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International Institutions for Reducing Global Financial Instability

Kenneth Rogoff

It is hard to open a business newspaper or magazine these days without confronting another sweeping proposal to reform the "international financial architecture." George Soros (1998) has called for the formation of an international deposit insurance corporation, while Jeffrey Sachs (1995) advocates the formation of international bankruptcy court. Paul Krugman (1998a, b) suggests that economists need to rethink their traditional antipathy towards controls on capital controls *outflows*, whereas Barry Eichengreen (1999) is among many who advocate Chilean-style controls on capital *inflows*. Henry Kaufman (1998) recommends creating a single global super-regulator of financial markets and institutions, and Jeffrey Garten (1998) proposes a world central bank with responsibility for overseeing a new global currency. Stanley Fischer (this issue) makes the case that, with a range of improvements in the system, a multilateral lender can effectively perform the main functions of a lender of last resort, even without being able to issue currency. Many of these ideas are not new, but they are being vented more forcefully, and taken more seriously, than at any time since Harry Dexter White and John Maynard Keynes masterminded the creation of the World Bank and the International Monetary Fund at the Bretton Woods conference at the end of World War II.

Is there a "crisis in global capitalism"? Is the current system actually in desperate need of repair? In this paper, I will provide an overview of some of the main problems and critically assess some illustrative alternative plans for dealing with them. The first part of this paper gives an overview of the current system, and a brief discussion of some of the conceptual issues. I then proceed to consider a range of plans that would purportedly improve things. My focus is more on ambitious grand

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schemes than on small marginal changes. Even though such schemes tend to be impractical, especially in the absence of a genuine world government, they throw the problems facing global leaders into sharp relief. I try throughout to highlight important research questions and show how they relate to evaluating the various plans. The third section of the paper reviews reforms that developing countries can implement unilaterally to reduce the costs of capital flow volatility. The final section highlights the importance of correcting the bias towards debt financing and bank intermediation in sovereign lending.

Problems with the Status Quo

Before turning to proposals for radical change of the international financial system, it is important to give a brief critical assessment of the main issues and motivations for change.

Alternative Perspectives on the Global Financial System

Whether one views technology-driven innovation in the global financial system as an engine of growth or as an agent of destruction depends on where you sit. In the United States, where financial markets are the deepest and most sophisticated in the world, their benefits seem obvious. Despite having one of the lowest savings rates in the industrialized world, the U.S. economy has enjoyed a remarkable period of sustained growth over the past eight years. The efficacy with which financial markets have helped lever a small pool of savings into a large effective increase in capital is remarkable, even when one takes into account the help of foreign capital inflows. Hyper-efficient U.S. financial markets can also be credited with helping to fuel the extensive corporate restructuring of the 1980s, thereby laying the foundations for the sustained rapid growth of the 1990s. Europe, with its introduction of the euro and its efforts at stimulating innovation and competition in financial services, clearly recognizes the importance of deep, sophisticated asset markets. True, the stunning volatility of stock and exchange rate markets is of genuine concern to policymakers in industrialized countries. The August 1998 collapse of Long-Term Capital Management underscored how a single relatively small hedge fund could threaten to bring down a much wider circle of financial institutions. But in the United States, those voices seeking to quash capital markets are typically drowned out by those who argue that a better solution is for such markets to become broader and more deeply entrenched.

Matters look very different to citizens of the developing world, many of whom rue the day their governments started taking down barriers to international capital mobility. Starting with Mexico in 1994, and including a score of countries in Asia in 1997, one high-growth achiever after another has been leveled by sudden withdrawals of short-term capital. (This is not to say that low-growth achievers have been spared, but capital withdrawals from countries such as Russia are less difficult

to explain.) Countries which had become accustomed to seeing GNP double every 10 to 15 years suddenly saw their currencies and stock markets collapse and their economies go into deep recession. The 1990s financial crises have brought a sharp contraction of lending to the developing world, and there is serious concern that the fallout will continue to inhibit international capital markets for some time to come. The exact timing and nature of speculative attacks on emerging market economies is a topic of great debate, as we shall see. But in the majority of cases, there is little question that the attacks were exacerbated by the way that many developing country governments chose to open their capital markets radically to the rest of the world during the early 1990s. Critics of "excessive" capital market liberalization, whose numbers include such influential economists as Jagdish Bhagwati (1998) and Dani Rodrik (1997), can point to countries such as China and India whose capital controls, however repressive, did seem to make them relatively resistant to the Asian flu. Bhagwati, in particular, has argued that the benefits of a high level of international capital market integration are grossly overrated, and that the parallels between the gains to trade in capital, and the gains to trade in goods, are quite thin. He criticizes the U.S. Treasury and the International Monetary Fund (IMF) for rushing too many countries into bringing down their controls on international capital mobility, without sufficient consideration of whether domestic regulation was adequate to deal with the changes that rapidly ensued.

Are the Benefits to International Capital Market Integration Overrated?

Perhaps a little, but they are important. From a theoretical perspective, there are strong analogies between gains from *inter*temporal trade in goods, and standard *intra*temporal trade (for example, Svensson, 1988; Obstfeld and Rogoff, 1996, ch. 5). In theory, huge long-run efficiency gains can be reaped by allowing global investment to flow towards countries with low capital-labor ratios and high rates of return to capital although, as Ventura (1997) points out, trade in goods of differing capital intensity can achieve part of this gain. Global equity markets allow a small country that produces a relatively narrow range of goods to diversify its very risky income portfolio. In the case of foreign direct investment, benefits can also arise from an accelerated transfer of technology.

If there is a debate in the theoretical academic literature on the importance of gains from international capital market integration, it has mainly to do with whether, given trade in bonds, there is a substantial further gain to introducing complete equity markets. However, researchers have now come to believe that the marginal gains from trade in equity can be very large, once one takes into account the ability to diversify production risk, which encourages small countries to specialize, and more generally to shift production towards higher-risk, higher-return projects (Obstfeld, 1994; Acemoglu and Zilibotti, 1997; Martin and Rey, 1998). Later, in the final section, I will argue that there are other political economy benefits to redirecting capital flows towards equity that are not captured in these models.

An Unreconstructed Real Business Cycle Interpretation of the Asian Flu

Rather than blame international capital markets for the severe recessions in Asia and elsewhere, a modern real business cycle economist (or an old-fashioned Schumpeterian) might just say "welcome to free market capitalism." How surprised should one be that economies racing along at 5-7 percent annual growth rates for more than two decades should occasionally experience a significant downturn, or even a severe one? Might not the sudden reversal of capital flows simply reflect underlying real shocks to, say, patterns of global technology progress? For example, if the U.S. economy experiences an extraordinary period of growth, is it surprising that this leads to a temporary redirection of investment away from middle-income countries?[1] Besides, Japan had been mired in recession for several years prior to 1997, placing a major drag on the region.

This "unreconstructed real business cycle interpretation" of the developing country debt crisis clearly fails to capture the whole picture. A great deal of evidence suggests that banking system collapses can play an important role in propagating and amplifying recessions, with Japan's recession of the 1990s being a prime case in point (see also Mishkin's article in this issue). Relatedly, many of the plans below aim to address either developing country bank runs or runs on government debt. Imperfections in international capital markets, resulting especially from difficulties in enforcing contracts across borders, can sometimes lead to large misallocations in global savings.

But even if the real business cycle interpretation is incomplete, it probably does provide an important part of the picture, a part that is all too often forgotten in policy discussions which tend to blame emerging economy recessions entirely on speculators. One should also bear in mind that the speculative attacks of the 1990s, even if they did cause or exacerbate recessions, may someday be viewed as mere hiccups, a small price to pay if capital market integration puts countries on a faster trajectory towards integration with the industrialized world.

Multiple Equilibria as a Rationale for an International Lender of Last Resort

Many have argued that a strong parallel exists between sudden massive withdrawals of capital from developing countries and bank runs (for example, Cole and Kehoe, 1998; Chang and Velasco, 1998). Banks are vulnerable to runs because they issue highly liquid short-term liabilities (like checking accounts) which their depositors can, if they choose, all withdraw simultaneously. At the same time, many of their assets are held in the form of highly illiquid long-term loans (for example, to a local construction company) that can only be liquidated prematurely at great expense. One reason why the secondary market might be illiquid is that evaluating loans to local firms requires specialized expertise that banks build up only over a

[1] Bulow and Rogoff (1990) argue that the combination of adverse terms of trade shocks, rises in global real interest rates, and recessions in the industrialized world played a much larger role in the poor growth performance of Latin America during the first half of the 1980s than any debt overhang effects.

long period. Given the illiquidity of its assets, a bank may find itself in trouble if all its depositors suddenly decide to withdraw their money, even if the bank is fully solvent in an actuarial sense. Thus, as illustrated in the classic models of Bryant (1980) and Diamond and Dybvig (1983), bank panics can be self-fulfilling.

The parallel with country debt runs is two-fold. First, many country debt runs are intimately linked to their banking sectors, as Chang and Velasco (1998) emphasize. In many developing economies, banks are implicitly insured by the government. A country-wide run on local banks will thus translate into a huge increase in government liabilities, and this in turn can lead to a flight from government securities. But the analogy runs much deeper. Many high-yield projects in developing countries, like building a factory or a new highway, are highly illiquid and have only long-term payoff potential. At the same time, a considerable portion of lending to developing countries is in the form of relatively short-term debt. If creditors suddenly become unwilling to roll over short-term loans as they fall due, a country may find itself in a financial squeeze even if, absent a run, it would have had no problems servicing its debts. Devotees of the "multiple equilibrium" view believe that this is precisely what happened in the case of, say, Mexico in 1994, or Korea in 1997. For example, creditor panic at a relatively small devaluation of the peso in December 1994 suddenly made it impossible for Mexico to roll over its short-term debt, quickly precipitating a crisis. Instead of humming along in a "good" growth equilibrium as Mexico seemed to be doing prior to the crisis, it suddenly was bounced into a "bad" recessionary equilibrium. There was no adverse technology shock a la modern real business cycle theory—just good old-fashioned creditor panic.

If the multiple equilibrium view is correct (a conclusion the reader should not rush to accept), what is the solution? Bryant (1980) and Diamond and Dybvig (1983) show that in a domestic banking context, the problem can be eliminated, at virtually no cost, by having the government guarantee bank deposits—that is, serve as a lender of last resort. If depositors know they will always be paid even if their bank fails, bank runs will not be a problem and, in fact, the government will never (or at least seldom) have to honor its pledge. Thus, their models provide a rationale for the Federal Deposit Insurance Corporation in the United States, and the broader set of implicit guarantees that institution represents. Many of the proposals for reform of the international monetary system draw heavily on this analogy—if a lender of last resort can stop bank runs in a domestic context, why can't an analogous institution be created to stop country debt runs? What could be simpler?

Chinks in the Theoretical Case for a Domestic Lender of Last Resort

The case for having a *domestic* lender of last resort is far less coherent than many writers in the "save the global financial system" literature seem to realize. The Bryant-Diamond-Dybvig rationale for a lender of last resort relies on a number of assumptions that have been challenged in the literature (for a recent review, see Freixas and Rochet, 1997). The most obvious omission from the story we have told

is that it neglects moral hazard: government deposit guarantees allow a bank to hold a risky portfolio while still borrowing at a risk-free interest rate. In principle, moral hazard problems can be mitigated through bank supervision, capital requirements and other devices, though in many countries these checks and balances are patently inadequate. As Caprio and Honohan (this issue) discuss, in 59 worldwide banking crashes in the 20 years prior to the Asian crises, the average cost of government bailouts was over 9 percent of GDP in developing countries and 4 percent of GDP in industrialized countries—hardly evidence in favor of the view that creating a lender of last resort is a free lunch. But even if the moral hazard problem could be substantially ameliorated, the case for having a lender of last resort is still somewhat shaky.

As Diamond and Dybvig (1983) themselves show, allowing banks to suspend withdrawals of deposits temporarily is a fully efficient mechanism for eliminating the multiple equilibrium problem, provided a bank knows when it is seeing the start of a run and not just an unusual surge in withdrawals. Wallace (1988) argues that the informational assumptions can be relaxed, once one allows for sophisticated partial suspension schemes. These involve having the bank start to place increasingly tight percentage caps on withdrawals during periods of abnormally high demand. Wallace shows that deposit insurance cannot improve on an optimal suspension policy, unless the lender of last resort has superior information. In a more general setting, one can imagine many other private sector responses to dealing with bank runs, such as the development of interbank credit agreements to deal with panics. Indeed, many of these have been seen in practice in earlier periods.

Therefore, one should not conclude that theory shows decisively that a lender of last resort is needed. Admittedly, one has the nagging feeling that the government is better positioned to make credible guarantees concerning its policy for dealing with bank runs than can any private sector agent or network. But at the same time, it is important to be aware that theory does not provide an airtight case for this assertion, despite many efforts to do so.

Finally, even the notion that country debt and currency runs might represent realizations of multiple equilibria can be challenged. In a closely related context, Morris and Shin (1998) argue that introducing a small amount of private information can eliminate the problem of multiple equilibria in models of currency attacks. In this class of models, government policies that affect transparency and the dissemination of information can be more useful than introducing insurance.

The G-7 as Incumbent Global Lender of Last Resort

It would be an overstatement to say that the world financial system has been living without any lender of last resort. One exists, just not an explicit one. Over the course of the 1990s, the so-called G-7 group of industrialized countries (United States, Japan, Germany, France, United Kingdom, Italy and Canada), acting in concert with the International Monetary Fund, the World Bank and other OECD countries, have found themselves cast in this role. In early 1995, they awarded Mexico an unprecedented

$50 billion bailout package and, on paper, they subsequently offered similar sums to several Asian economies. Why would the G-7 act this way? I believe that some genuine (albeit modest) altruism is involved, but self-interest is clearly the main reason. Trade with the developing world provides OECD countries with a diverse range of benefits, which would be threatened by a sharp contraction of emerging market economies. More immediately, developing country financial instability poses a potential threat to industrialized country banks.[2] Concern over the precarious positions of Japanese banks, especially, was a major factor motivating bailout packages to Thailand, Indonesia, Korea and other Asian countries. Last but not least, political instability in the developing world is also a serious concern. Thus, G-7 leaders have powerful incentives to help these nations when they are buffeted by the storms of international capital markets, even when the G-7 leaders recognize full well that whatever policies they attempt have costs and risks of their own attached.

So if the G-7 already provides a global lender of last resort, why would anyone want to think about a new institution? First, the resources the G-7 seems prepared to devote to developing country bailouts are far from sufficient to discourage country debt runs, at least if they occur on a large global scale (more on this shortly). Moreover, G-7 policy is not coherent, despite occasional high-level conferences aimed at developing a long-term strategy. Transparency and perceptions of equity are also important issues. For example, many Asian leaders feel that G-7 and IMF conditions on loans to their countries were far more stringent than those imposed on Mexico and Brazil, despite the fact that until the crisis, Asian countries had been seen as models of growth for the rest of the developing world. G-7 leaders might respond by saying that all modern lenders of last resort follow a practice of "constructive ambiguity" (Corrigan, 1990). If the terms of assistance are made too clear in advance, involved parties may come to rely on a bailout, and thus take exactly the sorts of excessive risks that make a bailout more necessary.

Having painted the background for the debate, we are now ready to examine some proposed reforms of the system. We first look at plans that would require multilateral implementation at a global level, and then look at plans that require mainly unilateral action on the part of developing countries.

The Man (or Woman) Who Would Be Keynes: Grand Plans to Save the Global Financial System

There are no significant barriers to submitting an entry in the save-the-world-financial-system game, and as Eichengreen (1999) notes, most of the plans floating

[2] According to official statistics, western banks were somewhat less involved in developing country loans in the 1990s than they were in the 1980s, but this is partly an illusion. Through offshore derivative contracts with developing country banks, a great deal of foreign investment that nominally appears to be in the form of equity and long-term government bonds is actually better thought of as short-term hard-currency debt.

around are "politically unrealistic, technically infeasible, or unlikely to yield significant improvements in the way crises are prevented, anticipated or managed."[3] Many readers who are familiar with this literature may think Eichengreen too kind. My own interpretation of the debate, however, is a bit more generous. It is easy to fall into the trap of thinking that big institutional changes are unrealistic or infeasible, especially in the United States where macroeconomic policy institutions have generally evolved only slowly for the past few decades. But not so long ago, the prospects for a single European currency seemed no more likely than those for the breakup of the Soviet empire or the reunification of Germany. Perhaps large institutional changes only seem impossible until they happen—at which point they seem foreordained. Even if none of the large-scale plans is feasible in the present world political environment, after another crisis or two, the impossible may start seeming realistic.

A "Deep Pockets" International Lender of Last Resort

Many writers have proposed having an international institution serve as an international lender of last resort, including Mishkin (1994), Meltzer (1998), Garten (1998), Calomiris (1998), Giannini (1999) and Fisher (this issue). The "Clinton proposal" offered at the October 1998 G-7 meetings is also very much in this spirit. In proposals of this sort, the IMF would offer a new emergency line of credit, for which countries would have to prequalify by meeting certain macroeconomic and regulatory standards. The existence of this line of credit would stave off speculative attacks, just as deposit insurance in the United States reduces the incidence of bank runs, so that very few countries would actually ever have to draw on the facility.

The obstacles to having an international "deep pockets" style lender of last resort are formidable. The IMF today has lendable resources of roughly $200 billion. As a share of world GNP, this amounts to less than a fifth of the resources the IMF had upon its creation at the end of World War II. All evidence suggests that the G-7 is simply not prepared to put up the kind of resources needed to preclude a broad-based attack on developing country debt. Moreover, a larger IMF fund would probably encourage more risk-taking by banks in industrialized countries. G-7 officials already have a hard time convincing their own banks that they will not bail them out in the advent of default on developing country debt—especially since, in the past, they have repeatedly done just that (Bulow, Rogoff and Bevilaqua, 1992). Explicitly setting aside perhaps $1 trillion or more for a new multilateral lender of last resort would hardly make such protestations of toughness more convincing.[4]

Any plan for an international lending institution must also confront the fact that most financial regulatory power will still lie in the hands of domestic author-

[3] See also Goldstein (1998) for another excellent critical discussion of alternative reform plans.

[4] Bulow and Rogoff (1988) develop a model showing how private debtors and country borrowers can sometimes game resources away from creditor country taxpayers.

ities. The creation of a "deep pockets" international lender of last resort would almost certainly induce domestic authorities to be more lax in their oversight. They will know that if domestic banks do run into trouble, part of the cost will be passed on to other countries via the international guarantor. This problem could be mitigated by introducing a risk-based system for assessing country contributions to the international lending institution, but how effective this would be in practice is unclear.

An International Financial Crisis Manager

Fischer (this issue) and Giannini (1999) argue that the main function of the lender of last resort in most modern industrialized economies is that of "crisis manager," a role that does not necessarily require vast amounts of capital. For example, in its August 1998 rescue of Long-Term Capital Management, the U.S. Federal Reserve did not actually contribute any of its own resources. Rather, it jawboned LTCM's creditors into a "concerted lending operation" to keep the firm afloat. Indeed, organizing concerted lending is the most common bailout procedure for modern lenders of last resort, as Goodhart and Schoenmaker (1995) emphasize in their extensive empirical study of modern banking crises. When young Nick Leeson (portrayed in the recent B-movie "Rogue Trader") brought down Britain's venerable Barings Bank with his pyramid of losing futures market bets in the Far East, the Bank of England helped find a new owner who would protect depositors, but it did not bail out Barings with its own money. By analogy, an international institution—say, the International Monetary Fund—does not necessarily need deep pockets to play what is perhaps the most essential role of a modern lender of last resort.

Purists like Meltzer (1998) would dispute this assertion, arguing that a true lender of last resort must employ the classic Bagehot (1873) rules: Lend freely, to temporarily illiquid but solvent banks, at penalty rates, and using collateral that would be good under noncrisis circumstances. But this claim is naïve. Most modern lenders of last resort do not scrupulously follow any of Bagehot's time-honored prescriptions (Giannini, 1999). They are often gamed into rescuing institutions that are permanently insolvent, not just temporarily so. They seldom charge significant penalties, precisely because they are usually trying to strengthen the troubled bank's balance sheet. And whereas Bagehot would have lenders of last resort require collateral that would be good under ordinary circumstances, this advice is not always practical. It is often very hard to assess the value of highly specialized illiquid assets in times of crisis.

I have included consideration of a crisis manager here because it follows naturally from any discussion of a lender of last resort. But having a crisis manager is not really a proposal for institutional innovation. It is just a characterization of what the IMF and G-7 do now. None of the plans we will discuss would obviate the need for a crisis manager of some sort. But then, the whole object of having a grand plan to improve the international financial system is precisely to find a way to rely

less heavily on the crisis manager. (There is a residual question of whether the crisis manager should have *any* extensive lending funds of its own, a question I take up in the final section here.)

An International Bankruptcy Court

Raffer (1990) and Sachs (1995) have proposed setting up an international bankruptcy court, with powers similar to a domestic bankruptcy court, as in Chapters 9 and 11 of U.S. bankruptcy law. Chari and Kehoe (1998) have also endorsed this approach. The basic idea is to give a debtor some breathing room in the event of default, and to prevent a grab race among creditors that would force the debtor country to liquidate or abandon potentially high-yield productive investment projects. Also, as Sachs (1995) especially emphasizes, the bankruptcy court would have the power to let the debtor issue new senior debt to provide essential working capital (for example, trade credits).

A bankruptcy court can be seen as another way to try to deal with the "country debt runs" problem. Indeed, in terms of the bank run analogy considered earlier, it is really just a way of allowing for orderly temporary suspension of payments, an approach which, in principle, can be just as effective as having a lender of last resort. An advantage of an international bankruptcy court is that it does not create the same sort of moral hazard problems that a trillion dollar country loan insurance pool would. Bankruptcy courts have been found to be an extremely effective institutional device in a domestic setting—why shouldn't we have one for countries as well?

Unfortunately, the analogy between domestic and international bankruptcy is far from perfect. A domestic bankruptcy court can seize physical assets and fire a company's board of directors. However, it seems unlikely that an international court would have the right to enter a debtor country and seize physical assets, much less fire the "board of directors"—in this case the country's government. Advocates of an international bankruptcy proceeding point out that similar problems arise in the case of bankrupt state and local governments, and that the obstacles have not proved insurmountable. For example, Chapter 9 of the U.S. bankruptcy code, which governs municipalities, has proven relatively effective (Raffer, 1990).

The analogy to local government bankruptcies is certainly closer than to firm bankruptcies, but still far from perfect. During the New York City debt crisis of the 1970s, an outside board essentially ran the city's day-to-day finances. It is hard to think of any sovereign country submitting to a similar level of outside interference, absent the presence of an invading army. Lack of enforcement clout in debtor countries is the main problem with international bankruptcy court. If the court has no teeth, and lenders can no longer fall back on national courts (whose jurisdiction would be superseded by the international court), there could be a sharp fall in international bank lending.

Why Do Countries Repay, Anyway?

This leads to a question which most researchers view as the crux of understanding international debt markets, but which many policy practitioners seem prepared to ignore. Why, exactly, are debtor countries willing to make repayments of any kind, partial or full? Are debtor nations primarily concerned about preserving their reputation for being a reliable debtor, as in Eaton and Gersovitz's (1981) classic paper (see also Grossman and Van Huyck, 1988, and English, 1996)? Or is their main worry that foreign creditors will legally harass them when they try to borrow and trade abroad after a default (Bulow and Rogoff, 1989a, b)? Or are they concerned about their reputations, but in a more subtle indirect way, perhaps concerning their status as a members in good standing of the international economic community (Cole and Kehoe, 1995, 1997; Bulow and Rogoff, 1989b)? I personally believe that it is some combination of the latter two motivations, but the debate in the literature is a lively one, and the evidence is far from decisive.[5]

The debate over why countries repay may seem rather philosophical, but it is quite dangerous to think about grand plans to restructure the world financial system without having a concrete view on it. If the Eaton and Gersovitz (1981) story is right—pure reputation for repayment is all that matters—then it is hard to see how introducing an international bankruptcy court could change matters, absent concomitant political integration. On the other hand, if creditors do have meaningful contractual rights, at least in their own countries, then introducing an international bankruptcy court certainly would have an effect. I speculated earlier that unless the court had at least equal clout to the domestic courts it supersedes, international lending would probably drop. It is just possible that an international bankruptcy court might help coordinate expectations about what constitutes being a "good international citizen" and have some effect on repayment incentives this way—this is the broader reputation channel I alluded to earlier. But this would seem a very speculative effect on which to hang such a major institutional change.

A Global Financial Regulator

Henry Kaufman (1998) and others have suggested the creation of a world financial regulator, run by investment professionals drawn from the private sector, that would oversee both banks and non-bank financial intermediaries. There is much to be said for harmonizing international banking standards in the global financial system. The 1988 Basel Capital Accord, and the more recent 1999 Basel II accord, are seen by most observers as very positive steps in this direction. Most

[5] It is true that countries that have defaulted have generally been able to re-enter credit markets at reasonably favorable terms, but usually only after a long hiatus and after negotiating a settlement of outstanding claims (Ozler, 1993). The strongest weapon of disgruntled creditors, perhaps, is the ability to interfere with short-term trade credits that are the lifeblood of international trade. If the reader finds these mechanisms somewhat unconvincing as a device for enforcing large-scale lending repayments, bear in mind that international lending flows tend to be relatively small for precisely this reason.

famously, the Basel accords impose uniform capital adequacy standards across banks of the signatory countries. Basel I required that banks possess enough capital to cover 8 percent losses on most loans. Basel II allows for much richer and more sophisticated differentiation across loan classes, with capital reserve ratios reaching as high as 40 percent in some cases. The idea of requiring banks to have capital is simply so that bank managers will not be able to make one-way bets: that is, if risky loans pay off, the bank wins big, and if they do not, the taxpayer foots the bill for paying off depositors. Requiring higher capital ratios is thus a means of forcing financial institutions to internalize some of the costs of having a risky portfolio.

The Basel accords are useful but, as the case of Japan in the 1990s illustrates, enforcement of these standards by national authorities can be quite lax. In principle, a global financial regulator might be more distant from client banks, and better able to enforce regulations. But this is very hypothetical. Just as in the case of an international bankruptcy court, it is not at all obvious how a global financial regulator could be given any real bite, absent a far greater degree of world political integration than we currently observe.

Another objection to such a plan is well-known from the literature on international policy coordination. Even if some day a potent political mechanism for creating a powerful international financial regulator did arise, it would be important to think carefully about how much power to vest in it. Under the current decentralized regulatory structure, borrowers and lenders can shop around in offshore markets to circumvent domestic regulation. Regulators naturally see this as a problem and one of the main arguments for harmonizing standards. But there is also a case to be made that global markets provide a safety valve against bad regulation in individual countries. During the early days of the offshore euro market, which ultimately proved enormously innovative and successful, many participants used it to bypass stifling domestic banking regulations. Hedge funds, which have been responsible for some important innovations in global financial markets, initially thrived by making use of regulatory loopholes that exempted foreign investment firms from some U.S. financial regulations. The idea that a certain degree of international governmental competition can be healthy for promoting investment and productivity is well-known in the literature on international macroeconomic policy coordination (for example, Rogoff, 1985; Kehoe, 1987).

An International Federal Deposit Insurance Corporation

George Soros (1998) has proposed the creation of a new international authority to insure international investors against debt defaults. It would be a sort of Federal Deposit Insurance Corporation for country debt. Borrowing countries would pay for the insurance in advance when floating loans. The IMF would set limits on how much each country could be borrow, and the G-7 would vigorously deny bailouts to uninsured loans.

This idea is dubious on several counts. First, the G-7's promise not to bail out

uninsured loans would hardly be credible, since the proposal does nothing to change the fundamental incentives that draw them into crises now.[6] After all, in most countries the government's promise to guarantee the safety of bank deposits is implicit, not explicit. Secondly, it is not obvious how the IMF would determine limits on how much could be loaned, or what the appropriate insurance fee would be. Finally, it would be difficult to invest the insurer with any meaningful regulatory power, for much the same reasons as it is hard to create a powerful international bankruptcy court or global financial regulator.

The Soros proposal does, however, highlight an important issue. If private agents are engaged in risky activities that generate negative externalities—which include not only the costs of bailouts but the costs of greater vulnerability to financial crises—then, in an ideal theoretical world, the activities of such agents should be taxed. Modern approaches to domestic deposit insurance attempt to achieve this with variable capital requirements on different types of loans, and variable insurance charges. In practice, high levels of uncertainty, together with political pressure, make it very difficult to establish appropriate insurance charges, but the principle still holds. Again, the recent Basel II accord is an attempt to move in this direction.

A World Monetary Authority

The birth of the euro, not to mention despondency over exchange rate fluctuations, has led a number of observers to advocate forming a world central bank to oversee a global currency.[7] Of course, international political integration is hardly sufficient to support such a global central bank, or to maintain one should it come about. But setting aside the political issues, there are theoretical objections as well.

One objection is related to an issue already raised in the context of having a single financial regulator: Having more than one competing global currency can be a good thing. Competition can enhance anti-inflation credibility, and this benefit can in principle outweigh any stabilization benefits from coordination of monetary policy (Rogoff, 1985). A second objection is that some regions may, at times, require a monetary policy that is sharply different from the one required by the rest of the world. In such cases, exchange rate adjustments may work better than movements of relative prices or migrations of labor in helping economies adjust. As Mundell (1961) and Kenen (1969) framed the question: Is the entire world really an optimal currency area?

Some advocates of a world money argue that a global lender of last resort must have the ability to issue currency to address global liquidity crises, and to be sure of

[6] The same credibility problem applies to Calomiris's (1998) suggestion that the IMF require countries to impose a number of prudential restrictions on their banks to be eligible for assistance.

[7] For a useful discussion that takes seriously the possibility of an international currency, see Cooper (1984).

deep enough pockets for dealing with global runs (Capie, 1998). It is hard to agree with this rationale. The U.S. Federal Reserve, the European Central Bank, and the Bank of Japan are already large enough to supply liquidity to the market in a crisis; it is not necessary to have a global bank. As argued earlier, creating a "deep pockets" global lender of last resort is a dubious proposition, anyway. Indeed, if a global monetary bank does ever emerge, its designers should take pains to make sure that its lender of last resort functions are limited to being a crisis manager and a provider of general liquidity.

Unilateral Steps Developing Countries Can Take to Reduce Vulnerability to Speculative Capital Flows

Are there any steps that countries can take unilaterally to help protect themselves? A number of alternatives have been advanced.

Controls on Capital Outflows

On September 28, 1998, Paul Krugman posted on the web a thoughtful and provocative article on the use of controls on capital outflows to combat a speculative attack.[8] The following day, Malaysia's prime minister Mahathir imposed such controls. And they say no one listens to economists! True, by February 1999, Malaysia had lifted most of its controls, and it is not obvious that the country has fared any better than other similar Asian countries in emerging from the region's crisis. But the episode raises the broader question of whether the simplest solution to speculative attacks is for countries to "put some sand in the wheels" of international capital markets, to borrow Tobin's (1978) famous analogy.

The crux of Krugman's (1998) argument is that emergency controls on outflows might be the least bad choice for a country whose currency and debt is under severe attack from domestic and foreign speculators. A nation that attempts to protect its currency through sharp rises in interest rates, a remedy the IMF has often prescribed in the past, puts tremendous pressure on its economy and especially on its banking system. Allowing a sharp depreciation of the exchange rate, as advocated by Sachs (1998), also wreaks havoc with the domestic banking system. Developing country banks often have heavy offshore borrowing in foreign currency, but loans in domestic currency, which means that depreciation renders them insolvent. So, Krugman argues, perhaps capital controls are sometimes the best alternative, however abhorrent they are to economists.

The first reaction of most academic economists is that policies that prevent international investors from repatriating their funds can't possibly be a good idea for any country that desires future investment from abroad. Countries with a track

[8] See also Krugman's column in *Fortune*, September 7, 1998.

record of imposing capital exit controls will surely drop to the bottom of most international investment "buy" lists.

This initial reaction may well be the right one, but economists should also recognize that the issues are quite subtle and complex. I have already argued that, in theory, a temporary payments standstill may sometimes be the best response to a run, absent a lender of last resort. Moreover, in multi-period models of international borrowing, it is by no means the case that an efficient contract always calls for full debt repayment in every state of nature. Several authors have developed models in which the implicit contract between country debtors and international creditors calls for only partial repayment when growth is unexpectedly low (Grossman and Van Huyck, 1988; Bulow and Rogoff, 1989a; Obstfeld and Rogoff, 1996, ch. 6).

But there are also a variety of powerful reasons why the international community should not be too happy about seeing pervasive use of restrictions on capital outflows. Controls may scare off investors, who find them arbitrary and unpredictable, far more than a bankruptcy court or a crisis manager. Controls are an open invitation to corruption, as investors with huge sums of money at stake will be tempted to try to bribe local officials. Thus, although it is a false reading of the theory literature to conclude that temporary outflow controls are absolutely never an optimal response to a run, the problems may well outweigh the benefits.

Controls on Capital Inflows

Another less radical school of thought holds that the international community, as embodied in the actions of the G-7 and IMF, should allow and even encourage developing countries to place taxes on short-term capital inflows; Eichengreen (1999) is one recent advocate of this approach. Chile, which is generally held as the most successful economy in Latin America over the past two decades, is the poster country for capital inflow taxes. From May 1992 to May 1998, the Chileans required that all nonequity foreign capital inflows be accompanied by a noninterest bearing one-year deposit equal to 30 percent of the initial value of the investment. Since the restricted account must be held for only a year, the effective tax rate imposed by this restriction is larger for a short-term investment and smaller for a long-term investment. The rationale for the Chilean tax is that it discourages locals from relying too heavily on short-term borrowing, and thereby mitigates the problem of maturity mismatch—that is, heavy short-term borrowing and long-term lending—that seems to underlie many episodes of speculative attack. Because the tax is completely transparent, it does not suffer from the arbitrariness that many investors associate with capital outflow taxes. Admittedly, Chilean-style controls must be very comprehensive to be effective. For example, domestic banks must be prevented from writing offshore derivative swap contracts with foreign holders of long-term Chilean debt. By including suitable margin and call conditions, such contracts can effectively make a Chilean bank the true holder of the long-term income stream, and the foreign bank the holder of a short-term loan.

There are various concerns with trying to apply the Chilean lesson too broadly.

Chile has been relatively successful in avoiding speculative pressures, but as Edwards (1998, this issue) argues, this probably has had less to do with its system of capital controls than with a variety of other favorable conditions, especially the country's relatively well-developed system of prudential banking regulation. It may be the case that for Chile, lenders were willing to advance long-term loans at rates only slightly higher than for short-term loans. Many developing countries, however, may find that foreign investors demand a much higher premium. In this case, the borrower will have to choose between accepting short-term loans or not being able to borrow from abroad at all. Indeed, presently even Chile is not employing "Chile-style" controls on capital inflows: by September 1998, the tax had been reduced to zero in response to a persistent current account deficit. (When a country needs to borrow to pay for current consumption, it is less well-positioned to impose taxes on foreign investors.)

In sum, capital inflows taxes may work for a small select number of countries, but most developing countries will find them a quick route to a sharp reduction in lending from international capital markets. Still, if short-term capital inflow taxes can be enforced cleanly and transparently, a big qualification in countries where official corruption is a major problem, it is hard to see why the IMF should take a strident position against them.

Increasing Transparency and Improving Financial Regulation in Developing Countries

The G-22, which consists of a mixed group of developing and industrialized countries, has issued a series of reports recommending increased transparency and improved prudential regulation as positive steps that developing countries can take towards reducing the problem of financial crises.[9] This emphasis is partly based on the observation that countries such as New Zealand and Australia, which have relatively strong financial regulations, seemed to suffer much less from the 1997-98 "Asian flu" than countries without such safety provisions. Like motherhood and apple pie, it is hard to assess these recommendations as anything but positive.

Increased transparency would undoubtedly be useful in achieving more efficient global markets. But bank runs and country runs can still happen even in a totally transparent system. As long as banks have a maturity or currency mismatches, then the financial system is vulnerable to runs. Diamond and Dybvig's (1983) model of runs on banks and Cole and Kehoe's (1998) model of runs on country debt do not depend on asymmetric or poor information, but only on these sorts of mismatches. Indeed, Morris and Shin (1998) take this argument one step further and claim that too much transparency can sometimes actually exacerbate the problem of multiple equilibria, helping speculators coordinate on the timing of a run.

[9] As of this writing, the text of the G-22 reports can be found on the home page of the Bank for International Settlements, at ⟨http://www.bis.org⟩.

Other Measures

Two other measures that countries can take are worth mentioning briefly. One is to build up a higher level of foreign reserves. Countries such as Taiwan and Hong Kong, with their massive foreign exchange reserves, were much better positioned to weather the global financial storm. Perhaps this is a bit like saying that it is better to be rich than poor, but the point is also that countries should not underrate the gains from adding to reserves. A second change that has been widely recommended is for countries to open themselves up much more to foreign banks (for example, Calomiris, 1998). This step would shrink the size of a country's own banking sector, thereby reducing the costs of any bailout after a crisis. Some potential credibility issues arise here about whether domestic authorities could still be gamed into bailing out foreign bank branches in the event of a run (after all, it is domestic depositors who stand to lose their money), but this option nevertheless seems like an interesting one.

My "Plan": Addressing the Legal and Institutional Bias in the Composition of Capital Flows to Developing Countries

Finally, having expressed doubts about every other grand plan, it is incumbent on me to sketch my preferred approach to reform.

The main problem with the present system is that it contains strong biases towards debt finance, especially towards intermediation by banks, and does not adequately support equity finance and direct investment. If flows to developing countries took the form of equity and direct investment, there would be an automatic device for risk sharing. Country runs could still lead to sharp drops in local stock markets, but there would be no liquidity effects, no need for a lender of last resort or a crisis manager. As we have already discussed, international trade in equity not only enhances risk sharing, it leads to more efficient investment allocation and potentially higher growth trajectories.

There is really no serious debate on this point, either from theorists or practitioners. The need to redirect capital flows towards equity and direct investment was one of the main lessons of the Latin debt crisis of the 1980s. Despite this consensus, bank lending and/or borrowing played a pivotal role in all of the debt crises of the 1990s. On the borrowing side, developing country banks built up large short-term liabilities in dollars, and were hammered when interest rates rose and their countries currencies depreciated. On the lending side, sudden contractions in lending by industrialized country banks played a major role in aggravating country debt runs in Asia.

Under the current system, there are four sources of bias towards debt contracts. The first is deposit insurance, in both creditor and debtor countries. Taxpayers subsidize bank intermediation, which expands the size of the banking system, which in turn makes it more difficult for authorities to refuse credibly to bail out these institu-

tions. This problem is difficult—it transcends the international context. The sums spent on bailouts of domestic banking systems over the past 30 years are at least comparable to expenditures on subsidies to international debt, and possibly larger, depending on how one prices the portfolios of the international financial institutions.

Second, the current method of enforcing international lending contracts relies heavily on enforcement via creditor-country courts and G-7 institutions. Giving creditors legal rights in industrialized country courts leads to a bias because it does far more to protect debtholders than providers of equity finance. If a country fails to repay its debt, this creates an obvious breach of contract that may be adjudicated by an outside arbiter. In the case of equity, there are many subtle ways for the debtor to chip away at the value of the equityholder's claim, without doing anything transparently egregious. For example, changes in tax and labor laws affect equity values, as do changes in local laws governing shareholder rights.

Third, equity markets in developing countries are severely underdeveloped.

Fourth, aside from domestic deposit insurance, a strong case can be made that G-7 funds aimed at helping distressed country debtors often end up recycling to G-7 debtholders, both banks and bondholders, in the form of higher payments, providing a further subsidy to debt finance. Bulow, Rogoff and Bevilaqua (1992) argue that a careful analysis of the various complex web of side payments between industrialized and developing countries supports this viewpoint.

Eliminating these subsidies to financial institutions is a thorny problem, not least because a large component of deposit insurance is implicit rather than explicit. A number of important steps have been taken, including the recent Basel II accords discussed earlier, and there are some creative suggestions floating around (for example, Calomiris's (1998) idea for requiring banks to issue subordinated debt.) Measures to reduce the contagion potential generated by the complex interbank clearing house systems would make it easier for governments to let individual financial institutions fail without incurring larger systemic costs. Greater credibility in committing not to bail out failed institutions would translate into lower implicit subsidies.

It is also important to mitigate the bias in the legal system towards debt contracts in sovereign lending. Measures such as those discussed in Bulow and Rogoff (1990) would help in this regard. In particular, the evolution of legal doctrine in the United States and Britain—as codified in the 1976 U.S. Sovereign Immunities Act and the 1978 UK State Immunity Act—has contributed to an increased reliance by creditors on enforcing developing country debt contracts in industrialized country courts. Reversing these legal trends would put equity and debt finance on a more even footing. In Bulow and Rogoff, we recommend restricting countries' ability to waive sovereign immunity as means of discouraging the mediation of debt contracts in industrialized country courts. Instituting an international bankruptcy court might be an alternative means to the same end. (Per my earlier discussion, I am assuming it would turn out to be toothless, but nevertheless would supersede domestic law.) As a result of such a policy change,

there could be a significant transition period where capital flows to certain countries were reduced. Lenders would avoid countries lacking either sound legal systems for enforcing commercial contracts, transparent and fair regulatory systems, or favorable histories of treatment towards foreign investors. However, countries that want to draw on world capital markets will have a strong incentive to develop institutions that would support foreign investor confidence.[10] By the same token, they will have an incentive to develop fair, transparent, and well-regulated equity markets to help attract capital flows.

The implicit subsidy to bank and bond lending via international lending institutions could be easily dealt with by changing the capital structure of the International Monetary Fund and the World Bank along the lines suggested in Bulow and Rogoff (1990). The basic idea would be to have the loans of these agencies converted to aid, but to maintain their essential role as purveyors of information and policy advice. Bulow and Rogoff argue that reconstituting the international financial organizations in this way would help promote improvements in policy. This logic would certainly dictate against turning the Bretton Woods sisters into a "deep pockets" lender of last resort.

If the above reforms were instituted, holders of government debt would have to rely to a much greater extent on the reputation of the debtor country legal system, though the debt could still be in foreign currency. During the transition period, there would be a sharp drop in capital flows to some countries, which could be cushioned by increased aid from the restructured international financial institutions. Over the longer period, countries would have an incentive not only to improve their own financial market regulation and development, but there might also be strong incentives to enter into multicountry (perhaps regional) arrangements for borrowing, or treaties governing contracts. Ultimately, substantial growth of world capital markets likely requires a higher degree of political integration than now exists.

Conclusions

Most of the grand schemes considered here fall into three categories: those that are politically infeasible given the absence of a supranational legal authority; those that would raise costs to lenders or add protections for borrowers, and thus would lead to a sharp contraction of capital flows to developing countries; and those that would shift risks or costs away from creditors and thus lead to an increase in capital flows, but would then also be accompanied by a wave of greater risk-taking which might then be

[10] In a related vein, Eichengreen and Portes (1995) propose that industrialized country governments should take steps to change the standard terms on international lending contracts, so that it would only take a majority, and not unanimity, among debtholders to renegotiate terms in the event of a crisis. Their underlying idea is similar to that of an international bankruptcy court—to make it easier for countries to reschedule payments in times of distress.

followed by an even bigger wave of defaults than we have seen in the past. For the moment, the world should probably scratch the grand plans and look to more modest improvements, such as improved transparency and regulation of banks in developing countries. Over the longer term, however, the prospective benefits of global capital market integration will likely prove a powerful incentive for enhancing global and regional political institutions. Then, ideas like a global bankruptcy court or an integrated system of financial regulation may not seem so farfetched.

If one were to offer a general critique of the plans discussed here, it is that they focus too much on treating the symptoms of excessive reliance on debt finance and on bank intermediation by both lenders and borrowers, rather than aiming to level the playing field for equity finance. "Junk" country debt plays too large a role, given the lack of an effective international bankruptcy system. In an ideal world, equity lending and direct investment would play a much bigger role. Witness the relative ease with which the industrialized countries handle substantial shifts in stock market prices. With a better balance between debt and equity, risk-sharing would be greatly enhanced, and financial crises sharply muted.

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