

Blueprints for a New Global Financial Architecture

Charles W. Calomiris *

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I fear that I must not expect a very favorable reception for this work. It speaks mainly of four sets of persons...and I am much afraid that [none] will altogether like what is said of them...

Walter Bagehot, *Lombard Street*

I. Introduction

This paper considers current problems in what is often termed the "global financial architecture" and proposes a set of solutions to those problems. The solutions take the form of redesigning (in combination) rules governing domestic bank safety net policies, lending by the International Monetary Fund (IMF), international competition in banking, global capital flows, and government debt management policies.

Section II outlines the problems the proposal is meant to address. Section III describes the principles that should guide reform. Section IV discusses details of how to implement those principles, including specific rules governing domestic bank safety nets, IMF membership and IMF lending policy. These would replace not only the current IMF, but other lending programs including the Exchange Stabilization Fund (ESF) and ad hoc emergency lending by the World Bank the InterAmerican Development Bank. Section V discusses the political economy of the new set of rules and whether enforcement would be credible. Section VI concludes.

Economics normally provides rather dismal news, emphasizing tradeoffs among objectives and hard choices. In the case of redesigning the global financial architecture, however, such is not the case. It is not difficult to construct a set of mechanisms that resolve problems of illiquidity (by providing a responsive lender of last resort facility) while avoiding the governance and incentive problems attendant to counterproductive bailouts of risk takers. The claim that it is possible to deliver liquidity assistance without bailouts presumes an *economic* definition of liquidity assistance, a concept with clear and narrow meaning. Politicians and bureaucrats, in contrast, often define "liquidity" crises and "liquidity" assistance broadly and vaguely to disguise transfers of wealth that have nothing to do with true liquidity assistance.

In essence, my proposal would replace ex post negotiations over conditions for IMF lending with ex ante rules for IMF membership and restrictions on the manner in which the IMF lends to its members. These rules and restrictions would automatically constrain the circumstances under which assistance would be provided, and at the same time make potential assistance much more rapid and effective. Proposed membership criteria include rules that impose market discipline on banking systems and limit government abuse of liquidity protection.

A credible reform of bank capital regulation that ensures market discipline makes it possible to construct an effective domestic bank safety net in the form of a deposit insurance system, which addresses liquidity problems attendant to banking panics. These domestic safeguards ensure that IMF protection – if provided through an appropriate lending mechanism – will not be abused. Requiring that IMF members meet standards that ensure market discipline in their banking systems and protection against domestic banking panics makes it possible for the IMF to fulfill its proper role in global financial markets – preventing unwarranted speculative attacks on member countries' exchange rates. Private market discipline, therefore, is the linchpin of effective domestic and international safety net reform.

While I argue that providing liquidity protection without bailouts is feasible economically, I recognize that the

political economy of the global safety net poses formidable obstacles to its rationalization. It will be hard to design effective rules that will not be fought by special interests, and hard to design mechanisms that ensure that those rules will be reliably enforced. The approach I advocate tries to come to grips with political challenges to reform and enforcement.

II. The Weak Foundations of the Current Global Financial Structure

Financial crises are the defining moments of the problems that confront policy makers. This section reviews and interprets the recent history of crises, and the factors that are alleged to have produced them. The list of problems includes (1) fundamental policy-design flaws in banking systems and in international assistance programs that subsidize risk and foment fundamental bank and government insolvency, and (2) inherent problems of financial systems that aggravate those shocks through four different channels (which are referred to collectively as "liquidity" problems).

The last twenty years, and particularly the last five years, have witnessed an unprecedented wave of financial collapses. The magnitude of the losses incurred by banks during these collapses is staggering. The negative net worth of failed banks in the U.S. for the years 1931-1933 was roughly 4% of GDP. Nearly a hundred crises with losses of this or higher magnitude have occurred over the past two decades. Twenty of those crises have resulted in losses in excess of 10% of GDP, and ten have produced losses in excess of 20% of GDP.

Another novelty of the new crises has been the simultaneous collapse of banks and fixed exchange rates. Exchange rate collapses historically were sometimes associated with banking system collapses, but historically the two occurred together much less often than today, and the historical exchange rate collapses were less severe.

What is driving these crises? The literature has produced a number of explanations, which are not mutually inconsistent. Since the purpose of this paper is to devise solutions (not just for the sake of devising them, but also in the hope of fostering change) I do not pre-judge the weights that should be attached to the various views. For a proposed set of reforms to the global financial architecture to attract supporters, it must encompass a broad spectrum of views.

Problem 1: Counterproductive financial bailouts of insolvent banks, their creditors, and debtors by governments, often assisted by the IMF, have large social costs. Bailouts are harmful for several reasons.¹ First, they entail large increases in taxation of average citizens to transfer resources to wealthy risk-takers. Tax increases are always distortionary, and serve to accentuate the unequal wealth distribution. Second, by bailing out risk takers local governments and the IMF subsidize, and hence encourage, risk taking. Moral-hazard incentive problems magnify truly exogenous shocks that confront banking systems. Excessive risk taking by banks results in banking collapses and produces the fiscal insolvency of governments that bail out banks, leading to exchange rate collapse. Banks willingly and knowingly take on more risks – especially default risks and exchange risks – than they would if they were not protected by government safety nets.

Risk taking often follows a two-stage process. Initially, macroeconomic shocks (e.g., a decline in the terms of trade) reduce bank capital and raise the possibility of currency devaluation. That changes both the incentives for banks to take risks and their opportunities to do so subsequently. The incentives to take risk rise both because bank capital is lower and because banks seek to protect their loan customers (who sometimes also own the bank) from the effects of the adverse macroeconomic shock. The opportunity for taking on risk during a downturn is higher both because of increases in the credit risk of borrowers and because of increased exchange rate risk. Furthermore, a rising risk of depreciation lowers the relative cash flow cost of borrowing dollar-denominated funds, which can make borrowing in dollars attractive to distressed firms and banks. Banks that borrow short-term dollar-denominated funds economize on the current cash flow cost of those borrowings, but take on a large risk of capital loss if the exchange rate peg collapses.

In the absence of safety net distortions that encourage risk taking, macroeconomic shocks would encourage the opposite behavior – a reduction in bank risk exposure to reassure bank debt holders.² But overly generous protection of banks insulates them from market discipline and makes them willing to increase their asset risk in the wake of

adverse shocks. Banks are willing to do so because potential losses will be borne by taxpayers through government-sponsored bailouts of the banking system.

The risks in these banking systems constitute an off-balance sheet liability of their governments, since governments either explicitly or implicitly guarantee to bail out banks that fail. Thus bank risk and fiscal risk grow together and explain the simultaneity of banking and exchange rate collapses. The differences between emerging market financial crises of the last two decades and historical crises – the larger size of current banking system losses, and the coincidence of banking system and exchange rate collapses – are attributable to the new link between private risk taking and public financing of the losses produced by those risks.³

Banks are not the only entities protected by government safety nets. Large, politically influential firms other than banks often receive implicit protection from the government on their debts, which encourages a similar tendency to bear exchange risk and to rely on short-term dollar-denominated funds, particularly in the wake of shocks that raise the risks of devaluation.

The moral hazard problem also can exacerbate the extent of devaluation during exchange rate collapses. Domestic banks that bet against devaluation prior to the exchange rate collapse (by borrowing dollars or entering forward exchange contracts) can magnify the extent of the collapse by adding selling pressure to the market once the collapse begins. As banks experience initial losses on their open exposures to exchange risk, they may be forced to sell their positions suddenly, which magnifies short-term devaluation pressures. In Mexico, this process of unraveling excessive bank (or non-bank) exposures to exchange risk (in the form of dollar-denominated borrowings and derivative positions) contributed to the severity of the exchange rate collapse in 1995. Garber (1997) argues that the dumping of derivative positions and the scramble for cash by Mexican banks in response to large losses on those positions led banks not only to liquidate their long peso positions, but also to dump their short-term government securities (tesobonos) on the market, which put added pressure on the peso in early 1995 and contributed to government problems in rolling over maturing treasury debt.

In addition to the immediate economic costs associated with bailouts (tax increases and moral hazard), there is also a longer term cost from the way bailouts affect the political process domestically and internationally. Domestically, bailouts encourage crony capitalism in emerging market economies and thus help to stunt the growth of democracy and reform. Bailouts also undermine democracy and economic competition in industrialized countries. Bailouts (whether channeled through the IMF or the ESF) are often a means for the U.S. Treasury to provide subsidies to international lenders and foreign governments without Congressional approval under the guise of liquidity assistance.

IMF policies exacerbate all these problems.⁴ The IMF's role in bailouts is threefold. It provides a small wealth transfer (via the interest subsidy on its loan). Second, and more importantly, it pressures countries to bail out international lenders who are often complicit in excessive risk taking. Third, the IMF helps to ensure that domestic taxation (to finance the bailout) will occur, by lending legitimacy to the bailout and by requiring increased taxation as a condition of IMF assistance.

So far I have argued that moral hazard is the key villain in the recent, unprecedented wave of financial system collapses. That is not to say that *all* the costly consequences of financial crises are an unavoidable consequence of moral-hazard-induced fundamental bank insolvency and its fiscal consequences.

If the only costs of financial system collapse were the *direct* costs of fundamental insolvency – that is, the amount of wealth lost directly through the actions of protected banks and borrowers – then the only threat to the global financial system would be safety net protection itself. In that case, the simple solution to redesigning the IMF arguably would be simply to abolish it, as Schwartz (1998) suggests. The argument for reforming the IMF, rather than abolishing it, revolves around the view that there are important indirect costs attendant to "liquidity problems" that magnify the direct costs to fundamental bank and government solvency. The potential importance of these indirect costs, and the potential for the IMF to mitigate them, underlies the argument for preserving the IMF. Concerns about liquidity costs can be divided into four additional problems, which are discussed separately below.

Problem 2: Asymmetric information about the incidence of observable shocks within the financial system,

especially when combined with short-term debt finance can magnify the economic consequences of fundamental shocks by leading to a liquidity crisis. The historical evidence on banking panics in the U.S. and elsewhere suggests that panics resulted from observable economic shocks with unobservable consequences for individual financial intermediaries. The vulnerability of financial intermediaries to crises reflects the fact that the value of their assets are hard to observe (loans are not marked to market) and their debt is very short term (often demandable). Those characteristics are intrinsic to the value-creating functions of banks, but they also make banks vulnerable to crises. Small fundamental shocks to aggregate banking system solvency can promote widespread disintermediation from banks, leading to a contraction in credit, a decline in economic activity, price deflation, and "fire sale" losses as banks and their loan customers scramble to gain liquidity.

Asymmetric-information-induced runs on banks prompted by fundamental shocks to bank asset values characterized the panics of 1873, 1884, 1890, 1893, 1896, and 1907. The weeks and months prior to these banking panics witnessed *uniquely adverse combinations* of the growth of business insolvencies and declines in equity prices. Previous and subsequent financial panics, in and outside the United States, have been similarly traced to observable fundamental shocks with unobservable consequences for individual banks and bank borrowers. ⁵

Because bank panics result from bank vulnerability to asset value shocks, bank diversification can be extremely useful in forestalling panics. The peculiar propensity for banking panics in the U.S. reflected the fragmentation of U.S. banks by location, which made bank loans less diversified than in other countries. That observation suggests that an important ingredient in reducing banking risk in today's global economy is to encourage banks to operate branches throughout the world, and to hold an internationally diversified bundle of securities in their portfolios. Lack of bank diversification has been shown to be a major contributor to bank instability in emerging market economies in recent times, as Caprio and Wilson (1997), Wilson, Saunders, and Caprio (1997), and Kane (1998) emphasize.

Problem 3: The expectations of speculators can exaggerate the effects of adverse shocks, and can even precipitate self-fulfilling financial collapses when weakened financial systems are also illiquid. Current IMF assistance is inadequate to deal with this problem because it offers too little assistance, and attaches too many conditions to that assistance at the time of the loan request, which delays the availability of funds. There is a "Sachs version" of this alleged liquidity problem, and a "Mahatir version." The Sachs version (outlined in Sachs et al. 1996, Cole and Kehoe 1996) recognizes that economic fundamentals still drive crises to some degree (which, for example, explains why Singapore has not come under speculative attack in the recent crisis). The Mahatir version, predictably, sees speculative attacks as conspiracies that victimize the innocent.

My own view is that the evidence does not support placing much weight on multiple-equilibria explanations of current financial crises. The Mahatir version has been contradicted by recent empirical studies of the behavior of hedge funds and other institutional investors (see Brown et al. 1998, Choe et al. 1998). The Sachs version is also very weak on empirical support. As a general theory of crises it should apply not only to the current wave of disasters, but to historical cases as well. But the evidence cited above on the history of financial crises, contrary to Radelet and Sachs's (1998) claim, does not support the view that historical crises are explicable as bad equilibria within the context of the Diamond-Dybvig (1983), or the Sachs, models of multiple equilibria. In other words, a model that would explain the current wave of crises as bad equilibria must also explain (as these models do not) why these purported bad equilibria are new. The moral-hazard approach can do so (since safety net protection and the quasi-privatization of risk are relatively new phenomena); it is not clear whether the multiple-equilibria approach can.

Furthermore, Sachs and others search for multiple equilibria explanations mainly because they find little evidence of extreme fundamental weakness in macroeconomic *flow* indicators (e.g., conventional measures of government deficits or current account deficits). But, as argued above, they are simply looking in the wrong place for evidence of fundamental weakness. Expectations of future government expenditures often drive crises, not current expenditures. Financial sector imbalances (expected government costs of a bank bailout, or the bailout of an underfunded pension system) produce fiscal imbalance through the off-balance sheet contingent liabilities of the government, not through measured flows that show up in today's current account balance or current taxes and expenditures. In a world where banking sector collapses often produce fiscal costs in excess of 20 percent of GDP, and where government expenditures move smoothly compared to changes in off-balance sheet liability exposures of governments (since banking system losses can occur very quickly), a focus on macroeconomic flows as measures of fundamentals leaves

the prince out of the play.

Despite these objections, there surely is something to Sachs's argument if rephrased as the simple claim that a country with very low international reserves is more vulnerable to speculative attacks on its exchange rate or banking system than are others. Furthermore, as Garber (1997) points out, it is very hard to reject rational-expectations multiple-equilibria explanations econometrically. For these reasons, for the purposes of developing my proposed reforms I will assume that the Sachs and Mahatir views have some validity, and that it would be desirable for a global safety net to address the potential for self-fulfilling financial crises to emerge from a combination of small fundamental weaknesses and low liquidity (i.e., low bank and central bank reserves relative to short-term obligations).

Problem 4: "Contagion" across countries in securities and loan markets. Correlations in asset returns are much higher across emerging market countries during crises than at other times, and even government bond yields move together to an unusual degree during financial crises. There are several explanations for this "contagion." One is irrationality on the part of investors. A second is rational portfolio rebalancing by international investors; if portfolio investors (like banks) target a given default risk on the debt they *issue*, then they will *endogenously* shrink asset risk in one country in response to capital losses or exogenous increases in asset risk in another country. A third explanation revolves around linkages in international trade that can transmit economic decline, which is then reflected in asset prices. A fourth explanation revolves around multiple equilibria (either through changes in speculators views about the probability of bad equilibria, or through reductions in central bank liquidity following a global flight to quality). To the extent that cross-country contagion reflects irrational speculation or multiple equilibria, policies that would solve those problems would also eliminate cross-border spillover effects.

Problem 5: Government debt management sometimes leans too much on short-term debt. There are good reasons (incentive compatibility) for governments to shorten their debt maturities during times of fiscal uncertainty. Indeed, governments have been doing so for centuries.⁶ But doing so might promote self-fulfilling attacks on currencies (following the multiple-equilibria reasoning of Cole and Kehoe 1996, and Sachs et al. 1996). Mexico's financial crisis is often held up as an example of such a problem. While I have argued that these authors likely overstate the empirical evidence in support of that view (particularly in Mexico, where weak fundamentals in the banking system and in central bank policy were clearly present by late 1994, and persist to the present), there is a version of this view that is reasonable: A short term structure of government debt probably aggravates liquidity problems that have their origins in other fundamental shocks (fiscal risks associated with banking system collapse), as in Mexico during the tesobono selloff of 1995.

There is another reason to be concerned about the short term structure of government debt. Governments suffer a moral-hazard problem with respect to the maturity structure of their debts because IMF protection removes the cost of taking illiquidity risk through the shortening of government debt term structure. In an environment where the IMF cannot credibly say no to bailing out governments who abuse its protection, the IMF may be encouraging financial fragility by not penalizing government debt structures that rely excessively on short-term obligations.

From the perspective of these five challenges to financial system stability, current IMF policies are woefully inadequate, and indeed, are part of the problem. When a country suffers a banking system-cum-exchange rate collapse, its government protects politically influential domestic stakeholders by bailing out banks, their debtors, and their creditors, all at the expense of taxpayers. IMF loans to countries suffering financial collapse serve as bridge loans to permit the rescheduling of debt. The conditions imposed by the IMF along with its financial support help to ensure that tax increases to finance the bailout will be forthcoming, making the IMF an accomplice to the transfer of wealth from taxpayers to domestic oligarchs and global lenders. Banking reforms, promoted by the IMF as a condition for assistance, are inadequate and there is no credible mechanism for ensuring that "mandated" reforms will be carried out.⁷

Furthermore, IMF assistance is provided only after an agreement is reached, and funds are released in limited amounts over several months. That way of providing assistance is not effective in solving liquidity problems, which require large amounts of funds to be available on very short notice. Thus current IMF assistance is a non-starter, both from the standpoint of limiting moral hazard problems and reducing the risks of liquidity crises.

We can do much better. Public policy cannot eliminate unavoidable shocks to the financial system. But thoughtful policy can reduce the five avoidable risks listed above, which magnify the costs of exogenous shocks that buffet banking systems and government finances.

III. Principles on Which to Build A Global Financial System

In light of Section II's discussion, *the central two-fold objective of policy is to avoid moral-hazard problems that give rise to imprudent banking practices while also protecting against the four "liquidity" problems that can magnify fundamental shocks*. A careless approach to providing liquidity assistance results in excessive and counterproductive assistance – a tendency to "throw money" at fundamental problems, which aggravates problems of imprudent banking and encourages unwise fiscal, monetary and debt management policies.

Finding the right balance between liquidity assistance and market discipline is the crux of the policy problem. A financial system safety net will not achieve that balance by making it impossible for banks to fail or for exchange rates to collapse. A system that would eliminate the possibility of collapse would also encourage poor management of private and public affairs. Banks should sometimes fail, exchange rates should sometimes depreciate, and governments should sometimes have trouble rolling over their debts.

While finding the appropriate balance requires care, I will argue that constructing a balanced safety net does not pose an intractable economic dilemma. It is not the case that policy makers confront an inevitable dismal tradeoff between higher incentive costs from the safety net and greater benefits from safety net protection against liquidity crises. It is possible to capture the benefits of legitimate "liquidity insurance" without suffering the costs of moral hazard.

How can financial system safety nets provide systemic insurance against illiquidity without engendering moral hazard? To achieve that goal credible ex ante rules must be devised that properly allocate ex post losses to private agents, local governments, and international agencies. *A global financial safety net, therefore, must define more than the IMF's lending policy, it must define the "tranches of risk" that are credibly assumed by parties other than the IMF, as well as the risks the IMF assumes.*

This goal is not new. In fact, it underlay Walter Bagehot's (1873) classic policy prescriptions for domestic central banking: to lend freely at a penalty rate on good collateral. Bagehot argued an elastic and immediate supply of liquidity was essential to an effectively structured lender of last resort, and that appropriate loss sharing rules in the form of collateral requirements and penalty interest rates would discourage abuse of the safety net.

Successful lenders of last resort historically have had in common an ability to set credible rules for defining the sharing of risk that minimize moral hazard while maximizing the ability of the system to provide liquidity during crises. In the United States prior to the Civil War, three states (Indiana, Ohio, and Iowa) successfully operated mutual insurance systems for member banks, which revolved around that principle (Calomiris 1989, 1990, 1993). These were imitated by the New York Clearing House, and by other private clearing houses (Cannon 1910, Gorton 1985). Member banks were constrained by rules and credible monitoring arrangements that limited the riskiness of their debts. Insolvent banks were ejected from coalitions that provided liquidity protection for solvent banks. Enforceable rules requiring the pooling of risks during crises to solve liquidity problems ensured sufficient collective protection. These systems provide examples worthy of imitation today. All successful historical safety net systems revolved around credible arrangements for limiting moral hazard by clearly defining how losses incurred by members would be allocated.

Defining the allocation of risk for the global safety net requires a segmentation of risk into three tranches: the private tranche (exposures to loss incurred by private claimants of individual financial institutions), the domestic government tranche (exposures to loss assumed by local government bank safety nets, and hence, local taxpayers), and the IMF tranche (exposures to loss assumed by the IMF). The other key design feature of the global safety net is determining how the IMF's financial positions are financed (how risks taken by the IMF will be passed on to other parties).

The role of financial system regulations, which include IMF membership criteria and the rules for IMF lending, is to clearly define when and how the IMF lends, and how losses are allocated within the financial system to maximize the effectiveness of protection against illiquidity, while minimizing the moral-hazard costs of protection. To be effective, those rules not only have to make economic sense, but must be *transparent* and *credible*. In other words, the rules governing the global safety net have to qualify not only as economically sensible, but also as politically robust.

IV. A New Institutional Structure for Credible Loss Sharing

Without a credible "first tranche" of private loss, moral hazard will plague any attempt to provide liquidity, either from domestic governments or the IMF. What is needed is a set of transparently credible rules that impose a margin of private loss on bank claimants, which limits the exposure of taxpayers to bailout costs *ex post*, and in so doing, limits banks' willingness to undertake risks *ex ante*. Putting those safeguards into place should be a requirement of membership in the IMF. Members would then be eligible for IMF liquidity protection – loans from the IMF that are specifically designed to resolve liquidity problems, not to bail out insolvent banks.

By setting these clear, credible criteria for IMF membership, and devising rules for IMF lending that guard against liquidity problems without providing bailouts (that is, without absorbing bank solvency risks), the IMF and its loan programs would help to stabilize global financial markets. What sorts of rules would work to accomplish these objectives? The rules divide into three types: (1) domestic regulations required as a condition for IMF membership, (2) rules governing IMF lending to members, and (3) rules defining the way IMF loans are financed.

Credible Bank Regulation: Subordinated Debt, Liquidity, Insurance, and Free Entry

The bank regulatory requirements that should be mandatory for IMF members include four components: (1) capital requirements (including, in particular, a subordinated debt requirement as part of the capital requirement), (2) "reserve" requirements (minimum ratios of assets in cash and in "global securities"), (3) the explicit insurance of bank deposits, and (4) "free banking" (unlimited chartering of banks conforming to common regulatory standards, and unlimited investment by foreigners in banks, conforming to the same standards as domestic investors).

A key function of capital regulations is to provide a credible first tranche of private loss by ensuring that uninsured bank claimants (stockholders and subordinated debt holders) will lose wealth when banks suffer adverse shocks to the values of their risky assets. Minimum cash reserve ratio requirements serve a similar function (effectively ensuring a margin of protection for insured debt), and also enhance bank liquidity. A minimum amount of "global securities" – domestic and foreign marketable instruments – adds to the transparency of bank balance sheets and helps to diversify bank risk. Thus restrictions on asset holdings and on the composition of bank liabilities provide crucial buffers that ensure the privatization of bank losses, and thus make it easier for local governments and the IMF to provide liquidity protection cost effectively. These regulatory requirements are a first line of defence that reduces the risk of bank failure, the potential for costly bank bailouts, and the liquidity risk that banks face.

Free entry into banking by foreign investors provides an important source of capital (to meet regulatory capital requirements). It also helps to diversify both the ownership base of banks and their asset portfolios (since foreign banks naturally hold more globally diverse portfolios), which makes banks more resilient in the face of adverse domestic shocks. Finally, foreign banks provide important competitive pressure that improves the quality of domestic bank management (Demirguc-Kunt and Levine 1998, Kane 1998).

Because of the importance of *credibility* and *transparency*, bank capital and portfolio regulations must be designed carefully. Credibility and transparency require a reliance on *market discipline* to enforce bank regulations (Keehn 1989, Wall 1989, Flannery 1998, Berger et al. 1998). In capital standards, the devil is in the details. A key flaw in the Basle capital requirements to date has been their emphasis on government supervisory standards when measuring capital. Book value equity is measured by supervisors who often have little skill, and even less incentive, to report bank asset losses accurately. Second, the Basle standards imply an arbitrary link between their measure of asset risk and book value capital, while the true asset risk of the bank can differ from the Basle measure of "risk-weighted assets." The mandated 8% capital requirement is not sufficient if banks assume very high asset risk, and the measurement of risk-weighted assets under the Basle standards leaves much room for bank manipulation of risk.

The Basle capital requirements can be substantially improved by incorporating into the Basle framework a minimal (say, 2%) subordinated debt requirement, as a means to ensure a credible relationship between capital and asset risk via market discipline. This approach was first proposed by the Chicago Federal Reserve Bank (Keehn 1989) and the Atlanta Federal Reserve Bank (Wall 1989) in response to the U.S. S&L and banking crises of the 1980s. The approach outlined here is a modified version of the Chicago Fed plan.

As part of the existing 8% tier 1 and tier 2 Basle capital requirement, banks would be required to issue at least 2% of risk-weighted assets (as defined under the Basle standards) in the form of a new class of subordinated debt. That debt would be subordinated to (that is, junior to) other bank debts. Unlike equity holders, subordinated debt holders do not benefit from "asset substitution" (increasing asset risk in order to exploit the implicit put option value of deposit insurance). Thus subordinated debt holders would be a conservative force for restricting bank risk taking, and protecting relatively senior bank deposits. Because subordinated debt is easy to measure (unlike the book value of equity), a minimal subordinated debt requirement avoids the problems of relying on domestic bank supervisors to measure compliance with equity standards. Furthermore, the yields on the debt are observable, which provides a continuous and transparent market opinion about bank risk.

To be successful, however, subordinated debt issues should be restricted in several ways. To ensure that it serves its role as a source of market discipline, subordinated debt must be held at arms length, and therefore, cannot be held by any willing purchaser. I recommend that the debt be non-tradable, and held only by a group of approved and registered holders (which would differ for each issuer). Each bank's group of qualified holders would be a subset of, say, 50 institutions pre-approved by both the domestic regulator and the IMF as reputable *foreign* financial institutions with no other financial transactions with the issuing bank. Placing subordinated debt in the hands of well-diversified foreign institutions also helps to ensure that subordinated debt holders will not be bailed out, which is necessary for subordinated debt to serve as a source of market discipline.

It is also essential that a subordinated debt requirement specify how increased bank risk (visible in the yields of subordinated debt) would be penalized by bank regulators. Perhaps the simplest procedure is to set a maximum yield spread over comparable maturity treasury instruments (say, 5%) and require that subordinated debt not be issued at yields in excess of that maximum spread. Banks that fail to roll over their debts at or below the mandated yield spreads eventually would have to contract their risk-weighted assets to remain in compliance with the 2% subordinated debt requirement.

The maturity of subordinated debt should reflect the right balance between enhancing market discipline (by requiring that the debt be rolled over sufficiently frequently) and limiting the amount of rollover that can occur over short intervals (to avoid the risk of sudden illiquidity). For example, requiring that subordinated debt be issued in the form of 24 overlapping generations of two-year debt – one-twenty-fourth of which mature each month – would be a reasonable way to achieve discipline without leaving banks vulnerable to liquidity crises. That arrangement would limit the rate of decline of subordinated debt to roughly 4% per month. Given the required minimum ratio of subordinated debt to risk-weighted assets, that would also limit the maximum monthly decline of risk weighted assets mandated by the requirement to 4%.

The subordinated debt requirement is designed to encourage prudent behavior by banks *ex ante* (since, on the margin, they are always subject to market discipline), and to encourage appropriate adjustment of asset risk to adverse shocks *ex post*. Unlike many banks currently, banks subject to a subordinated debt requirement would not purposely increase risk in the wake of losses. Instead, banks would have strong incentives to reduce asset risk and cut dividends (or find alternative ways to raise capital) in the face of losses, much as banks did before safety nets changed their incentives to react appropriately to shocks.

Because subordinated debt holders bear risks that come from both on-balance sheet and off-balance sheet asset risks, they discourage attempts by banks to avoid regulatory capital standards by placing transactions off banks' balance sheets. Subordinated debt holders also encourage banks to develop clear reporting procedures and effective tools for risk management.

A banking system governed by a credibly uninsured subordinated debt requirement is self-equilibrating. Banks

may have difficulty rolling over subordinated debt in response to severe shocks (given the proposed yield spread limit on subordinated debt). The failure to roll over subordinated debt mandates a contraction of risk weighted assets (e.g., a contraction of loans). That contraction itself reduces asset risk, eventually allowing the market spread on subordinated debt to fall within the prescribed limits of the regulation.

Restrictions on bank asset composition are also desirable, both to promote liquidity for the system as a whole, and to provide a transparent safeguard against bank default risk in addition to requiring subordinated debt. Argentina's high reserve requirements were extremely useful in helping Argentine banks to weather the tequila crisis in early 1995. Argentina has also shown creativity in the way it allows banks to meet those reserve requirements. Banks are encouraged to hold up to 50% of their reserves offshore in private commercial banks, and may hold much of their reserves in the form of standby arrangements with foreign commercial banks (for which the Argentine banks pay a fee) rather than in the form of actual dollar deposits. Like a subordinated debt requirement (also a feature of the Argentine system) this arrangement rewards low-risk banks who are able to pay low fees for their standbys.

I propose a similar requirement as part of the mandatory minimum reserve requirement for banks – a 20% reserve requirement relative to bank debt, with half to be held offshore (partly to protect against government confiscation of bank resources). Banks can satisfy the 10% offshore reserve requirement by maintaining standbys in that amount with any AA rated international bank.

The "global securities" requirement would also be set at 20% of deposits. At least half of that securities portfolio must consist of foreign hard-currency-denominated (meaning denominated in dollars, yen, or euros) debt securities placed and priced in international public markets, with yield spreads at the date of purchase of less than 3% over the comparable maturity treasury instrument (of either the U.S., German, or Japanese governments denominated in their respective currencies). The other half of the required securities portfolio could consist of any publicly traded debts (including local government and private bonds), so long as their yield spreads were less than 5% over comparable treasury securities at the date of purchase. The securities portfolio requirement serves the dual function of encouraging global diversification and providing an additional liquidity buffer for banks.

The final regulatory requirement is deposit insurance. All bank debt that is not included in subordinated debt should be explicitly insured by the local government. Doing so would eliminate the possibility of banking panics, either due to asymmetric-information problems (Section II's "Problem 2"), or multiple equilibria (Section II's "Problem 3").

The argument for government deposit insurance is primarily a political, rather than an economic, one. Arguably, private methods of protecting against banking panics may be superior to government deposit insurance. But since governments tend to be incapable of credibly committing not to provide insurance ex post, it is not possible to construct effective private systems.

Explicit government insurance is superior to implicit government insurance. While there are some theoretical and empirical arguments in favor of "constructive ambiguity" in deposit insurance that might favor implicit over explicit insurance, those arguments are not convincing. Implicit insurance does not provide as much protection against runs. Also, making insurance explicit allows governments to charge insurance premia for the protection, and helps government actions to conform better to stated government policy (surely a desirable principle in a world where reputation building has value).

In the presence of the other prudential regulations (the subordinated debt requirement and the portfolio requirements), deposit insurance should not be very costly. In a world where market discipline constrains bank behavior, there are likely to be few bank failures, and small losses from insuring banks.⁸

These four regulations – subordinated debt requirements, minimum reserve and securities ratios, free banking, and deposit insurance are a *minimal standard*, which should be required as a condition for membership in the IMF. I would recommend that countries go beyond that minimal standard when devising their bank regulations, particularly in the areas of insider lending limitations, barriers between commerce and banking, regulations of market risk exposures, and more realistic definitions of risk weighted assets than those found in the Basle standards. For example, risk

weighted assets should be defined in a way that is more sensitive to real risk than are the Basle standards. In Argentina, risk weights on loans are determined by the interest rate on the loan, and can be as much as 600% of the book value of the loan for very high interest loans.

While it is desirable to improve bank regulation by including requirements in addition to the four minimal standards, some regulatory standards should vary across countries. Furthermore, a subordinated debt requirement, and the market discipline it brings, arguably subsumes other regulatory standards, and makes additional measures less important. If banks have to satisfy market discipline, markets will informally "impose" safeguards against market risks, insider lending, and other potential problems, since banks will have to satisfy market perceptions about their overall risk profile.

By keeping the list of required regulations short and simple it will be easier for the IMF to credibly enforce the rules it sets (see Section V below). By vigorously enforcing these rules (e.g., ejecting countries from the IMF if they fail to enforce minimal requirements or if they bail out subordinated debt holders when banks experience losses) the IMF will return reason and balance to international banking, and prevent its own protection from being a source of financial instability.

A reformed global banking system will also reduce the riskiness of emerging market securities. Banking systems as a rule have been run inefficiently in emerging market countries, and banks often pursue opportunities more on the basis of insiders' interests than a proper valuation of loans. For that reason there are many viable projects that should be financed by banks rather than via securities issues (that is, projects that require ongoing monitoring and discipline by banks through concentrated local holdings of claims on borrowing firms), but are pushed into securities markets for lack of a local means of bank finance. In a properly functioning global banking system, those projects would be financed by banks, and banks would be more internationally diversified to permit them to deal with the risks that arise from those risky projects.

The four core banking regulations would ensure a properly functioning global banking system. Free entry, competition, and credible market discipline would encourage proper diversification, prudent management of risk, and an efficient allocation of bank capital. It would also make it possible for the IMF to do the job it was chartered to do – providing liquidity insurance – without the destabilizing side effects of moral hazard.

Other IMF Membership Requirements

Thus far I have focused on the structure of banking systems, and on proposed mandatory bank regulatory requirements for IMF membership. That emphasis is appropriate given the important role banking system losses and moral hazard have played in exchange rate collapses and IMF-sponsored bailouts. But there is more to the global financial architecture than the regulations governing banks.

In addition to the mandatory bank regulations, the IMF should impose restrictions on government recapitalizations of banks (or implicit subsidization of banks through a variety of other means), and set minimal standards for government debt maturity structure, and for a prudent fixed exchange rate policy. It is appropriate for the IMF to set standards for debt management and exchange rate policy, as well as banking practices, since the IMF will provide liquidity assistance to buttress fixed exchange rates or to facilitate debt rollover.

The main purpose of restrictions on government assistance to banks is to ensure that the market discipline brought by the subordinated debt requirement is not undermined by government assistance through channels other than deposit insurance. A detailed discussion of the limits on recapitalization policy are described below under the rubrics of "transition problems" and "large macroeconomic shocks."

As in the case of mandatory banking regulations, the other rules should be as few and as simple as possible, and should be designed to make compliance with them easily observable to the IMF and to third parties. Countries should face a ceiling on the proportion of short-term sovereign debt they issue. For example, members could be required to maintain ratios of short-term debt that were no more than 25% of the previous year's export earnings, and no more than 25% of total sovereign debt.

Countries should not be required to maintain fixed exchange rates, but if a country does peg its exchange rate, then it should be required to meet two additional requirements. First, it should have to maintain a minimum ratio of reserves to high-powered money. Economic theory has little to say about the "right" reserve ratio for a central bank to maintain, except that the right minimal proportion of reserves depends on the confidence the market places in fiscal and monetary policy. Countries operating currency boards maintain ratios of nearly 100%, but there are many examples of countries that have been able to maintain exchange rates for long periods of time with much smaller reserve ratios (the United States prior to 1933, for example). Rather than requiring everyone to hold 100% reserves, or trying to set standards for reserves that depend on hard-to-observe fiscal and monetary fundamentals, I propose requiring a low minimal reserve ratio (25%), and encouraging countries to properly manage their reserve policies by making it clear (by enacting the aforementioned reforms) that the IMF will provide support only to resolve bona fide liquidity problems.

Second, member countries with fixed exchange rates should be required to permit banks to offer deposits denominated in both domestic and foreign currency. Doing so (as Argentina did when it adopted its currency board) helps to insulate banks from the risk of devaluation; funds can flow out of the domestic currency without flowing out of the banks. Bank deposit accounts in both currencies also provide continuous market information about the risk of devaluation. Domingo Cavallo, the Argentine finance minister, has argued that observing interest rates in both currencies gives domestic policy makers a valuable signal of market perceptions of government policies that bear on the maintenance of the exchange rate (Cavallo 1999).

Observing interest rate differentials prior to a speculative attack also gives the IMF valuable information which may be useful in judging the causes behind a speculative attack. If the perceived risk of devaluation (reflected in the interest rate differential) rises gradually over a matter of months, while the government makes little effort to diffuse market concerns through increases in reserves or fiscal reforms, then it is hard to blame the speculative attack on multiple equilibria or irrationality. In some cases, as discussed below, the IMF might wish to withdraw its support for an exchange peg that so obviously ignores market concerns over long-term fundamentals.

I do not include any membership requirements with respect to capital controls or devaluation policy. It would be too difficult to devise general rules to cover these areas; moreover, the appropriate policies with respect to capital controls and the appropriate circumstances for a devaluation should be left to governments to decide for themselves.

Many economists have rightly argued that the proper alternative to bailouts is a functioning bankruptcy code that can distribute loss according to clearly specified rules. I agree with that point of view, but do not attach it here as a condition for IMF membership for two reasons. First, it would be hard to specify the terms of that bankruptcy code in an uncontroversial way (the Swedish code is my personal favorite). Second, it is probably not necessary to add bankruptcy reform as an additional requirement of IMF membership. A banking system that is responsive to market discipline will be a powerful force for creating bankruptcy reform endogenously. The same can be said for the endogenous reform of commercial law, collateral registration procedures, and accounting standards.

I also omit any discussion of fiscal policy targets. It is too hard to design useful, credible, uniform rules about fiscal policy – for example, off-balance sheet exposures are often crucial to long-term fiscal health and are very hard to measure.

IMF Goals, Lending Policy, and Sources of Funds

Thus far, I have outlined the criteria for membership in the newly constituted IMF. IMF membership depends on satisfying four bank regulatory requirements (free banking, market-based capital standards, reserve and securities requirements, and deposit insurance), and three additional policy requirements (limits on short-term government debt, and two additional rules for fixed-exchange-rate economies: a minimal central bank reserve requirement, and the requirement that banks be permitted to offer accounts denominated in both domestic and foreign currency). Countries that do not satisfy these seven requirements would be ejected from the IMF; there would be no room for discretion in bending those rules.

Now I turn to the question of what function the IMF would serve, and how it would achieve its objectives. The goal of the IMF would be to mitigate problems of illiquidity that may arise when a country is pegging its exchange

rate. Note that most of the problems listed in Section II are addressed by IMF membership requirements. Problems associated with bailouts, and banking panics resulting either from asymmetric information about bank loan portfolios or multiple equilibria, are addressed by the requirements that limit abuse of the safety net and by mandatory insurance of bank deposits. Problem 5 (government debt rollover risk) is addressed by limiting short-term sovereign debt issues, which also prevents governments from free riding on IMF insurance against liquidity risk.

The systemic risk that remains to be addressed is the possibility that central bank illiquidity could produce a speculative attack on the exchange rate peg caused either by multiple exchange rate equilibria or irrational speculators, rather than by fundamental fiscal and monetary policy weakness. Preventing such attacks was the clear intent of the IMF's founders who sought to provide a safeguard against unwarranted currency depreciation that might result from sudden pressures on the balance of payments.

To provide liquidity protection I propose that the IMF operate a discount window to lend to central banks. The proposed discount window lending policy is based on Bagehot's (1873) rule: lend freely during crises on bona fide collateral at a penalty rate. By penalty rate I mean a rate higher than the preexisting market clearing rate, but not as high as the rate would be if no protection were offered. Bona fide collateral is defined as any government debt instrument held by the central bank that is priced in the market, so long as at least 25% of the amount of the collateral offered is in the form of *foreign* government securities.

To be concrete, a government that is a member in good standing would be able to have its central bank borrow dollars from the IMF for a short period of time (say, 90 days) if it posts 125% of the borrowed amount in securities. Collateral securities would be valued using prices from one week prior to the request. The borrowing interest rate would be two percentage points above the value-weighted yield on that bundle of securities one week before the request. Thus, since the bulk of collateral will consist of the borrowing countries' sovereign debt, by setting the interest rate at a fixed amount above the lagged yield on the sovereign debt, IMF lending can successfully provide an elastic supply of liquidity, and can short-circuit a "bad equilibrium" in which self-fulfilling expectations produce a collapse in the value of government debt.

To ensure that bank regulatory protections remain in place, central banks would not be permitted to post as collateral securities they borrowed or purchased from their local commercial banks. IMF loans should not be rolled over for an additional 90 days without some form of special approval (say, a large supernumerary majority of IMF members voting in favor of extending the loan).

To avoid abuse of IMF protection, it may be desirable for the IMF to retain the option to turn down a request if it could provide evidence that the fundamentals driving the value of the collateral securities had deteriorated precipitously in the week before the request. For example, if yield spreads between bank accounts denominated in local and foreign currency had widened dramatically in response to political events that weakened fundamentals, then the IMF might reasonably refuse assistance. Russia's experience during August 1998 is an example of such a precipitous fundamental deterioration.

The 125% collateralization, along with the requirement that 25% of the collateral take the form of government securities issued by foreign governments, and – perhaps most importantly – the banking reforms that limit member government fiscal exposure to bank losses all serve to limit the default risk suffered by the IMF and encourage central banks to maintain foreign government securities holdings in addition to cash reserves, which bolsters the credibility of the exchange rate. The collateral requirements, the short duration of the loan, and the penalty interest rate together limit the size of the credit subsidy received by the borrowing central bank, which discourages frivolous use of the IMF discount window. Countries that default on IMF loans should be barred from borrowing for some time (say, 5 years), and should not be permitted to re-enter as members until they have repaid their debts in full (including accrued interest).

The new IMF discount window would provide significant protection against short-term liquidity problems. Governments would be able to convert large amounts of their bonds into cash on short notice, provided that they also maintained sufficiently large holdings of foreign government securities to meet the 25% collateral requirement. Assistance would be available on short notice, and no conditions (other than membership) would be attached to it.

Of course, this discount window would not protect a country against persistent balance of payments outflows, and it should not attempt to do so. Persistent outflows, which would lower central bank holdings of hard currency and hard-currency-denominated securities, would be a sure sign of fundamental weakness. IMF lending should not try to lend to prop up unsustainable currency pegs. It should lend freely, however, to ensure that sudden "self-fulfilling" speculation does not undermine an otherwise sustainable peg.

It is worth emphasizing that a Bagehotian lender of last resort cannot provide much protection against banking panics that are caused by asymmetric information about bank loan quality, since lending against securities collateral makes the value of deposits more, rather than less, susceptible to declines in the value of bank loans.⁹ That is why it is necessary to combine a Bagehotian lender of last resort (like the reformed IMF discount window envisioned here) with credible protection against asymmetric-information problems in the banking sector. Deposit insurance eliminates depositors' incentives to run banks when they become concerned about the value of loan portfolios. Credible market discipline (through a subordinated debt requirement and asset portfolio requirements) reduces the incidence of such asymmetric-information problems and provides strong incentives for banks to control loan risk, which eases the funding burden of providing deposit insurance protection, and fosters deposit insurance credibility. Thus the IMF's ability to provide liquidity protection against speculative attacks on exchange rates will only be effective if combined with those other regulatory requirements.

How would the IMF finance its lending to central banks? The IMF would borrow cash from the central banks that issue it (in the U.S., Germany, or Japan). IMF borrowings from central banks would be fully collateralized by the government securities of the hard-money country of issue. Those collateral securities would be contributed by all IMF members, and held by the IMF to be used as needed. For example, if the IMF were borrowing dollars from the Fed, it would post 100% collateral in the form of U.S. government securities. IMF members would share the financial burden of supplying that collateral, and therefore would share the risk of the borrowing country defaulting on its IMF loan. IMF lending would not imply an increase in the aggregate supply of hard currencies, since the Fed, the Bank of Japan and the European Central Bank would all be free to sterilize the effects of their loans to the IMF.

Transition Problems

Some of the world is very far from meeting the conditions specified above for IMF membership. How difficult would it be for countries to satisfy the seven membership requirements, and what transitional policies could facilitate that process?

The central bank reserve requirement, the limits on government debt maturity, and the requirement that banks be permitted to offer accounts in domestic and foreign currency would be relatively easy to satisfy. The main difficulty is transforming the banking systems of many countries (including those in some Western European countries, as well as the vast majority of those in developing economies) into competitive, market-oriented systems. The problem is not mainly an economic one; if governments opened their banking systems to foreign entry and imposed the regulations suggested above, efficient banking systems would develop quickly. The problem, however, is the politics of banking – the resistance of entrenched special interests to reforms that would erode the rents they currently enjoy. The challenge reformers face is to find a way to placate that political opposition.

The resistance to market discipline can be found even in relatively efficient banking systems (like that of the United States), where only recently some of the largest banks have begun to call for subordinated debt requirements to eliminate "too-big-to-fail" protection. Those banks consistently opposed such measures over the past decade, predictably preferring to maintain the implicit subsidy from the taxpayers. But now many of them (and, notably, The Bankers Roundtable, which represents the largest 150 U.S. banks) are calling for reform because they see credible market discipline, and a subordinated debt requirement in particular, as a means of permitting an expansion of bank powers (The Bankers' Roundtable 1998).

Deregulation is one way of buying support for market discipline, but in many developing economies (where banks already enjoy broad powers, and where bank owners would have great difficulty in meeting market-enforced capital standards), it may be necessary to buy support more overtly through a government-financed recapitalization of existing banks. That recapitalization would make it easier to swallow the pill of market discipline, and if a one-time subsidy

would set the stage for credible regulatory reform (on the lines described above), it would be well worth the cost.

Such a recapitalization must be carefully designed, however, so that it is cost effective, and does not undermine market discipline in the future. One approach to providing government subsidization of bank recapitalization without undermining the effectiveness of market discipline is proposed in Calomiris (1998b, 1999). Assistance would take the form of subsidized government purchases of bank preferred stock for a short period (say, five years). Those purchases would occur on a matching basis with arms-length public offerings of new common stock. To qualify banks would have to agree to other provisions, including the suspension of dividend payments on common stock during the period in which the government holds preferred shares. The one-time recapitalization subsidy is designed automatically to target assistance toward the relatively strong, and to help make subordinated debt requirements feasible.

The World Bank, and other development banks, could help during the transition process in two ways: by providing financial assistance to encourage countries to implement credible market discipline (and thereby qualify for IMF membership), and by offering advice on how to structure complementary institutions and laws (including commercial laws, accounting codes, and bankruptcy laws). Too often World Bank loans have crowded out private lending and removed incentives for countries to adopt the fundamental reforms of property rights on which private lending depends. World Bank loans to China are the clearest example of such misdirected lending. But in some cases the World Bank successfully has targeted its assistance to encourage privatization of financial institutions and the creation of credible market discipline. Its loan subsidies to Argentina to help pay for the privatization of provincial banks are an example. The World Bank and other development banks could help ensure broad based membership in the new IMF by redirecting loan subsidies toward government programs that restructure banking systems to encourage adherence to market discipline.

Large Macroeconomic Shocks

No matter what the stated commitment to market discipline, time inconsistency problems will tempt governments to provide assistance to banks during severe macroeconomic downturns. Banking systems that respond properly to market discipline will necessarily magnify recessions by curtailing the supply of loanable funds when they experience losses on their loan portfolios. Governments will be tempted to relax market discipline to prevent the aggravation of cyclical downturns.

A better approach is to maintain market discipline through the subordinated debt requirement, but subsidize private bank recapitalization (using the preferred stock matching subsidy described above) to counteract especially severe economic downturns. I am not arguing that bank recapitalization is desirable economically; rather, I am arguing that if government intervention into the banking system is politically inevitable, it is better to intervene to help banks meet the standards of market discipline, rather than simply repealing those standards.

It is also crucial that other forms of bank bailouts be forsworn. In particular, central banks of IMF member countries should not be permitted to operate discount windows that implicitly bail out banks. In the presence of deposit insurance, a private interbank market for reserves, and IMF liquidity assistance there is no need for a domestic discount window to implement monetary policy (Goodfriend and King 1988, Bordo 1990). If central banks insist on operating a discount window, they should be required to restrict potential abuse by employing in their domestic discount window lending the same Bagehotian principles advocated here for the IMF window.

V. The Political Economy of Financial Reform

Politics poses challenges for any attempt to bring economic reason and market discipline to bear on the regulation of the global financial system. Politicians and regulators are jealous of their power, tend to prefer systems that rely on discretion rather than rules, and are more comfortable managing cryptic decision making processes (the proverbial smoke-filled rooms in which IMF policies are determined today) than engaging opponents openly in public fora.

Thus the reforms I advocate – the abolition of the Exchange Stabilization Fund and a sweeping reform of the IMF – will likely not be very welcome in Washington or in the treasury departments or finance ministries of many nations. That does not mean that reform is impossible, but it certainly will be an uphill battle.

Consider, for example, the problem this proposal poses for the U.S. Treasury Department. It has frequently used the Exchange Stabilization Fund (Schwartz 1997, 1998) and the IMF as means to provide foreign aid under the guise of liquidity assistance. These mechanisms have the advantage that they avoid the unpleasant and inconvenient requirement of seeking Congressional approval for such aid. The recent IMF assistance programs for Mexico in 1994-1995, and for Russia in 1998, were among the most unseemly recent examples of pushiness by the U.S. administration.

The political obstacles to rationalizing the current system are formidable. But the distortions in decision making created by those obstacles also are motivating a redoubling of effort in some quarters to reform the system. Simplifying the IMF's role and decision making process by setting simple, meaningful, and publicly observable membership criteria, and placing strict bounds on how and when the IMF provides assistance, would be a welcome means of reducing politically motivated distortions from the process of providing necessary liquidity assistance. These reforms would also remove the IMF from the uncomfortable position of dictating the details of macroeconomic and microeconomic policy to its member nations (see Feldstein 1998). Aside from IMF membership criteria, according to my proposal, no conditions would be attached to IMF liquidity assistance.

The prospect of a world where the power to allocate risk would be less abused, and where political puppeteers would find the strings of the financial system beyond their reach, fires the imagination and invites the effort to see such a project through. The recent failings of IMF-U.S. Treasury policies in Mexico, Asia, and Russia, and the chorus of criticism facing the IMF and the Treasury, provide a window of opportunity for reform. Congress is now poised – for the first time in U.S. history – to thoroughly evaluate the process of decision making within the IMF.

Yet, a deeper question remains unanswered. Assuming that something like this plan did succeed in being passed, and that it would perform as advertised, would the policies be politically credible? The key to credibility is the willingness to enforce market discipline in the banking system – which ensures that first-tranche losses from financial collapse are borne privately by subordinated debt holders. Will member governments do so, and will the IMF be willing to eject members that fail to impose those losses?

It is not possible to predict political processes very exactly. At the same time, the subordinated debt plan has been designed to maximize the probability of political survival. Subordinated debt is a very thin sliver of private loss (2% of risk-weighted assets), and would be held (preferably, outside of the country of issue) by large, diversified international financial institutions for whom that sliver of loss should not be devastating. The vast majority of claims on banks are protected from loss by deposit insurance. Subordinated debt also is specifically earmarked ex ante for loss, and governments that do not bail out subordinated debt holders can point to IMF membership requirements that prohibit bailing them out. Furthermore, allowing for stock recapitalization during the most severe macroeconomic crises removes one of the main threats that might otherwise relax market discipline.

That said, it must be admitted that no economic plan is foolproof, and that much will depend on how the IMF reacts to attempts by members to undermine market discipline. The more economists and policy makers worry about this issue in advance, the better.

Other details of the plan must also be addressed to make it more politically survivable. Non-bank banks (intermediaries that operate as banks, but do not call themselves banks) and similar evasions of the spirit of the membership requirements must be guarded against. Small banks, who will find it hard to access global subordinated debt markets, and who may possess the political power to block regulatory reform, must be compensated as well. The easiest way to proceed might be to allow small banks (defined, say, as banks with less than \$1 billion in assets) to issue their subordinated debt in the form of interbank deposits held by large local banks.

A final political obstacle to reform might be called the "one world syndrome." I propose that the IMF charter prohibit loans to non-member countries. Because membership criteria will not be met by everyone, that implies that some countries will be excluded (by their own actions) from IMF protection. For some, it will be awkward to devise a global safety net and an international lender that excludes countries from membership and protection. But this is necessary for two reasons.

First, restricting access to the IMF helps taxpayers worldwide to limit their own governments' abuse of IMF

lending in support of bailouts that transfer resources to influential oligarchs. Policy makers should recognize that without the core institutions of a successful market economy – clear and credible private property rights, competition, and adherence to market discipline to ensure appropriate incentives toward risk taking – quasi privatization of banks and liberalization of capital flows builds a house of cards that will inevitably topple. It is counterproductive for the IMF to assist such economies or to encourage them to enter global capital markets. Helping oligarchs to preserve their power and status at the expense of local taxpayers only makes it harder for economies to build the foundations of successful liberalization.

Second, IMF membership rules are necessary to prevent member countries from abusing the protection offered by other members. As in all successful private and public arrangements that provide liquidity protection, regulations are necessary to prevent free riding. For a mutually beneficial liquidity insurance system to work, membership criteria must be meaningful and membership must be valuable, otherwise the ability to free ride will undermine the willingness to reform domestic banking systems and other policies.

Of course, the U.S. government, and others, would still be able to provide foreign aid to non-member countries for strategic or humanitarian reasons. But that assistance would not flow through the IMF or the ESF.

VI. Conclusion

A global financial architecture can be defined as the set of institutions, contracts, and incentives that determine how financial risks are taken and how losses and gains from taking those risks are allocated. This paper offers an ecumenical proposal for reforming that architecture. As a working assumption, I have assumed that there is some truth in virtually every argument that is made about the problems facing the global financial system, and have argued that it is possible to design a global safety net that properly allocates risk, eliminates (or at least significantly reduces) problems of moral hazard, and still provides protection against illiquidity problems. I have argued that the imagined system would be simple to operate, and would be more credible politically (more "time consistent") than many alternatives. It would also permit the IMF to provide elastic liquidity assistance to help members defend their exchange rates from unwarranted attacks.

The proposed changes would also avoid IMF micro-management in the midst of crises, which has been criticized as an abuse of power (Feldstein 1998), an ineffectual means of financial system reform, and counterproductive to the provision of rapid liquidity assistance. Focusing the IMF's mission on true liquidity assistance would transform it from an agency that balances political interests to one that solves well defined economic problems, which would do much to rebuild the shattered reputation of the Fund.

Others, no doubt, will find ways to improve this proposal. By being concrete – drafting "blueprints" rather than just outlining broad principles – I do not mean to suggest that mine is the only imaginable way to proceed, but rather I hope to have stimulated *specific* discussions, and to have pointed to the need to combine economic logic with political pragmatism when designing the rules that govern the global financial system.

Offering a plan for reform does not constitute an unconditional argument for keeping the IMF. Schwartz (1998) is right, in my view, to argue that in its current form the IMF does more harm than good. Abolishing the IMF may be the right policy to pursue if it turns out that the path to reform, including credible IMF enforcement of meaningful membership criteria that limit safety net abuse, is blocked by those with vested interests in preserving the status quo.

Endnotes

¹ For more details, see Calomiris (1998a) and Meltzer (1998a, 1998b).

² For a discussion of the responses to loss by New York banks during the Great Depression, see Calomiris and Wilson (1998).

³ For details on the moral-hazard costs of safety nets over the past two decades, see Caprio and Klingebiel (1996a, 1996b), Lindgren, Garcia, and Saal (1996), Demirguc-Kunt and Detragiache (1997), Calomiris (1997, 1998a), Meltzer (1998a, 1998b), and Kane (1998) for summary analyses; De la Cudra and Valdes (1992) on the Chilean crisis of 1982-1983; De Krivoy (1995) on the Venezuelan crisis of 1991-1993; and Wilson, Saunders, and Caprio (1997) on the Mexican crisis of 1994-1995.

⁴ For details, see Calomiris (1998a) and Meltzer (1998a, 1998b).

⁵ Calomiris and Gorton (1991) review models of banking panics and provide empirical evidence on their causes. See Mishkin (1991) and Wicker (1998) for complementary evidence. Bordo (1985), Calomiris and Schweikart (1991), Calomiris (1993, 1994), and Calomiris and Mason (1997) provide similar perspectives on the Panic of 1857, the Penn Central Crisis of 1970, historical banking panics outside the United States, and the Chicago Banking Panic of June 1932.

⁶ For a review of the use of short-term debt finance by the United States historically, see Calomiris (1991).

⁷ IMF conditionality is not always ineffectual. But banking reform is a protracted process, and cannot be accomplished easily through IMF pressure (see Calomiris 1998a).

⁸ For historical evidence supporting this view, see Calomiris (1989, 1990, 1993).

⁹ For further discussion, see Calomiris (1994), Calomiris and Mason (1997), and Mason (1997).

Table 1

Elements of the Reform Plan

Membership Criteria for the IMF

Bank regulations:

- Basle standards (but without restrictions on subordinated debt/tier 2 capital)
- 2% subordinated debt requirement (with rules on maturities, holders, and yields)
- 20% cash reserve requirement
- 20% "global securities" requirement
- Free entry by domestic and foreign investors into banking
- Bank recapitalizations are permitted, but strict guidelines must be met (and must follow pre-established rules, as in preferred stock matching program)
- Domestic lenders of last resort avoid bank bailouts by following Bagehotian principles

Other membership criteria:

- Limits on short-term government securities issues
- If fixed exchange rate, 25% minimum central bank reserve requirement
- If fixed exchange rate, banks offer accounts in domestic and foreign currencies

IMF Lending Rules

- Loans are provided only to members in good standing (those following above rules)
- If a member defaults, it may not borrow for 5 years, and then only after arrears paid
- Loans are for 90 days
- Supernumerary majority of members required to roll over loans for another 90 days
- Loans are collateralized by 125% of value of loan in government securities
- 25% of the 125% collateral must be in foreign government securities
- The interest rate on the loan is set at 2% above the value-weighted yield on the collateral observed one week prior to the loan request
- The IMF reserves the right to refuse a loan to a member
- No conditions are attached to IMF loans

IMF Funding

- The IMF borrows from the discount windows of the Fed and other central banks
- IMF borrowings from central banks are 100% collateralized by government securities issued by the government of the lending central bank
- Government securities that serve as collateral for IMF borrowings from central banks are lent to the IMF by its member countries

Other Emergency Lending

- IMF, World Bank, IDB, and others would make no other emergency lending available
- The Exchange Stabilization Fund would be abolished

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* The author is Paul M. Montrone Professor of Finance and Economics at Columbia Business School, Director of the American Enterprise Institute's Project on Financial Deregulation, and a Research Associate of the National Bureau of Economic Research. Discussions with Allan Meltzer inspired and informed this paper. Discussions with Ross Levine, Glenn Hubbard, Ernest Patrikis, Jerry Caprio, Michael Bordo, Barry Eichengreen, Athanasios Orphanides, Michael Adler, Dick Aspinwall, Bob Litan, and Kenneth Kuttner have also been helpful.



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