, and insolvency resolution. Regulatory standards must not be limited to strategies for crisis prevention. Efficiency requires that regulators in different countries credibly commit themselves and their successors to fair and efficient policies of crisis management as well. This means surrendering the option to assess political pressures for and against bailout and to let this pressure determine their response.

The paper begins by developing a model to show that unless both dimensions of the loss-control problem are satisfactorily addressed, the potential benefits wrought by an internationally negotiated standard of insolvency resolution and crisis prevention will fade at the very times that adherence to the standard might globally do the most good. Sections II through IV define an efficient standard of crisis management and explain how this standard conflicts with the culture of regulation in place in most countries.

Public-choice theory treats authorities' reliance on ad hoc rather than market-mimicking strategies of crisis management as evidence of weaknesses in public-sector governance that foster conflicts of interest between taxpayers and financial regulators in
individual countries. Kane (1999) argues that incentive breakdowns need to be understood and addressed in individual countries by more efficient forms of public-service contracting before truly reliable international regulatory standards may be expected to evolve. Sections V and VI sound the paper's second theme, which is that international regulatory competition is a slower-working but --in a world of rapid technological change-- more effective mechanism for spreading efficient standards than incentive-conflicted international negotiations.

I. Difficulty of Permanently Reconciling Divergent National Interests

Herring and Litan (1995) review the recent history of international agreements aimed at controlling cross-country spillovers of financial-crisis pressures. These authors note that individual-country governments "inevitably are drawn into adopting policies that level the playing field so that the firms owned by their domestic residents will not be put at a competitive disadvantage relative to foreign-owned firms" (p. 95).

To simplify the exposition, let us assume that in negotiating an international regulatory standard the policy preferences of individual governments fall into one of only two camps, divided according to their per capita income. High-income countries (H) -- including regional trading centers such as Singapore and Hong Kong-- want a tough minimum standard $S_H^*$ containing the many risk-control features enumerated by Goldstein (1997). On the other hand, low-income governments (L) prefer a much looser minimum standard $S_L^*$. As compared to $S_H^*$, $S_L^*$ would allow domestic banks in low-income countries to operate with less capital, less-informative accounting principles, and greater reliance on subsidized loans to government-selected sectors of the local economy.

In many developing countries, authorities' preference for lax standards is supported by an expectation of IMF backup and four dangerous delusions about the feasibility and relative harmlessness of permanently supporting weak banks. First, although they understand that corruption in government and weaknesses in the corporate governance of banks and other corporations affect the distribution of income, they doubt that the insolvency these conditions foster works much macroeconomic harm. Second, they view investment projects maintained by corrupt loans and politically directed credit programs as adding dollar-for-dollar to their nation's aggregate stock of productive
capital. Third, they remain confident that authoritative-sounding official testimony about
the continued soundness of an insolvent banking system can neutralize informed private
criticism and keep most local depositors from experiencing doubt. Finally, they suppose
that resolving systemic bank insolvency requires the physical closing of socially valuable
banks as opposed to merely reconfiguring the banks' capital structure: i.e., wiping out the
claims of stockholders and recapitalizing viable franchises.

**Assuming Stationarity Policy Preferences.** Letting $S^H$ and $S^L$ be the standards
actually adopted by each camp. If policy preferences do not shift over time, we may
write global welfare $W$ at any time as:

$$W = W^H(S^H, S^L) + W^L(S^H, S^L).$$  \hfill (3)

Let us assume that $S^*_H = S^H = S^L$ produces a global and high-income country welfare
maximum, but that $W^L$ is maximized at $S^H = S^*_H$ and $S^L = S^*_L$.

In principle, high-income countries could persuade low-income countries to set a
tougher standard $S^L = S^*_H$ if they were willing to offer enough compensation $C$ to low-
income countries each period to make:

$$W^L(S^H = S^*_H, S^L = S^*_H; C) - W^L(S^H = S^*_H, S^L = S^*_L) = L(C) > 0.$$  \hfill (4)

For high-income countries to be willing to pay this amount of compensation, a second
feasibility condition must also hold:

$$W^H(S^H = S^*_H, S^L = S^*_H; C) - W^H(S^H = S^*_H, S^L = S^*_L) = H(C) > 0,$$

for a value of $C$ that also makes $L(C)$ positive. When effective compensation is feasible,
low-income countries could be persuaded to export systemic stabilization benefits to
high-income countries in exchange for permanent inflows of foreign capital. For
example, we might assume that transferring $5 billion from $H$ to $L$ would produce
positive surpluses equal to $H($5 billion) and $L($5 billion).

Even if it were reasonable to assume that the policy preference function for each
camp could remain stationary over time, efficient compensation could not be transferred
costlessly, nor could it be paid as a lump-sum: as (e.g.) in proposals to award low-income
governments that accept a tough banking standard a one-time forgiveness of their foreign
debts. If compensation were lump-sum, future governments in low-income countries
would be sorely tempted to revert to their country's preferred standard $S^*_L$. To control
this temptation, high-income countries would have to dole out efficient compensation periodically and invest in a scheme capable of generating verifiable evidence about whether each recipient country’s regulatory officials were enforcing the \( S_n^* \) standard during each and every period. The existence of transfer and verification costs means that the C paid by H would be higher than the amount C\(_L\) received in L by the amount of transfer and verification costs, C\(_V\). Enforcement policies in low-income countries would have to be monitored and rated by a paid observer that could be fully trusted by both types of governments. Given that the governance of most supranational financial regulatory institutions is currently dominated by representatives of high-income countries, establishing such trust among low-income governments would pose still another formidable contracting task.

**Allowing for Nonstationary Policy Preferences.** If we allow policy preferences in L to be nonstationary, the problems of state verification and efficient contracting become even more complicated. Economic developments that change the policy preferences L(C) and H(C) must be tracked and international transfer arrangements must be flexible enough to sustain the global welfare maximum.

To construct the simplest possible model, let us suppose that, at least in low-income countries, policy preferences incorporate a tradeoff between the government’s impression of the degree of economic insolvency of its banking system (B\(_L\)) and the compensation C received in any period from high-income countries. This leads us to reformulate the feasibility condition (2) as (2’):

\[
L(C - C_V, \bar{B}_L) > 0. \tag{4'}
\]

For a fixed value of periodic compensation C-C\(_V\) received by L, a deepening of local bank insolvencies could eventually pass through a switching-point at \( B_L = B_L^A \). Beyond this point, a low-income government would cease to enforce the standard \( S_L = S_n^* \). The switching point \( B_L^A \) will be reached sooner, the longer it takes authorities in high-income countries to discover either deterioration in B\(_L\) or relaxations in the de facto standard L chooses to enforce.

This bare-bones model is sufficient to tell us that even if low-income and high-income nations could negotiate an efficient international standard in a quiet time, the
standard is unlikely to prove robust to either technological change or the subsequent emergence of crisis pressures. Information flows on banking-system capital and enforcement policies in low-income countries would have to improve greatly before authorities in high-income countries would be able to incorporate timely data on $B_L$ and $S_L$ into their policy-compensation preference function (5). Only to the extent that increasing spillovers from $B_L$ and the suboptimal low-income enforcement gap $S_L - S^*_H$ could be observed promptly by outsiders could authorities in $H$ expand the flow of compensation during actual and potential crises enough to persuade and low-income to adhere to the international standard.

Compared to a globally optimal compensation strategy, the ad hoc nature of past multilateral and bilateral aid packages generates compensation schemes that are likely to be far more than a day late and a dollar short. The IMF's work both as an overseer of financial-crisis management in the developing world and as a post-crisis lender to troubled countries has yet to be founded either ex post or ex ante on explicit and reproducible calculations of global benefits and costs. Moreover, IMF programs of crisis and post-crisis lending undermine crisis-prevention efforts by fostering an expectation of ex post bailouts that makes regulators and banks in low-income countries reluctant to write down the debts of insolvent borrowers when and as they become impaired (International Financial Institution Advisory Commission, 2000).

II. Biases Against Efficient Resolution in National Cultures of Regulation

In the financial-services industry, external regulation consists of purposeful efforts to monitor, discipline, and coordinate the behavior of individual firms. The purpose is to create social and private value by pursuing specific macroeconomic and microeconomic goals and by installing and enforcing appropriate standards.

Regulation entails conflicts of interest between regulators, politicians, and taxpayers. Regulators and politicians have shorter horizons and are better informed about regulatory costs and benefits than taxpayers are.

Regulators do not choose either their goals and standards or their policy instruments in a vacuum. Regulation entails conflict between the regulator both as an agent for taxpayers and their elected government and as a principal trying to control its
Regulatee-agents. Regulatees seek to influence regulatory thinking and activity through processes of lobbying and to reduce burdens or extract subsidies through creative ex post avoidance behaviors. These activities can subject already short-horizoned regulators to perverse job disciplines in which their reputations and careers can be hurt by industry criticism of efforts to enforce socially appropriate standards.

Richard Carnell (1993) has introduced the idea of a national "culture" of regulation in which community standards of fair play impose substantial constraints on how quickly and decisively a regulator may act. Carnell decomposes regulatory culture into six essential elements:

- Statutory Grants of Authority to Particular Regulatory Entities
- Formulation and Promulgation of Specific Rules
- Monitoring for Violations
- Penalties for Material Violations
- Due Process with Assigned Burdens of Proof (to guarantee fairness)
- Rights of Appeal (to bond the fairness guarantee).

In principle, the statutory authority granted a government regulator at step one erects limits on that regulator's policy instruments. It also establishes expectations for performance, which serve as the first link in a chain of accountability to taxpayers. This chain seeks to test the efficiency with which the instruments are deployed in steps two through four. Finally, due process and appeal procedures aim at assuring that individual regulatees are also treated fairly.

Carnell identifies a propensity for regulators and politicians to undermine accountability to taxpayers by insisting on a substantial amount of ad hoc discretion at step one. In what he calls a "culture of ad hoc discretion," regulatees are held to meaningful standards in ordinary times, but regulators are trusted to relax the enforcement of these standards if they believe such flexibility will serve a larger purpose.

Such a culture does little to control regulators' conflicts of interest with taxpayers. In particular, regulators' responsibility for demonstrating fairness vis-à-vis their treatment of individual regulatees establish incentives that inhibit their ability to act rapidly and decisively in volatile times and predisposes them to treat troubled regulatees overgenerously in crisis circumstances. The need to counterbalance this inhibition and
predisposition makes accountability-creating reforms in the informational transparency of regulatory burdens and subsidies vital both for domestic taxpayers and for transnational authorities who might be charged with policing an international regulatory agreement.

Guttentag and Herring (1984) raise the possibility that individual-country regulators' unwillingness to establish disaster-management protocols and to put their staffs through simulated crisis exercises might trace to "disaster myopia." Disaster myopia occurs when authorities systematically underestimate the frequency with which crisis pressures arise. A tendency to underestimate the probability of low-frequency events is consistent with a large body of experimental evidence that indicates that individuals use simplifying psychological heuristics as a way of economizing on their planning effort. However, underestimating the threat of financial disaster is inconsistent with the fervor with which regulators cite the alleged dangers of precipitating costly depositor runs and triggering horrific crises as arguments against either adopting market-value accounting for banks or drawing up and publicizing disaster-management plans and conducting crisis simulations.

III. What Behaviors Should a Welfare-Maximizing International Regulatory Standard Cover?

Dictionaries define a standard as a benchmark or exemplar considered --either by authority or by general consent-- to be an acceptable basis for comparison. For example, Morris Goldstein (1997, p. 26) envisions an international banking standard as setting a "minimum level of sound banking practice and strong banking supervision."

Goldstein (pp. 34-35) envisions such a standard as encompassing six categories of potential reforms:

- Specifying reasonably transparent accounting principles and loss-provisioning practices for banks;
- Restricting connected lending;
- Requiring supervisors to undertake prompt corrective action at undercapitalized banks;
- Making government policymakers accountable for open-bank assistance to undercapitalized large banks;
• Perfecting the legal authority of supervisors to discipline weak or unsound banks;
• Curtailing the proclivity of governments to use banks as "quasi-fiscal agents."

Underlying this proposed global standard is the idea that a observably strong capital position may be safely treated as a passport into additional risk-taking activities and that unrepaired capital weakness could justify the issuance of a death certificate.

Standards mandate some behavior and may be presumed to permit activities that are not expressly prohibited. Activities that are permissible in one regime may or may not be regulated and may or may not be considered highly desirable in that regime.

Ethically, a standard is weaker than either a law or a norm (Posner and Rasmusen, 1999). Norms differ from laws and voluntary agreements in that they do not depend on government or explicit compensation for their enforcement. To give moral force to a regulatory standard, the rules and enforcement procedures the standard establishes must be rooted in fundamental standards of fairness. Such standards manifest community norms of appropriate behavior. It is these norms that lead society to hope that financial regulators will make their regulatees accountable for opportunistic behavior that generates social harm.

In principle, risk-based capital standards meet this test of simple fairness. They are intended to limit not risk-taking, but risk-shifting. Financial engineering allows modern banks to unbundle and repackage the risks their firms take on and to shift these risks from stockholders to customers, creditors, or guarantors. If information flows were perfect, customers, creditors, and guarantors would understand the risks they are asked to absorb and would be able to price their risk-bearing services fairly. Hence, in some societies capital regulation may be less efficient than concerted efforts to improve the ability of outside stakeholders to assess and deter directly the risks that banks take (Kane, 1995a).

As promising as risk-based capital regulation is in principle, the standards put in place in 1988 have three major defects. First, procedures specified for measuring risk, capital, and appropriate capital support are not operationally linked to conceptually parallel measures that markets use and enforce. Second, the standards adopted focus on issues of crisis prevention to the near-exclusion of closely linked problems of crisis...
management. Third, these standards have yet to be adapted to the policymaking environments of developing countries (Kane, 1995b).

Community norms and ethical standards place additional constraints on regulator and regulatee behavior that, especially in confronting and resolving bank insolvencies, can readily trump ritualistic commitments to international standards. Local norms and standards more closely engage a regulator's personal sense of shame and honor and expose one and one's family to painful informal sanctions (such as ridicule or shunning) from disapproving others.

Ball (2001) emphasizes that it is hard to import international accounting standards because pre-existing standards are imbedded in a country's culture and regulatory framework. What particular actions can be truly constrained by international bright-line rules and potentially reinforcing rewards and sanctions depends on the moral norms and prior regulatory experience of a given society. The very word morality derives from mores, the Latin word for communal "customs" or "ways of doing things." Similarly, the word ethics traces to a Greek synonym for ethos, which carries the same essential meaning.

Within and across countries, the difficulty of establishing fully workable standards for strong banking supervision turns on overcoming nationalistic loyalties and two near-universal norms: against "kicking a man when he is down" and against taking tough actions that risk "turning a mere mess into a full-fledged disaster." It is instructive to view pre-existing norms as generating the following unwritten commandment: "Be merciful to local institutions and minimize within-country possibilities for contagious escalation." Finding a way to neutralize the de facto impact of local loyalties and the mercy and escalation norms on policies for identifying and treating insolvent institutions is the most important problem in designing an efficient national or global regulatory system.

By addressing weaknesses in a country's financial contracting and informational environment, a country's regulatory standards establish a metaphorical safety net. Because government resources are limited and safety becomes increasingly costly at the margin, safety nets are never perfect. It is a mistake to assume that feasible improvements in a country's regulatory standards can rule out the possibility of future
financial disasters. The best optimal regulation can do is to establish a reasonable
tradeoff between the opportunity cost of current government supervisory and disciplinary
activities and deferred costs associated with the residual probability and severity of
possible future crises. A threat of financial breakdown will always lurk in the
background (Demirgüç-Kunt and Detragiache, 1998).

Disinformational efforts to frame crises as avoidable and unthinkable catastrophes
rather than as an inevitable hazard of economic life undermine supervisors' resolve and
ability to deal efficiently with crises when they occur. Although the emergence of a
financial crisis cannot logically prove that the pre-existing regulatory system is flawed, it
is politically and administratively convenient for incumbent regulators and politicians to
shift the blame for the suffering an emergent crisis causes from themselves as persons to
a system that has grown old and needs to be brought up to date. Moreover, portraying
crises as inherently unrehearsable episodes opens up a range of ad hoc policy options
whose predictable private benefits would in less-hectic times rule them off the table.

Regulatory standards are incomplete unless they include protocols that
acknowledge that all too frequently even an optimally designed safety net will fracture or
prove too small. To be complete, regulatory standards must include an obligation to
develop, rehearse, and regularly update strategic plans for managing local financial
crises. As in preparing for the possible horrors of Y2K, authorities must run drills in
which plausible cascades of simulated problems exercise their staff in the skillful use of
crisis-management protocols. Paradoxically, unless the crisis-prevention part of the
safety net is backed up by solid disaster planning, improvements in a country's safety net
may result in less frequent but more devastating crises. The danger is that the more
effective a nation's crisis-prevention standards become, the less likely it is that incumbent
regulatory personnel will have prior hands-on experience in coping with severe crisis
pressures.

IV. Benchmarking an Efficient Crisis-Management Standard

It must be recognized that no crisis-prevention strategy can be perfectly effective.
Troubled banks have strong incentives to circumvent any prevention system. When a
country's prevention program massively fails to contain the circumvention of risk-shifting
controls, insolvencies emerge, deepen, and spread. Crisis management entails identifying and eliminating the insolvency of a number of severely damaged banks. To resolve insolvencies, authorities need not actually close insolvent banks. Their task is better understood to be to distribute the banks' losses across the population and to rebuild at least some of the net worth that was wiped out.

A government-run safety net inevitably displaces some degree of the private market discipline that a country's financial institutions would otherwise feel. Crisis planning has a critical role to play in controlling the long-term costs of this displacement because it is at crisis times that political pressure for expediently bailing losers out with taxpayer funds becomes most intense (Kaufman and Seelig, 2000).

A banking crisis is a battle over whose wealth is going to be rescued and who is going to absorb previously undisclosed losses that have piled up in a nation's banks. Experience in crisis countries supports the hypothesis that making crisis-resolution decisions in ad hoc way provides myopic immediate relief at the expense of poor long-run results (Honohan and Klingebiel, 2000; Boyd and Smith, 2000). In the midst of a crisis, without reliable information and a reasoned plan of crisis management available, the threat of contagion makes it hard for authorities to resist the temptation to guarantee all insolvent-institution liabilities and to hope against hope that they can scale back these guarantees at a more convenient time. However, the lack of planning engenders an expectation of future bailouts that distorts credit decisions and hands taxpayer risk capital to bank owners and managers without establishing accountability for whether and how this capital is used to produce social rather than private benefits.

**Lessons Conveyed by the Safety-Net Metaphor.**

Whether or not explicit deposit-insurance arrangements exist, a taxpayer-financed fund of contingent reserves is understood to protect depositors to some degree against loss. The credit enhancement this fund imparts to a nation's banks may be characterized as an implicit safety net.

To rescue people trapped in burning buildings, firemen use ladders and physical safety nets. It is well understood that, unless they have been carefully drilled in the use of these tools, rescuers are unlikely to prioritize and coordinate their activities in the best
interests of society. Once a country burns through the capital in its banking system, equally disruptive problems of prioritization and coordination arise.

No matter how well-conceived and well-executed the fire-prevention standard may have been, the program of preventive inspection, testing, and repair has failed. New information on bank capital and risk exposures indicates that stockholders and uninsured creditors can no longer cover these exposures. Resolving the shortfall begins with protocols for regulatory response that can commit policymakers to collecting the appropriate information needed to correct capital shortages and excessive risk exposures at individual banks promptly and equitably.

To work through a banking disaster efficiently, authorities must establish appropriate policy priorities in advance and commit themselves to pursuing these priorities in the event. The first priority is rescue and triage. In any disaster, making decisions about the relative urgency of treating different patients is called triage. Dying and injured institutions must be sorted out immediately and cared for appropriately. The second priority is panic control. As soon as the size of the insolvency has been approximated, specific staffmembers must help those who want to withdraw deposits to do so in a reasoned and orderly manner. Evidence that triage is being handled efficiently would help to curtail panicky depositor runs and demonstrations. The third and final priority is to clean up the losses so that financial district may open to traffic again.

When fire attacks a large building, urgent decisions must be made quickly. Urgency means that authorities must decide in advance not only what to do first, but also what not to do. Some necessary decisions can be safely postponed to a more convenient moment. Triage begins with rescue and prompt examination to assess the extent of every casualty's particular needs. The first objective of this assessment is to determine which parties are and are not beyond help. The second objective is to set priorities for treating those that can benefit from specific kinds of assistance. At each moment, available medical resources must be allocated to the particular tasks that promise to do the most good. This means rushing into surgery those whose wounds and injuries either are at a life-or-death stage or are apt to worsen greatly with delay. Nonsurgical (i.e., less scarce) personnel should be assigned the task of comforting moribund patients and to helping noncritical patients to keep their spirits up while they wait for treatment.
**Rescue and Triage.** In a systemwide banking disaster, the casualties are the stockholders, employees, depositors and nondeposit creditors of a nation's banks. Authorities cannot be expected to uncover and treat individual casualties efficiently unless they have previously formulated an integrated disaster plan and drilled appropriate personnel in its execution. Regulatory staffs must be able to react immediately to depositor runs in an emerging crisis without having to stand by to receive fresh directions from above.

The first team of officials to reach a troubled bank should be bank examiners. These officials must receive immediate access to relevant data and must possess the expertise to measure the depth of a bank's hidden insolvency in a quick and dirty manner. Examiners' preliminary findings must be forwarded promptly to a second team of supervisory analysts whose job is to estimate the degree and character of help that the institution's various stakeholders would require to make them whole. High officials both in crisis countries and abroad need this kind of advice to determine how much and what kind of obligations to assign to taxpayers. In exchange for the help it asks taxpayers to supply, the government should establish a formal claim to any future profits of each insolvent bank, either by completely extinguishing the rights of former shareholders or by carving out a warrant position large enough to compensate taxpayers for the administrative and risk-bearing costs of overseeing the bank's recapitalization. In all cases, the government would aim to sell its equity claim to private parties as soon as sufficiently reliable information on asset values can be developed.

It is important to understand that, in the midst of an emergency, triage assessments cannot wait for formal ratification by less-informed higher-ups. Although staff judgements must be reviewed and criticized later, during an emergency the autonomy of the information-collection teams must be respected and supported at all levels of the bureaucracy. The difficulty of switching from a hierarchical blame-avoidance decision structure to a decentralized, task-oriented, and cooperative structure of emergency response helps to explain why government officials prefer to think that they can work out efficient schemes of disaster management on the fly.

To overcome the cultural force of the mercy norm, supervisors and the public must be conditioned to annihilate stockholders' position in every bank whose insolvency
seems too deep to generate a reasonable prospect of repaying government loans. It makes no sense in the midst of a medical emergency to divert limited surgical resources to sewing up the wounds or resetting the broken bones of moribund individuals. Similarly, officials must condition themselves and the general public to the idea that in dealing with hopelessly insolvent institutions it makes no sense to spend public funds either on preserving the positions of stockholders and subordinated creditors or on paying lofty salaries to discredited managers.

**Panic Control.** To keep the money supply from shrinking, the central bank and foreign officials should support regulators' triage efforts by being prepared to purchase good assets and to lend vigorously to demonstrably solvent or near-solvent banks. For similar reasons, insured depositors should be granted access to their funds as soon as this becomes administratively feasible and uninsured depositors should be accorded a fair degree of immediate fractional access to their balances. Procedures for determining what fraction of a bank's uninsured deposit balances is to be made immediately transactable should be founded on conservative valuation techniques whose application examiners and supervisors carefully rehearse in advance. Examiners' purpose would be to estimate the minimum percentage of uninsured deposits that could be recovered in an orderly liquidation of the bank's tangible portfolio. How extensively the recoverable positions of uninsured balances should be marked down (or "haircut") depends on the depth of --and margin for error in-- the loss assessments that the emergency examination teams are able to assemble. Officials would set the frozen part of each uninsured balance aside and stand ready to unfreeze it in stages when and as the depth and intangible elements of each bank's insolvency can be more accurately sized.

Panic describes overmastering and unreasonable terror that is triggered in reaction to a horrific vision or event. The triggering event in a banking panic is the murky surfacing of adverse information sufficient to destroy customer confidence in the repayment capacity of several banks. This loss of confidence may be based either on general information about the consequences of major economic events or on information specific to individual banks or to particular assets they are known to hold.

A banking panic combines the phenomenon of simultaneous runs on several banks with a seizing up of opportunities for interbank borrowing and sales of liquid
securities. Runs and fears of runs become so widespread that individual banks cannot expect to raise funds quickly by selling portfolio assets to other parties at fair prices. Institutions not experiencing runs back away from lending funds to affected banks so as to support more firmly the convertibility of their own deposits into cash.

Corporate-finance theory shows that the economic value of stakeholders' aggregate claims against a corporation cannot exceed the fair market value of its assets. Hence, whenever a bank's assets lose a substantial portion of their value, the total value of the bank's obligations decline apace. The emergence of adverse information about borrower prospects or about hidden bank frauds or trading losses destroys asset and liability values alike.

In a culture of *ad hoc* discretion, to treat both the runs and the panicky evaporation of interbank liquidity that widespread runs induce, officials find it tempting to offer government loans and guarantees indiscriminately to troubled banks. However, efficiency requires that liquidity be restored without over-riding the longer-run need to mark down devalued bank assets and to allocate efficiently the opportunity-cost losses these markdowns imply at affected institutions.

**Cleanup.** If the information that is shrinking bank asset values is accurate, the incremental claims that these values support become "junk" that regulators should promptly remove from bank balance sheets. In the benchmark standard for policy response proposed here, bank supervisors perform the tasks of junkmen. Their job is to identify worthless assets and liabilities as refuse, and to dispose of them quickly and efficiently. Their ultimate goal is to promote healthy investment and economic growth by clearing bank balance sheets of stakeholdings whose claims on future upside returns would otherwise distort future lending incentives.

Market-mimicking approaches look to surgically separate the junky assets from the healthy parts of each troubled bank. This can be done either by selling problem assets at their market value to an existing workout specialist or by establishing a new entity specifically designed to recover maximum value from the problem borrowers. This good bank/bad bank model was pioneered in the 1990s by U.S. regulators and copied in several other countries since.
Despite the pain it causes, a banking panic can assist society in the long run by forcing authorities to repair, rehabilitate, or eliminate troubled banks. The desire to stop a panic quickly must not be allowed to over-ride the need to identify hopelessly insolvent institutions and to wind up their insolvency. Issuing blanket government loans and guarantees to solvent and insolvent banks alike installs bad managerial incentives and is ultimately very costly to taxpayers. Guarantees shift the burden of absorbing the losses imbedded in the portfolios of insolvent institutions to taxpayers and relieve managers, stockholders, and creditors of these institutions from bearing due responsibility for loss-making decisions they ratified contractually.

The expectation that ownership claims and uninsured liabilities will expire when they become valueless is necessary for banking markets to function appropriately. The writing down of these claims is part of the Schumpeterian winnowing process of "creative destruction."

To end a panic, aggregate liquidity must be restored. To do this efficiently, authorities must maintain aggregate liquidity by open-market operations, but stop to measure a financial institution's wounds before paying deposit-insurance claims or granting banks and their uninsured depositors irreversible access to liquid government funds. Government and IMF injections of liquidity must be directed as exclusively as possible toward insured depositors, recoverable portions of uninsured balances, and putatively solvent institutions. Deeply insolvent institutions must be identified and control over them transferred smoothly into socially responsible hands. It should be understood that, even during examiners' brief insolvency-assessment timeout, private transactions could proceed on credit. Would-be transactors would have strong private incentives to use standard and innovative forms of credit to prevent transactions from grinding to a halt.²

Dangers of Ad Hoc Discretion. A panicked banking system can be visualized as having inhaled or swallowed a potentially contagious antigen. The panic is a spontaneous and uncontrolled effort to eliminate unhealthful material. In a banking crisis, the antigen is a loss of wealth that must spill through the liability side of troubled-

² Credit cards and checks can be accepted, perhaps supplemented by ad hoc documents or collateral, to establish evidence of personal indebtedness whose value may be collectable in part from other sources if authorities place the issuing bank into liquidation.
bank balance sheets onto the balance sheets of the citizenry at large. In designing a
treatment plan, reestablishing loss control is more important than maximizing the speed
of elimination. The danger of the international culture of ad hoc discretion fostered by
the current IMF leadership is that unduly short-horizoned officials are being allowed to
trade long-run costs of interfering with the righteous transfer of bank losses to those who
are contractually responsible for financing them in exchange for reputational bureaucratic
and careerist benefits that can be won by ending a panic quickly.

To defend the strategy of ad hoc discretion, it is not enough to raise the possibility
that the spread of customer fear and confusion during the delay caused by emergency
examinations might further depress asset values at healthy institutions. The probability
of an epidemic spiral of confusion can be controlled in other ways. In particular, the risks
of epidemic decline can be lessened by the existence of well-publicized domestic and
international disaster plans and would be countered within days by the information and
rights uncovered by examiners. Contagion can be further controlled by creating
aggregate liquidity via monetary expansion and government loans and guarantees to
certifiably healthy banks. As in planning efforts to curtail potential damage to computer
systems from Y2K bugs, well-designed and well-rehearsed triage and panic-control
measures would keep supervisory resources focused on the long run rather than the short.

Banking regulators are unlikely to drill their personnel in simulated disasters until
they acknowledge that neither systemic banking crises nor temporary banking holidays
are unthinkable events. Figure Two (compiled by Caprio and Klingebiel) clarifies that,
taking a global perspective, financial crises and panics are far from unusual events.
During the last 20-plus years, systemic and sectoral insolvencies have emerged in one
country or another with remarkable frequency.

Banking crises are part of a repeating cycle of bank lending to parties whose
ability to repay cannot be fully assessed in advance. A banking panic typically occurs
when previously hidden weaknesses in borrowers' repayment capacity surface suddenly.
The depth of borrower weakness tells us that large losses need to be allocated across
those who hold the liabilities that the now-troubled banks issued in funding loans and
credit enhancements that everyone can now see were loss-making activities.
Once we recognize that risky bank lending cannot generate an endless string of success stories, it becomes unreasonable for authorities to believe that keeping stakeholders in deeply insolvent banks from paying for their mistakes is a desirable policy strategy. The fundamental question in a crisis is what parts of society can and should be made to absorb the losses being uncovered.

Crises are not isolated in time from the events that precede and follow them. On average, the faster and more fairly an insolvent banking system's losses can be allocated, the quicker socially desirable patterns of lending can resume and the less the chance that another crisis will rapidly recur. The more efficiently and more fairly the process of loss resolution can be conducted, the smaller the bill in economic resources and social demoralization that taxpayers will eventually have to pay to make their banking system whole again.

Nonfinancial firms that inefficiently manage their resources destroy their ownership capital. Regulation should not prevent a loss of bank capital from unleashing similar market forces. Unless creditors and investors expect inefficient managers and undercapitalized financial firms in a country to be promptly and appropriately disciplined, the incentives that govern the evaluation and selection of risky investment projects will break down. Regulators' goal should be to identify and preserve the valuable parts of an insolvent bank's franchise and to transfer these resources into better-capitalized and more-reliable hands. In our impatient and softhearted times, industry spin doctors try to convince taxpayers that closing an insolvent bank or assigning its business to a new owner is barbarous behavior.

An ideal crisis-management standard would require regulators to develop a well-benchmarked plan for allocating losses in a disaster and make them accountable for benefits and inefficiencies that emerge when they introduce ad hoc deviations from the plan. Crisis situations are seldom either so surprising or so dire as to justify the indiscriminate use of government guarantees and bailout funds. However, before the culture of ad hoc crisis management can be eliminated at the international level, taxpayers in many more individual countries will have to understand the budgetary costs and incentive distortion that ad hoc crisis management entails.
Adopting the benchmark crisis-management standard proposed here is a decision that individual societies have yet to make. Until and unless individual societies learn to reward banking regulators for formulating and enforcing meaningful capital requirements and to punish regulators who keep insolvent institutions in play, there can be no hope of installing an international standard mandating this behavior.

V. How Regulatory Competition Supplements and Improves on Negotiated Standards³

Self-regulatory organizations and national regulatory bureaus are economic rather than charitable enterprises. They produce valuable regulatory services and vie with one another globally for the right to deliver services to particular clients. The resource costs of producing regulatory services may be summarized in a conventional cost function. In principle, an observing economist can define regulatory profits and ascertain the aggregate social value of any regulatory enterprise. This economist can also define average and marginal values of the "net regulatory benefit or burden," NRB, that each regulator passes on to its clients. NRB is defined as the difference between the value of the implicit and explicit benefits a client receives and the costs that the regulatory scheme imposes on it. When NRB is negative, clients experience a net burden. The net burden that a given regulator imposes on its clients is the equivalent of the price at which it offers its services.

On this analysis, financial services are produced jointly (i.e., co-operatively) by financial firms and the particular stable of regulators with which they share an ongoing relationship. The value of a financial institution's products depends on their perceived quality, and quality turns in large part on the reliability and convenience that customers experience in using them. Customer confidence and convenience are partly produced in-house (e.g., by maintaining appropriate net-worth ratios and a network of well-placed offices) and partly purchased from outside suppliers that produce monitoring, certification, and coordination services.

Elements of confidence and convenience that relate to payments, clearing, and settlement systems are system goods. System goods must be produced cooperatively. To standardize and coordinate the activities of different firms to facilitate the movement of

³ This section makes use of analysis in Kane (1999).
financial claims of various kinds requires a capacity to exercise coercive powers. To smooth connections across a payments or clearing network, individual institutions must accept the supervisory authority of a central regulator. Similarly, by opening its books to a reliable supervisor, an individual institution can reduce its need to communicate detailed information to individual customers about its financial condition. Across its client base, a regulator conserves economic resources by centralizing the task of monitoring, policing, and certifying (if not actually guaranteeing) each client's capacity to make good on its various promises to its customers. However, the discipline a particular regulator substitutes for depositor discipline need not result in a welfare improvement.

In a world of rapid technological change, competition occurs between domestic and foreign regulators. To some extent, international standard-setting constrains this competition. However, over time regulatory competition also modifies the burden of whatever standards are put in place.

With or without international standards, international regulatory competition helps to overcome incentive conflicts and to move the world closer to a globally optimal regulatory protocol. A first-best protocol is unlikely to arise at any particular date, both because individual regulators face substantive incentive conflicts and because global and national markets for regulatory services are imperfectly contestable. Information asymmetries and entry and exit costs limit opportunities for efficient regulators to discipline inefficient regulators by hit-and-run entry. Before any would-be entrant can operate efficiently, it needs to establish a network of information collection and verification relationships with a threshold number of regulatees. Building such a network requires a prior accumulation of reputational and financial capital, in an amount sufficient to command the credibility clients demand in delegating police power to a regulator. Moreover, besides generating credibility, the accumulation of intangible and tangible capital creates a capacity in regulators who lose efficiency over time to sustain considerable losses before the pressure on them to exit the industry can become intense. Exit pressure ultimately triggers better standards. However, pressure on government regulators tends to be weak if they can keep taxpayers from seeing that regulatory mistakes are being made and that the bill for these mistakes is being underwritten by an unbudgeted taxpayer guarantee.
As illustrated in Figure Three, flaws in data dissemination and loopholes in jurisdiction tempt regulators in individual countries to help their particular regulatees to expand or defend their market shares and earnings in the short run. Still, even in the face of these temptations, a law of one price applies in the long run. In regulation, the applicable law can be termed a law of "one net benefit or burden." The law of one burden clarifies that the extent to which net regulatory burdens can differ between competing regulators in the short run is limited by the marginal costs that regulatees and consumers face in switching heavily burdened activities to a lower-burden regulator. Regulatory switching costs differ across countries and are probably higher for parties located in developing countries with longstanding monopoly regulators than in financial centers that are subject to substantial foreign and domestic regulatory competition. But technological change is inexorably reducing switching costs everywhere.

Whether an international regulatory standard exists or not, freer international trade in financial services increases the intensity of cross-national regulatory competition. As regulatory competition intensifies, information flows and supervisory performance tend to improve (Romano, 1998). Unfair and inefficient regulatory strategies become more annoying and harder to enforce because citizens of individual countries observe more favorable burdens elsewhere.

Still, the technologically driven globalization of financial-services markets and regulatory standards is retarded by the uneven distribution of regulatory switching costs. This unevenness slows the globalization of individual banking and capital markets and corresponding sectors of the market for regulatory services. Together, regulation-induced innovation and innovation-induced reregulation open hard-to-foresee loopholes in pre-existing international and domestic regulatory standards. These loopholes disrupt pre-existing financial market shares and continually change the value and character of the long-run equilibrium NRB.

Putting aside the issue of switching costs, it is net not gross burdens that market forces equalize across countries and sectors. Gross benefits and burdens may reasonably differ as much as a country's regulatees and imperfectly informed taxpayers would be willing to tolerate.
In the past, the country-specific character of inherited patterns of financial regulation were protected by distance-related, culture-related, currency-related, and language-related barriers to entry for foreign financial firms. As technological change slowly but steadily shrinks these barriers, it increases opportunities for financial institutions to arbitrage differences in net regulatory burdens imposed in different countries.

By speeding up the resolution of individual-bank insolvencies, regulatory competition is imposing painful adjustments on previously autarkic operators of national regulatory enterprises. These adjustments fashion regulatory patterns that are less resistant to entry and exit (Fratianni and Pattison, 2000). Moreover, they do this quicker and better, the more accountability attaches to government decision making.

Viewed from this perspective, the globalization of real and financial markets is a process in which increasing international competition, acting through country-specific financial crises, exerts market discipline on inefficient government regulators. A technology-driven and irreversible downward trend in the costs of switching regulators and coordinating a multinational enterprise implies shrinking spheres of autonomy for economic policymakers in different countries. What is ultimately constricted is the freedom of politicians and government regulatory bureaus to set standards that treat financial institutions as conduits for delivering political favors and to enforce these standards in ways that protect the market share of insolvent or high-cost local institutions.

VI. Summary Implications

The Basel Committee on Banking Supervision and the Financial Stability Forum are in the business of promulgating international regulatory standards. This paper argues that, in the face of rapid technological change, high-income countries cannot expect to use these forums to persuade low-income governments to adopt and enforce anything like an ideal standard. This means that financial services in individual countries will be delivered by an ever-changing mix of foreign and domestic firms, with each competitor supervised and supported by its home-country financial regulator. This proposition might be called the bad news.
The good news is that, if international spillover effects are not going to be minimized by an internationally negotiated set of optimal rules, supplementary control of spillovers of instability will still be wielded to an important -- albeit messy -- extent by international regulatory competition and the self-interest of governments and financial institutions in financial-center countries. Although gains to additional international financial cooperation exist in principle at any time, it is doubtful that the incremental benefits that cooperative standard-setting adds to regulatory competition are large enough to cover the monitoring, policing, and renegotiation effort that would be required to assure the optimality of a negotiated global regulatory standard over time.

One of the undersung advantages of regulatory competition is that, in a world in which technology opens up new problems and loopholes every day, competition fosters experimentation with new ways of overcoming the all-too-mutable information asymmetries and conflicts of interest that are inherent in financial affairs. Negotiating an enforceable standard that closely coordinates regulatory strategies across nations would inevitably limit the scope for subsequent experimentation with different ways of responding to innovative regulatee behavior.

In the nonstationary world of modern finance, sporadically negotiating momentarily first-best arrangements for coordinating static efficiency may produce far smaller gains on the average than the second-best arrangements for intertemporal efficiency that are going to be produced period after period by regulatory competition. The relentlessness of regulatory competition assures us that developing countries that insist on adopting unfair and inefficient regulatory standards must expect to see the stockholder-contributed capital of their financial systems wiped out repeatedly. In the aftermath of each new crisis episode, officials of such governments will see more and more domestic financial business (and whatever domestic political tribute this business might previously have generated) migrate to foreign institutions and foreign regulators. In the U.S. and Japan at least, the bureaucracies held responsible for recent crises -- respectively, the Federal Savings and Loan Insurance Corporation and the Ministry of Finance-- have seen their jurisdictional clout diminished by government restructurings. While the corrective process has historically been slow, technological change is steadily speeding it up. Cumulative declines in local-bank capital and market share are bound
eventually to destroy the coalition whose lobbying activity had previously sponsored and supported the inappropriate regulatory system.

Assuming that a perfect and relatively unchanging international regulatory scheme exists and could (and would) be operated efficiently by persons of saintly goodness provides a theoretically elegant way to eliminate welfare losses associated with international financial spillovers. Unfortunately, given the fractiousness of human nature and the number and diversity of nation-states in existence today, the inelegant dialectics of international regulatory competition offer taxpayers considerably more hope.
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FIGURE ONE: EXTERNAL REGULATION

Norms

Coordination & Communication Problems

Rule-Making

Enforcement
FIGURE TWO

Bank Insolvency since late 1970s

World Bank 2000
FIGURE THREE

Innovation Supports a Regulatory Flea Market